City Dock No. 1
Marine Research Center Project
Draft Environmental Impact Report
Volume I
ADP No: 100114-003

THE PORT OF LOS ANGELES

CITY DOCK NO. 1
MARINE RESEARCH CENTER PROJECT

DRAFT
ENVIRONMENTAL IMPACT REPORT

VOLUME I

SCH# 2010121013

Prepared for:

Los Angeles Harbor Department
Environmental Management Division
425 S. Palos Verdes Street
San Pedro, CA 90731
Contact: Christopher Cannon, Director
c/o Kevin Grant
Phone: (310) 732-7693

Prepared by:

ICF Jones & Stokes
9775 Businesspark Avenue, Suite 200
San Diego, CA 92131
Contact: Charles Richmond
(858)578-8964

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EXECUTIVE SUMMARY

ES.1 Introduction

This draft environmental impact report (EIR) has been prepared to evaluate environmental impacts related to the construction and operation of the City Dock No. 1 Marine Research Center Project (hereafter referred to as the "proposed Project"), as proposed by the Los Angeles Harbor Department (LAHD). LAHD administers development within the Port of Los Angeles (Port) and overall Port operations. The proposed Project is located in the Port of Los Angeles, near the San Pedro Community in the City of Los Angeles (Figures ES-1 and ES-2). The proposed project site encompasses Berths 56 through 60 and Berths 70 and 71 within the San Pedro Waterfront area, and is bounded by the East Channel to the west, the Main Channel to the east, 22nd Street to the north, and the open water of the San Pedro Bay to the south. The proposed Project involves development of an urban marine research center within a 28-acre portion of the 400-acre San Pedro Waterfront Master Plan area along the west side of the Los Angeles Harbor's Main Channel.

This Draft EIR fulfills the requirements of the California Environmental Quality Act (CEQA) (California Public Resources Code [PRC] Section 21000 et seq.) and the Guidelines for Implementation of the California Environmental Quality Act of 1970 (State CEQA Guidelines) (14 California Code of Regulations [CCR] Section 15000 et seq.). LAHD is the CEQA lead agency. Specifically, this Executive Summary has been prepared in accordance with Section 15123(b) of the State CEQA Guidelines, which states that the EIR should contain a brief summary of the proposed actions and its consequences and should identify: (1) each significant effect with proposed mitigation measures and alternatives that would reduce or avoid that effect; (2) areas of controversy known to the lead agency; and (3) issues to be resolved including the choice among alternatives and whether or how to mitigate significant effects. Throughout the Executive Summary are references to various chapters and sections in the Draft EIR where detailed information and analysis can be reviewed.

The Draft EIR describes the environmental resources that would be affected by the proposed Project and evaluates the significance of the potential impacts to those resources as a result of constructing and operating the proposed Project.

ES.2 Purpose of this Draft EIR

This Draft EIR will be used to inform decision makers and the public about the potential significant environmental effects of the proposed Project. Section 1.4 in Chapter 1, "Introduction," describes the agencies that are expected to use this document, including the lead and responsible agencies under CEQA. Section 1.5 describes the scope and content required of an EIR, and Section 1.6 describes the key principles guiding the preparation of this document.

This Draft EIR is being provided to the public for review and comment, and to assist them in participating in the planning process. After public review and comment, a Final EIR will be prepared that will include responses to comments on the Draft EIR received from agencies, organizations, and individuals. The Final EIR will provide the basis for decision making by the CEQA lead agency, as described below, and other responsible agencies.

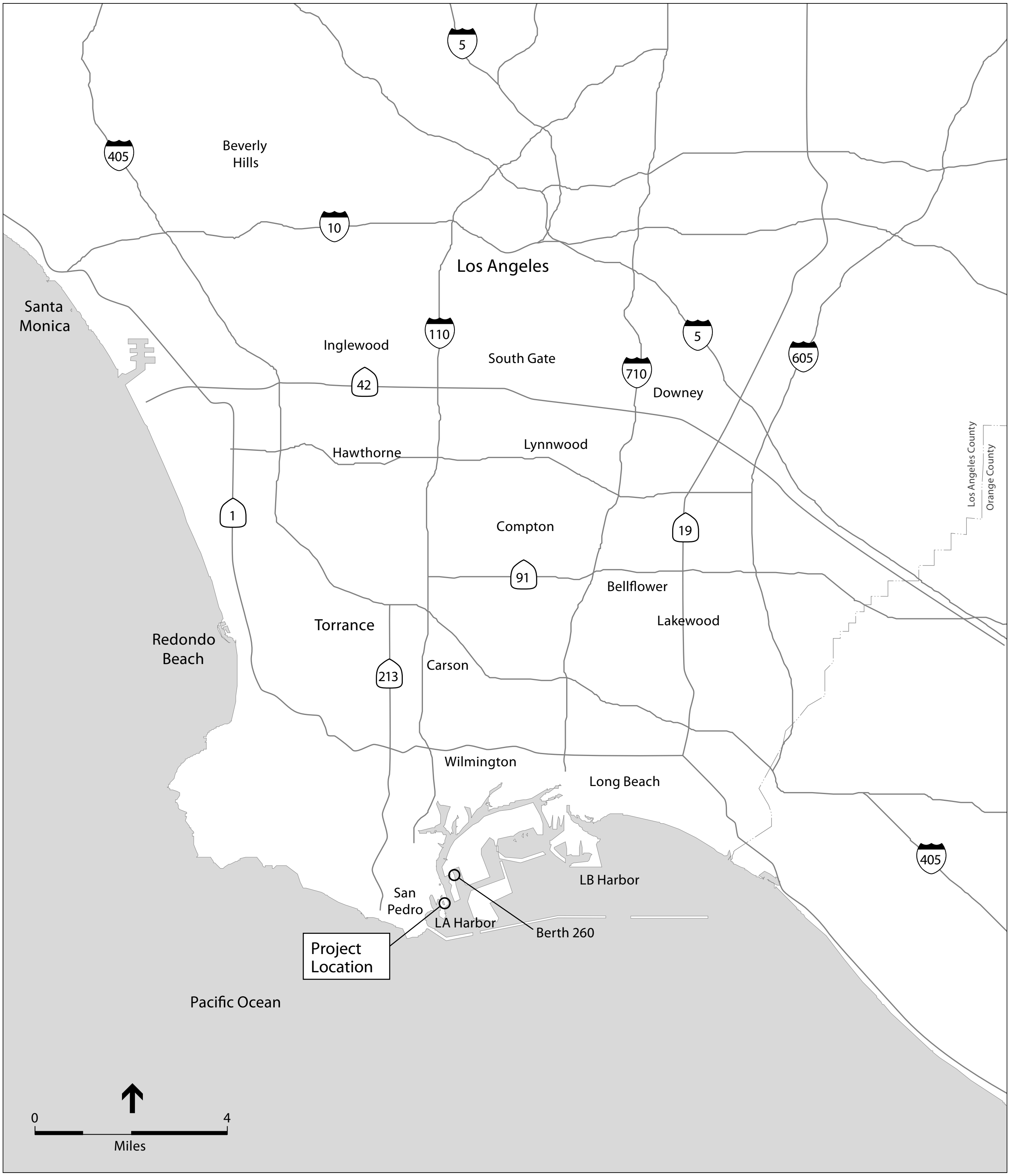
ES.2.1 CEQA Introduction

LAHD operates the Port under the legal mandates of the Port of Los Angeles Tidelands Trust (Los Angeles City Charter, Article VI, Section 650) and the California Coastal Act (PRC Division 20 Section 30700 et seq.). The Port is one of the only five locations in the state identified in the California Coastal Act for the purposes of international maritime commerce (PRC Division 20 Sections 30700 and 30701). These mandates identify the Port and its facilities as a primary economic/coastal resource of the state and an essential element of the national maritime industry for promotion of commerce, navigation, fisheries, and harbor operations. According to the Tidelands Trust, Port-related activities should be water dependent and should give highest priority to navigation, shipping, and necessary support and access facilities to accommodate the demands of foreign and domestic water borne commerce.

According to Section 15121(a) of the State CEQA Guidelines (CCR, Title 14, Division 6, Chapter 3), the purpose of an EIR is to serve as an informational document that:

> …will inform public agency decision-makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.

The actions under consideration by LAHD involve physical changes to the environment that would have a potentially significant impact, as determined in the Initial Study of the Project (see Appendix A). In addition, comments provided by public agencies, including responsible and trustee agencies, and the public in response to the Notice of Preparation (NOP) have also indicated that the proposed Project may have significant impacts. Accordingly, an EIR pursuant to CEQA (PRC Section 21000 et seq.) is required. This Draft EIR evaluates the direct, indirect, and cumulative impacts of the proposed Project in accordance with the provisions set



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SOURCE: ESA (2010)

Figure ES-1
Regional Location
City Dock No. 1 Marine Research Center Project

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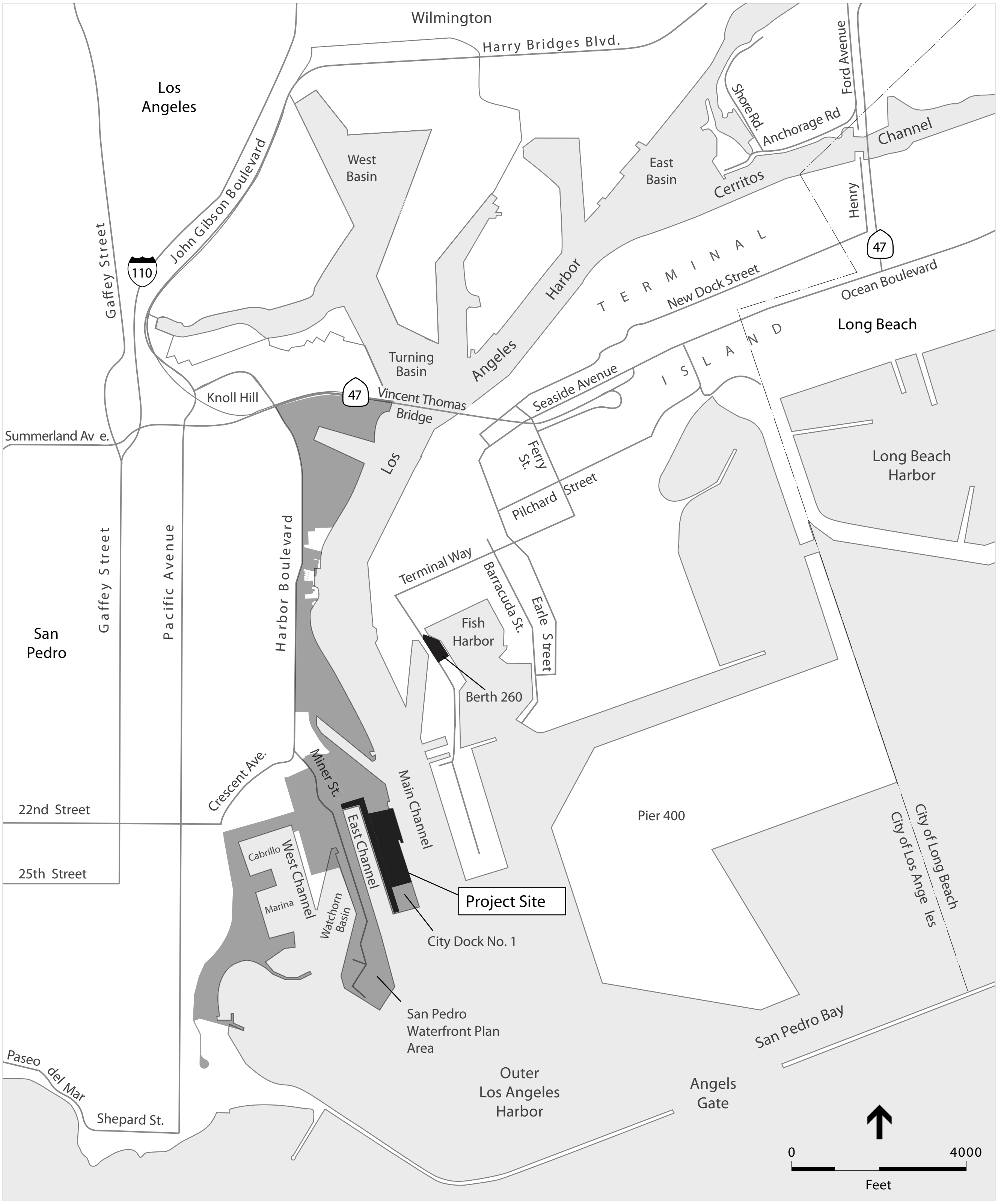

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SOURCE: POLA, ESA (2010)

Figure ES-2
Project Vicinity
City Dock No. 1 Marine Research Center Project

forth in the State CEQA Guidelines. It would be used to address potentially significant environmental issues.

The primary intended uses of this Draft EIR by LAHD is to inform agencies considering permit applications and other actions required to construct, lease, and operate the proposed Project and to inform the public of the potential environmental consequences of the proposed Project. The certification by LAHD of the EIR, Notice of Completion, and Statement of Overriding Considerations (if necessary) will document the decision of the Port as to the adequacy of the Draft EIR and will inform subsequent decisions by LAHD regarding approval and construction of the proposed Project. LAHD would use this Draft EIR to support permit applications, construction contracts, leases, and other actions required to implement the proposed Project and to adopt mitigation measures that, where possible, would reduce or eliminate significant environmental impacts.

Other agencies (federal, state, regional, and local) that have jurisdiction over an element of the proposed Project or a resource area affected by the proposed Project are expected to use this Draft EIR as part of their approval or permit processes.

ES.2.1.1 CEQA Purpose

The overall purpose of the proposed Project is to adaptively reuse the transit sheds at Berths 57–60 and the adjacent Berths 70–71 proposed project site and existing buildings (e.g., transit centers) to provide world-class marine research facilities and space to bring together leading researchers and entrepreneurs, including the Southern California Marine Institute (SCMI), Southern California universities and colleges, government research agencies, such as the National Oceanographic and Atmospheric Association (NOAA), and businesses to conduct cutting-edge urban marine research and education, and develop technologies to address the most pressing problems of the day. The proposed Project seeks to achieve this purpose though the rehabilitation of the existing buildings and wharves to house state-of-the art marine research and educational facilities and provide deep draft berthing space for research vessels, and by providing for a cluster of university researchers, educational programs, and spin-off marine science technology ventures.

The proposed Project is intended to fulfill the overall project purpose of the LAHD. The proposed Project would provide a world-class urban marine research center and support the research needs of the Southern California region’s universities, research and education institutions, and government agencies, as well as provide an incubator for marine-related business venues.

The proposed Project’s objectives were developed based on the community planning process described in Chapter 2, “Project Description.” Objectives are numbered 1 through 6 for ease of reference within this chapter.

1. Adaptively reuse Berths 56–60 and 70–71 to provide marine researchers in Southern California with world-class marine research facilities including laboratories, a seawater circulation system, offices, classrooms, a lecture

hall/auditorium, and storage space to study the most pressing marine-related problems of the day.

2. Construct a natural seawater wave tank to allow scientists from around the world to study tsunamis, rouge waves, and the generation of wave energy; conduct vessel and platform studies; and conduct coastal engineering studies.
3. Provide space within Los Angeles Harbor to relocate, upgrade, and expand SCMI's operations, which are currently located at Berth 260 in Fish Harbor.
4. Provide an opportunity for SCMI and its members, government and other institutional researchers and research organizations with multiple deep draft berths to accommodate vessels ranging in size from small to large 300-foot vessels adjacent to landside facilities.
5. Provide a location for a marine-related business incubator park for synergy among research and commercial interests, and develop commercial technologies to address marine environmental problems.
6. Provide public amenities, including public education classroom space and interpretive exhibits related to marine studies and a cafe, along with a waterfront promenade, consistent with the San Pedro Waterfront Project while not impacting the health and safety of the visiting public.

ES.2.1.2 CEQA Baseline

Section 15125 (a) of the State CEQA Guidelines requires EIRs to include a description of the physical environmental conditions in the vicinity of a proposed project that exist at the time of the NOP. The conditions that existed at the time the NOP was circulated for review (December 2010) are described in Chapter 2, "Project Description," and are also described in appropriate sections within Chapter 3, "Environmental Analysis," when baseline conditions are formulated from multiple sources of data. These environmental conditions constitute the baseline physical conditions by which the CEQA lead agency determines whether an impact is significant. The CEQA baseline represents the setting at a fixed point in time, with no project growth over time. This differs from the No Project Alternative (discussed later in this chapter and in detail in Chapter 5, "Project Alternatives") in that the No Project Alternative addresses what is likely to happen at the site over time, starting from the baseline conditions. The No Project Alternative allows for growth at the proposed project site that would occur without additional discretionary approvals.

ES.3 Proposed Project

ES.3.1 Overview

The proposed Project involves the development of an urban marine research center within a 28-acre portion of the 400-acre San Pedro Waterfront Master Plan area along the west side of the Los Angeles Harbor's Main Channel. The proposed Project would be built out in two phases and involves the following major elements:

- adaptive reuse of the transit sheds at Berths 57–60 to accommodate marine research laboratory, classroom, and meeting spaces within a collaborative environment to create research synergies among universities, colleges, government agencies, and business ventures.
- wharf retrofits of Berths 57–60 and related infrastructure, including a seawater circulation system and berthing facilities for large research vessels as well as street improvements;
- construction of a new building at Berth 56 with classrooms and a lecture hall/auditorium;
- relocation of SCMI from its existing location at Berth 260 on Terminal Island to Berths 56 and 57;
- development of an interpretive center open to the public;
- establishment of a marine science business park/incubator space with offices and research laboratory space within Berths 58–60 transit sheds;
- installation of floating docks in the East Channel to accommodate smaller research vessels;
- integration with and development of the waterfront promenade along the water's edge, consistent with the approved San Pedro Waterfront Project while not impacting the health and safety of the visiting public; and
- development of Berths 70 and 71, following the planned demolition and remediation of the existing Westway Terminal site. This development would include the construction of a new building for NOAA operations, the use of existing berthing space for research vessels, and the construction of a new building to host a natural seawater wave tank facility.

Refer to Figure ES-3 for a visual representation of the major elements of the proposed Project.

ES.3.2 Local Setting

The Port is located at the southernmost portion of the City and comprises 43 miles of waterfront and 7,500 acres of land and water, with approximately 300 commercial berths. The Port is approximately 23 miles south of downtown Los Angeles and is surrounded by the community of San Pedro to the west, the Wilmington community to the north, the Port of Long Beach to the east, and the Pacific Ocean to the south.

The Port is an area of mixed uses, supporting various maritime-themed activities. Port operations are predominantly centered on shipping activities, including containerized, break-bulk, dry-bulk, liquid-bulk, auto, and intermodal rail shipping. In addition to the large shipping industry at the Port, there is also a cruise ship industry and a commercial fishing fleet. The Port also accommodates boat repair yards and provides slips for approximately 3,950 recreational vessels, 150 commercial fishing boats, 35 miscellaneous small service crafts, and 15 charter vessels that handle sportfishing and harbor cruises. The Port has retail shops and restaurants, primarily along the west side of the Main Channel. It also has recreation, community, and educational facilities, such as a public swimming beach, Cabrillo Beach Youth Waterfront Sports Center, the Cabrillo Marine Aquarium, the Los Angeles Maritime Museum, 22nd Street Park, and the Wilmington Waterfront Park. Figure ES-1 shows the regional location of the proposed project area.

ES.3.2.1 Project Site

The proposed project site consists of 28 acres within the Port near the San Pedro Community and includes Berths 56 through 60 and Berths 70 and 71 within the San Pedro Waterfront area. The project site also includes a 4.5-acre parking lot adjacent to the 28-acre site across 22nd Street and 1.3-acre site at Berth 260, the current location of SCMI, for a total of 33.8 acres. At the local level, the proposed project site is bounded by the East Channel to the west, the Main Channel to the east, 22nd Street to the north, and the open water of the San Pedro Bay to the south. Local access to the site is provided by 22nd Street and Sampson Way. Figure ES-2 shows the local proposed project setting.

The existing site comprises eight berths, including Berths 56 through 60, 70 and 71 (former Westway Terminal Site), and 260 (the existing SCMI facility). The existing Berths 56 through 60, 70, and 71 were constructed between the 1910s and 1930s, and several buildings within Berths 56, 57, 58–60, and 70–71 are considered eligible for listing as historically significant resources (see Section 3.4, “Cultural Resources”). Figure ES-4 shows the existing conditions on the proposed project site.

ES.3.2.1.1 Berth 56 (Pan-Am Terminal Facility Site)

Berth 56 is located along the southern edge of 22nd Street in the northwestern portion of the proposed project site. Berth 56 contains the Pan-Am Terminal Facility Building, an approximately 1,600-square-foot building operated as a field office for the California Department of Fish and Game (CDFG). The field office is immediately adjacent to the proposed project boundary and is served by a 16-space parking lot and a vessel berth. The portion of Berth 56 within the proposed project boundary is a vacant area of approximately 0.65 acres.

ES.3.2.1.2 Berth 57 (Transit Shed)

Berth 57 is occupied by one tenant: the San Pedro Bait Company (SP Bait Company). The second tenant, Crescent Warehouse Company, Ltd. (Crescent), recently moved to the Port of Long Beach.[1] The SP Bait Company occupies 14,240 square feet on the Berth 57 wharf, which is used for general bait barge maintenance (e.g., welding, steel cutting, manual painting) as well as storage. Of the 14,240 square feet, 8,240 square feet is for ingress and egress only. The SP Bait Company also occupies 2,280

[1] The environmental impacts associated with the relocation of Crescent operations were considered by the Port of Long Beach and determined exempt from CEQA (Cameron pers. comm.).

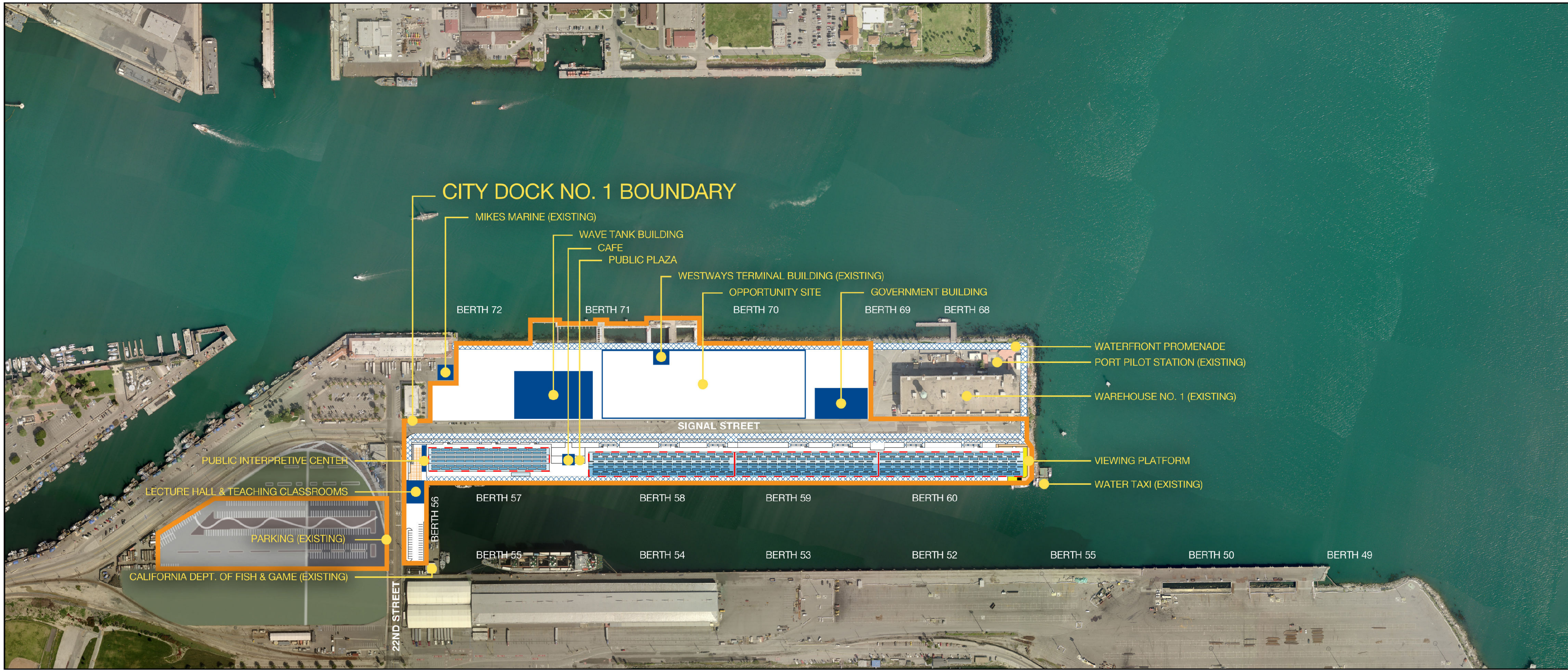

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Figure ES-3
Proposed Project Site Plan
City Dock No. 1 Marine Research Center Project

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SOURCE: POLA, ESA (2010)

Figure ES-4
Existing Conditions
City Dock No. 1 Marine Research Center Project

square feet of water adjacent to the wharf, which is used for docking commercial fishing boats and the occasional docking of the bait barge during routine maintenance. In addition, there are also some surface parking spaces reserved for the SP Bait Company.

Crescent occupied a portion of the transit shed located at Berth 57. The transit shed at Berth 57 is a single-story steel-frame structure built in the mid-1920s, which Crescent used to store hay. This 46,000-square-foot wood-framed rectangular building is approximately 500 feet long by 93 feet wide and 25 feet high. Clad in corrugated metal, the transit shed includes a loading dock that spans the full horizontal length of the north side of the building. Attached to the shed is an additional 3,640-square-foot wood frame façade on its north side (facing East 22nd Street) that was added in 1933 and which most recently housed Crescent administrative operations. A structural assessment conducted by LAHD for the building concluded that the roof and siding appear to be in good condition with some corrosion (Port of Los Angeles 2002). However, the steel rolling doors that provide access to the loading dock are unstable to lateral forces due to the absence of bracing elements. In addition, the building lacks solid connections between some of its columns and the roof trusses, and there is some evidence of corrosion in some of the steel columns. The building has been determined eligible for listing in the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR), and as a City of Los Angeles Historic-Cultural Monument (ICF Jones & Stokes 2008).

ES.3.2.1.3 Berths 58–60 (Transit Shed)

The transit shed at Berths 58 through 60 is a single-story steel-frame structure built in the 1910s. This 180,000-square-foot rectangular building measures 1,800 feet long by 100 feet wide and is approximately 35 feet high, and includes a loading dock that spans the full horizontal length of the building. The transit shed is clad with corrugated metal siding. A structural assessment for the building concluded that it is in good-to-fair condition with signs of deterioration similar to those noted for the transit shed at Berth 57. The building has been determined eligible for listing in the NRHP and CRHR, and as a City of Los Angeles Historic-Cultural Monument (ICF Jones & Stokes 2008).

A water taxi service provided by US Water Taxi is located at the southwestern corner of Berth 60 and includes an office, which is outside of the proposed project boundary. A small maintenance shed, some storage areas for supplies, and a fleet of approximately five vessels is maintained by the taxi service within the proposed project boundary. This service transports supplies and materials to ships anchored outside the breakwater.

ES.3.2.1.4 Berths 57–60 (Wharf)

The original wharf structure was built in 1913 with an apron wharf added in 1938. Both structures are potentially historic, and an historic resources assessment of the wharves has been conducted as part of the special studies performed to support this Draft EIR.

Recent Port engineering studies have shown that the slope and wharf structure over which the transit sheds at Berth 57 and Berths 58–60 are built are badly deteriorated with widespread damage to the piles, caps, beams, and deck soffit noted in the inspections.

ES.3.2.1.5 Berths 70–71 (Westway Terminal Site)

The Westway Terminal site encompasses approximately 14.3 acres in the northeastern portion of the proposed project site, between the Main Channel and Signal Street, and occupies a large portion of the south side of the dock at Berths 70–71. The Westway Terminal site includes 134 aboveground storage tanks, associated pipelines and infrastructure, an historic pumping station, the Westway Terminal Building (also known as the Pan-American Petroleum Company Marine Loading Station Facility and the Pan-American Oil Company Pump House), and an office building that was recently in use by Crescent. The Westway/Pan-American Oil Company Pump House within Berth 70 is eligible for listing on the NRHP and CRHR, and as a City of Los Angeles Historic-Cultural Monument (ICF Jones & Stokes 2008). Historic site operations were served by rail, truck, and vessel, and involved the use of oils, lubricants, fuels, and other hazardous materials. Considered a hazardous cargo facility under the Port's Risk Management Plan (RMP), this facility closed in 2009. A demolition and remediation strategy is being developed in coordination with the Regional Water Quality Control Board (RWQCB).[2] Completion of a full site characterization study and remedial action design, and an evaluation of future land use restrictions would occur after demolition of the aboveground storage tanks.

ES.3.2.1.6 Sampson Way and 22nd Street Parking Lot

The existing 4.5-acre surface parking lot located north of 22nd Street and east of Sampson Way is located within the proposed project boundary. The parking lot has spaces for 409 vehicles but is currently underused.

ES.3.2.1.7 Berth 260 (Existing SCMI Facility Site)

Berth 260 is located less than 1 mile northeast of the proposed project site on Terminal Island, and contains SCMI's existing operations, which are proposed to be relocated to the proposed project site. SCMI occupies a 1.3-acre site at 820 South Seaside Avenue and consists of two noncontiguous parcels separated by a building operated by the Los Angeles Port Police. The northern side of the site includes a

[2] Demolition of the existing tanks and remediation of the Westway Terminal site was analyzed under the San Pedro Waterfront Environmental Impact Statement/Environmental Impact Report (SPW EIS/EIR) and will occur independently of the City Dock No. 1 Project. Therefore, these actions are not part of the proposed Project.

19,000-square-foot building that contains offices, laboratories, classrooms, a circulating seawater system, and storage, meeting, and warehouse space. The site also includes a small parking lot, seawater storage tanks, and dock space at which approximately seven vessels are docked. The southern side of the site is occupied by a machine shop, warehouse space, and an open storage yard. The current SCMI facility accommodates approximately 25 researchers and staff, and operates as the shoreside support facility for the University of Southern California's Wrigley Marine Science Center on Catalina Island.

ES.3.2.2 Surrounding Uses

The Port includes a variety of uses supporting various maritime-themed activities, as well as retail shops and restaurants, recreation, community, and educational facilities, as identified in Figure ES-5. Port operations are predominantly centered on shipping activities, including containerized, break-bulk, dry-bulk, liquid-bulk, auto, and intermodal rail shipping. In addition to the large shipping industry at the Port, there is also a cruise ship industry and a commercial fishing fleet.

The Port also accommodates boat repair yards and provides slips for approximately 3,950 recreational vessels, 150 commercial fishing boats, 35 miscellaneous small service crafts, and 15 charter vessels that handle sportfishing and harbor cruises. Two businesses related to recreational vessels and small service crafts, Pacific Performance Racing and RS Marine Engine Services, are located just north of the proposed project site near the intersection of 22nd Street and Signal Street. Other uses include Cabrillo Beach Park and Cabrillo Beach Youth Waterfront Sports Center, with a public recreation area used for swimming and other beach activities and which is operated by the Los Angeles Department of Recreation and Parks. This area also features a public boat launch and the Cabrillo Marine Aquarium. The aquarium is used for educational purposes and frequently hosts large school groups. Other recreational areas include the 22nd Street Park and the YMCA's Bloch Field.

Berths 87–93, located about a mile north of the proposed project site, are currently used by the World Cruise Center, which has been active at the Port for over 30 years. In 2002, the Port renovated Berth 93 at the World Cruise Center to update the Berth 93 Cruise Terminal to meet current cruise ports standards for security features and the ability to handle the current class of cruise vessels. The World Cruise Center currently operates out of two existing terminals (Berths 91–92 Terminal and Berth 93 Terminal), with two permanent berths (91–92 and 93) and use of a temporary third berth on occasion at Berth 87. Cargo-handling operations occurred at Berths 87–90 until August 2006, after which they permanently ceased.

There are a variety of land and water uses to the south of the World Cruise Center. Anchored by the Los Angeles Maritime Museum, other existing land and water uses within the proposed project area between 3rd and 6th Streets include tug vessel services, Fire Station #112, Port police dock, and John S. Gibson, Jr. Park along the east side of Harbor Boulevard just north of 6th Street.

One of the main draws of the surrounding area is Ports O'Call Village, located between the harbor's Main Channel and Sampson Way from 7th Street to 13th Street. Ports O'Call Village is a faux New England fishing village that was established in 1963. This approximately 10-acre commercial retail site also is used as a staging area for various annual events, including the Lobster Festival and the Tall Ship Festival. Just south of Ports O'Call Village in the Southern Pacific Slip (SP Slip) is an active commercial fishing fleet.

For over 100 years, Los Angeles Harbor has been a premier location for fishing. The commercial fishing industry in Los Angeles Harbor saw its peak in the 1940s during World War II but declined substantially after the depletion of the sardine and mackerel populations. Today, although smaller than it once was, the commercial fishing fleet at the Port is intact, providing fresh fish to customers throughout the U.S. A fish market, located south of the SP Slip and just north of the proposed project site, includes a number of local seafood retailers at the eastern terminus of 22nd Street, including J&D Seafood, Star Fisheries, Standard Seafood, Deluca J Fish, and the Los Angeles Fish & Oyster Company.

The Port of Los Angeles Pilot Station and Warehouse No. 1 are located south of the proposed project site, adjacent to the Westway Terminal but outside of the proposed project boundary. Warehouse No.1 is a six-story building completed in 1917 and is listed on the NHRP. The building is occasionally used as warehouse space for the Port, and provides filming locations for television shows and other media.

Across the East Channel from City Dock No. 1 are additional transit sheds at Berths 54 and 55 (which include fruit storage space for Stevedoring Services of America [SSA]), future cruise facilities at Berths 45 through 47 and 49 through 50, Cabrillo Way Marina Phase II, and public park space. As discussed above, Berth 56 contains the Pan-Am Terminal Facility Building, an approximately 1,600-square-foot building operated as a field office for CDFG. The field office is immediately adjacent to the proposed project boundary. The building was built in 1930 before being moved to its current location in 1940, and has been determined eligible for listing on the NRHP and CRHR.

ES.3.3 Proposed Project Elements

The proposed Project involves a comprehensive plan for the reuse of City Dock No. 1 that would be built out in two phases. Phase I, which is anticipated to begin in late 2012 and conclude in 2016, would include the conversion of Berths 56 and 57 into a new SCMI facility and development of an interpretive center open to the public. The majority of the remaining proposed project elements would be constructed under Phase II, which is anticipated to commence construction in 2013 and conclude around 2024.

All construction staging and material laydown would occur within the proposed project site at Berths 70-71 and the Sampson Way and 22nd Street Parking Lot during Phase I, with the majority of the staging and laydown occurring at the parking lot as Phase II progresses toward completion. In addition, prior to commencement of the

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Figure ES-5
Surrounding Uses
City Dock No. 1 Marine Research Center Project

proposed Project, the existing occupant (San Pedro Bait Company) would relocate its operations from the proposed project site. Table ES-1 provides a summary of the two phases of development by each element and the total area each major element would contribute to the overall proposed Project. The proposed site plan is illustrated in Figure ES-3.

Table ES-1. Elements of the Proposed Project

Element/Phase	*Area*
PHASE I (2012–2016)	
Berth 56	
▪ Construct Two-Story Learning Center at Berth 56 (150-seat lecture hall/auditorium and classrooms)	11,500 sf
Berth 57	
▪ Convert Berth 57 Transit Shed into SCMI Research Facility and Develop Marine Research- and Education-Related Facilities ▫ Office-Related Space (12,000 sf) o Faculty Office Space o Administrative Suite o Staff Support Facilities (toilets, showers, and lockers) ▫ Laboratory Related Space (34,500 sf) o Teaching Laboratories o Research Laboratories and Facilities o Lab Support Space o Building Support Facilities (machine shop, storeroom, chemical storage, hazardous waste, scuba gear, instrument support, etc.) ▫ Outdoor Space (8,200 sf)[1] o Outdoor Teaching/Outreach Classroom o Outside Storage Space	46,500 sf
▪ Replace Berth 57 Entrance (3,640 sf) with New Addition (Public Interpretive Center)	3,600 sf
▪ Install Seawater Circulation and Life Support System including Exterior Storage Tanks for Berths 57 and Seawater Intake/Discharge Infrastructure to Serve City Dock No.1 Research Laboratory Buildout	New utility
▪ Construct Floating Docks Adjacent to Berth 57 (12 vessel slips)	18,500 sf
▪ Rehabilitate/Repair Berth 57 Wharf and Associated Ground Improvements	625 lf[1]
▫ Create Berthing for Research Vessels and Loading Space on the Wharf for Crane	--
▪ Construct Public Plaza at Berth 57	7,500 sf[1]
▪ Relocate SCMI from Berth 260 to new Berth 57 Facilities	--

Element/Phase	*Area*
Berth 260	
▪ Demolish Existing SCMI Facility (demolition of existing 19,000-sf building, 2,700-sf warehouse, and 2,400-sf shop storage)	(24,100 sf)
Total Structure Square Feet in Phase I	*80,100 sf*[2]
Signal Street Improvements/Parking Facilities	
▪ Repair/Repave/Restripe	625 lf[1]
▪ Add Surface Parking Adjacent to Berth 56	15 spaces
▪ Add Surface Parking Adjacent to Berth 57	40 spaces
▪ Utilize Sampson Way and 22nd Street (existing parking lot; 4.5 acres)	409 spaces
Total Parking Added in Phase I	*55 spaces*
Total Available Parking in Phase I	*464 spaces*
Total Area Redeveloped and Enhanced in Phase I	*8.8 acres*
PHASE II (2013–2024)	
Berths 58–60	
▪ Covert Transit Sheds into Marine Research Facility □ Office Related Space (50,000 sf) o Office/Administrative Space3 o Staff Support Facilities (toilets, showers, and lockers) o Hallways, Walkways □ Laboratory Related Space (70,000 sf) o Research Laboratories and Facilities o Lab Support Space o Storage Facilities (robotics, instruments, etc. deployed on marine research vessels) o Marine Research Vessel Support Facilities (crew quarters, showers, etc.) o Building Support Facilities (machine shop, storeroom, chemical storage, hazardous waste, scuba gear support, etc.) □ Outdoor Space (16,400 sf) o Outside Storage Space	120,000 sf
▪ Convert Transit Shed to Marine Business Incubator Space □ Office Related Space (20,000 sf) o Office/Administrative Space3 o Staff Support Facilities (toilets, showers, and lockers) □ Laboratory Related Space (40,000 sf) o Research Laboratories and Facilities	60,000 sf

Element/Phase	Area
o Lab Support Space o Storage Facilities (robotics, instruments, etc. deployed on marine research vessels)	
■ Develop Waterfront Promenade including Public Plaza/Viewing Platform at Berth 60	6,000 lf[1]
■ Construct Waterfront Café	1,000 sf
■ Install Seawater Circulation System including Exterior Storage Tanks for Berths 58–60	New utility
■ Relocate Items Stored by Water Taxi Service (to within the general vicinity)	--
■ Rehabilitate/Repair Berths 58–60 Wharf and Associated Ground Improvements	1,875 lf[1]
□ Create Berthing for Research Vessels and Loading Space on the Wharf[3]	--
Berths 70–71 (Westways)[4]	
■ Construct Two-Story NOAA Administration and Research Facility	50,000 sf
■ Implement Wharf Maintenance	--
■ Construct Five-Story Building (to house an 80,000-sf wave tank), including Seawater Intake	100,000 sf
■ Opportunity Site. Options could include: □ Support Facilities for Berth 57–60 Operations such as Seawater Storage Tanks, Life Support Facilities, Discharge Treatment Facilities, and Storage Space. □ Outside Research Tanks □ Additional Marine Research/Business Laboratory Space	
Total Structure Square Feet in Phase II	*331,000 sf*
Signal Street Improvements/Parking Facilities	
■ Implement Repaving and Restriping	1,875 lf[1]
■ Install New Diagonal Parking	155 spaces
■ Remove Existing Heavy Rail Line from Street	8,000 lf[1]
Total Parking Added in Phase II	*155 spaces*
Total Parking Available in Phase II	*619 spaces[5]*
Total Area Redeveloped and Enhanced in Phase II	*25.00 acres*
PROPOSED PROJECT TOTALS	
Total Proposed Project Area Structures	411,100
Total Parking Spaces Available for Proposed Project	619
Total Proposed Project Area Redeveloped and Enhanced	33.8 acres

[1] Not a structure and is therefore not counted in total structure sf.

[2] Excludes demolition of existing SCMI Facility at Berth 260.

[3] NOAA facilities, including office and research space within Berths 58–60 Transit Shed and berthing space at Berths 58–60 to be relocated to Berths 70–71 when remediation and development of those berths has been completed.

[4] Demolition of the Westway tanks, piping, and related structures at Berths 70–71 as well as the remediation following has

Element/Phase	*Area*
been analyzed under the San Pedro Waterfront (SPW) Environmental Impact Statement/Environmental Impact Report (EIS/EIR) and is not considered a component of the proposed Project.	
[5] In addition to the 155 new parking spaces provided under Phase II, visitors and employees would have access to the 464 parking spaces identified under Phase I for a total of 619 spaces for the proposed Project.	
sf = square feet; lf = linear feet	

ES.3.3.1 Learning Center Building (Berth 56)

Berth 56 improvements under Phase I would include construction of a Learning Center building. This building would include three classrooms and a 150-seat auditorium that would feature theater-style seating and related facilities. The Learning Center would be designed in accordance with the Secretary of the Interior's Standards for Rehabilitation (Secretary's Standards) to ensure architectural compatibility with adjacent historic resources, including plan review by a qualified consulting architectural historian for compliance with the Secretary's Standards.

ES.3.3.2 Transit Shed Upgrades for SCMI (Berth 57)

In order to achieve the conversion of Berth 57, construction would first involve wharf upgrades and landside improvement to meet current seismic code (see Section 2.3.4.4, in Chapter 2, "Project Description"). Upon completion of the wharf retrofit and ground improvements, work would begin on upgrading the existing Berth 57 transit shed to current seismic and occupancy codes. Phase I would also include the demolition of an existing 1933 wood-frame structure to allow construction of a new glazed entryway to potentially house the public interpretive center. The new structure would introduce a contemporary, neutral, and visually prominent entrance into the SCMI facility, distinct from the existing historic transit shed façade. This new façade may include large glass aquaria at the entrance way. The façade would reflect the same general shape and profile as the transit shed in height and massing and could include an area for public education and outreach.

The existing Berth 57 transit shed would require extensive renovations prior to occupancy by SCMI. The SCMI research facility would include office space for faculty, staff, and administration; laboratory space for teaching and research laboratories; lab support and building support spaces; and outdoor space for outdoor teaching, classrooms, and storage space. A seawater circulation and life support system would be installed at Berth 57, including exterior storage tanks, and seawater intake/discharge infrastructure adequate to serve City Dock No. 1 urban marine research center build-out. Additional details of this system are provided in Section 2.3.4.9.

Repair, retrofit, and rehabilitation of the transit shed to address structural deficiencies would be facilitated by the exposed condition of all structural elements. These include repairing rusted exterior corrugated metal siding with new panels, upgrading structural connections to meet established seismic and wind load resistance, retrofitting large openings (east and west façades) to ensure stability and water tight openings, sandblasting and repainting corroded steel members and gusset plates, and replacing deteriorated and damaged steel members, as required. In addition, it is anticipated that new traverse and longitudinal frames would be added, interior steel columns repaired, and new concrete encasements around the base of each column constructed. Installation of a continuous perimeter foundation wall, limited to shallow (2 to 3 feet maximum) excavations to inhibit water intrusion at the building perimeter and utility placement may be required. However, as noted under Section 2.3.4.4, to gain access to the wharf underlying the transit sheds, the roof and western façade of the transit sheds would be temporarily removed to provide direct access to the wharf for pile driving purposes.

All renovations would be required to conform to the Secretary's Standards) for buildings eligible for listing or listed on the NRHP and would undergo a plan review by a qualified consulting architectural historian to ensure compliance. Due to the minimal nature of the existing structure (without insulation), the existing transit sheds would primarily serve as an "outer shell building" to provide basic shelter from water and wind and sun. The proposed marine laboratory, classroom, and office facilities would be within the existing envelope of the transit shed and be constructed by the tenant, SCMI. Therefore, the historic integrity of Berth 57 would be maintained, and, at the same time, it would be adaptively re-used to integrate state of the art fire/life safety protection, seismic resistance, security features, and utility infrastructure as required by its change in use. The exterior of the transit sheds would largely be maintained with the exception of necessary improvements to the siding, roof, cornices, etc. There is a potential that a few of the current loading doors would be replaced with windows, to provide for public viewing/research interpretive opportunities. The following discussion provides a summary of how this proposed project element would generally meet the guidance provided in the Secretary's Standards.

- Existing metal roll-up-style doors would be replaced with new glazed openings to provide more light, air, and egress into the interior spaces. This modification would be consistent with the guidance provided by the Secretary's Standards because it would maintain the repetitive punched openings along the structure's elevations, and most of the roll-up doors are non-original replacements. The design of the new glazing systems would reference the industrial maritime character of the building, with industrial metal sashes and clear glazing, as opposed to vinyl or wood sashes and reflective or opaque glazing.
- Deteriorated historic features would be repaired rather than replaced whenever feasible. Where the severity of deterioration requires replacement of a distinctive feature, the new feature would match the old in design, color, texture, and other visual qualities and, where possible, materials. In the case of the Berth 57 transit shed, rusting corrugated metal siding, steel members, and gusset plates would be repaired, and those materials that cannot be repaired due to advanced deterioration would be replaced in-kind with similar metal materials.
- Correcting structural deficiencies in preparation for the new use is allowable by the Secretary's Standards assuming that the improvements are completed in a manner that preserves the structural system and individual character-defining

features. In the case of the interior of the transit shed at Berth 57, the open trusses are character-defining features of the building's interior. Upgrading the structural connections would not obscure, remove, or otherwise significantly alter in an adverse manner the metal truss system.

- Removal and replacement of portions of the roof and western façade to accommodate the wharf improvements and associated ground improvements at the Berths 57–60 transit shed would reuse the existing materials (corrugated metal roofing and siding) to the extent feasible. Where the severity of deterioration requires replacement of a distinctive feature, the new feature would match the old in design, color, texture, and, where feasible, materials. Please also see discussion in Chapter 2, "Project Description," Section 2.3.4.4.
- In the case of the Berth 57 transit shed, the new interior "buildings" would not obscure or destroy the interior truss work, allowing these features to read as original features of the building. The new interior structures would not reach the ceiling, thus allowing the open, floor-to-ceiling height of the interior spaces to read visually as they do today (i.e., not obscure the clerestories). The new construction would also retain a significant amount of open interior space, particularly in the center of the building, where long interior vistas are possible (i.e., new construction will be relegated to the side aisles of the structure). The buildings would be differentiated from the old but also compatible with the massing and scale of the building. Therefore, industrial shed-like architecture with exposed steel structures and metal siding would be an appropriate architectural motif for the new construction.
- New additions and adjacent or related new construction would be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

ES.3.3.3 Floating Docks (Berth 57)

Phase I would also develop an 18,500-square-foot, 12-slip floating dock in the East Channel adjacent to Berth 57 to accommodate existing small SCMI research vessels and to allow sufficient capacity for additional small research vessels.

ES.3.3.4 Wharf Improvements and Associated Ground Improvements (Berths 57–60)

In order to accommodate the proposed project elements at Berths 57–60, construction would involve first upgrading the adjacent wharf and the existing retaining wall to current seismic code. There are two potential options for the wharf improvements and associated ground improvements.

The first option involves installing 127 new 72-inch diameter steel pipe piles (superpiles) with 20 feet of spacing along the footprint of the existing building. The superpiles would be installed in-water and would carry virtually all of the seismic loads, leaving the existing structure to carry only gravity loads. In addition, to retain the existing aesthetic appearance, the new superpiles would be set back from view and the existing viewable rows of piles would be replaced with new concrete piles that would be indistinguishable from the existing condition, which would allow the new wharf to retain the same general appearance. Similar to the existing wharf design, the first row of concrete piles, end caps, and decking along the westernmost edge of the wharf would be reconstructed using approximately 16-inch-square concrete piles spaced about 15 feet apart with a concrete deck resting directly above. As such, these new features would match the old in design, color, texture, and materials, and would conform to the guidance provided by the Secretary's Standards. When detailed plans of the replacement piles are available, they would be reviewed by a qualified consulting architectural historian to ensure compliance with the Secretary's Standards. Work would include removing the roof of the existing transit sheds, demolishing 18,288 square feet of existing concrete slab, installing silt curtains, driving the piles, pouring new pile caps and deck slab, and replacing the roof. Exterior façade removal and reinstallation along the entire length of Berths 58–60 would be required.

The second option involves the installation of 252 new 60-inch-diameter steel pipes (in groups of four), which would be located along the back face of the existing seawall, outside of the water, spaced 40 feet apart. The four-pile groups would be installed with a 5-foot-thick concrete pile cap to minimize the displacement of the wharf structure during a seismic event. A 6-inch-thick topping slab acting as a "drag-slab" would extend across the existing deck to tie in the existing wharf structure to the new pile clusters. The existing viewable rows of piles would be replaced with new concrete piles that would be indistinguishable from the existing condition, which would allow the new wharf to retain the same general appearance. Similar to the existing wharf design, the first row of concrete piles, end caps, and decking along the westernmost edge of the wharf would be reconstructed using approximately 16-inch-square concrete piles spaced about 15 feet apart with a concrete deck resting directly above. As such, these new features would match the old in design, color, texture, and materials, and would conform to the guidance provided by the Secretary's Standards. When detailed plans of the replacement piles are available, they would also be reviewed by a qualified consulting architectural historian to ensure compliance with the Secretary's Standards. Work would include removing the roof of the existing transit sheds, demolishing 6,300 square feet of existing concrete slab, installing silt curtains, driving the piles, pouring new pile caps and deck slab, and replacing the roof.

Both options would require removal and replacement of the transit shed's roof and western façade, which are considered character-defining features of these historic buildings. In order to comply with the Secretary's Standards, the existing corrugated metal siding and roofing would be removed, stored, and reinstalled to the extent feasible and where such materials and features are currently in good condition, or would be replaced in-kind if such materials are deteriorated beyond repair.

Prior to initiating the wharf improvements, the SP Bait Company would relocate operations either across the East Channel or to Fish Harbor. However, the barge would remain in its current location as permitted under the current lease.

ES.3.3.5 Demolition of SCMI Facilities (Berth 260)

Upon completion of the conversion of Berth 57 into new SCMI marine research and educational space, SCMI would be relocated from its Berth 260 location to Berth 57. The existing SCMI building and parking lot at Berth 260 in Fish Harbor on Terminal Island would be vacated. The facilities to be demolished include an existing office and research building, a storage warehouse, a workshop, and shop storage. The floating docks would remain. After structure demolition, the site would be graded and restored as required by LAHD's agreement with SCMI. Any future development associated with this site would be subject to separate environmental review in accordance with CEQA.

ES.3.3.6 Transit Shed Upgrades for Marine Research Facility and Business Incubator Space (Berths 58–60)

Under Phase II, Berths 58–60 would be converted to provide approximately 120,000 square feet for marine research facilities and approximately 60,000 square feet of marine business incubator space. These facilities would include office space, which could be utilized for temporary office space for NOAA, until Berths 70–71 are developed. The storage areas at the end of Berth 60 utilized by the water taxi service would be relocated within the general vicinity of Berth 60 to better accommodate the proposed Project.

The seawater circulation and life support system would be expanded to Berths 58–60 during Phase II, as described further in Chapter 2, "Project Description," Section 2.3.4.9. In order to achieve the conversion of Berths 58–60, construction would first involve wharf upgrades and ground improvement to meet current seismic code (see Section 2.3.4.4). Upon completion of the wharf and ground improvements, the next steps would involve upgrading the existing transit shed at Berths 58–60 to meet current seismic code, as well as renovating the building in conformance with the Secretary's Standards for buildings eligible for listing or listed on the NRHP. Conversion of Berths 58–60 would occur much as it would for Berth 57 in that tenant improvements would be constructed within the envelope of the existing transit shed.

The repairs and upgrades to the transit shed at Berths 58–60 would be designed to meet the Secretary's Standards' requirement for new work to be compatible with, yet architecturally differentiated from, the old, including plan review by a qualified consulting architectural historian for compliance with the Secretary's Standards. The building parameters discussed above for the Berth 57 transit shed would be applicable to the Berth 58–60 transit shed repairs.

ES.3.3.7 Berths 70 and 71 (Westway Terminal)

Once remediation and restoration activities at Berths 70–71 are completed, the proposed Project would develop Berths 70–71 with a 50,000-square-foot facility for NOAA that would include office and laboratory space. The NOAA building would be designed in accordance with the Secretary's Standards, including plan review by a qualified consulting architectural historian for compliance with the Secretary's Standards.

The two-story building would be subordinate to the six-story Municipal Warehouse No. 1 primary historical resource. The building design would reference the adjacent building's maritime industrial character, materials, and massing. As an example, appropriate design cues would be taken from the adjacent Municipal Warehouse No. 1 building, such as a rectilinear form with flat roof or monitor roof shapes, exposed exterior walls painted a light color, expressed pilasters, repetitively punched openings, and symmetrically arranged elevation. The use of overly elaborate architectural styles that purposely depart from the simple, maritime industrial character of the area would be avoided, as would large amounts of landscaping, because landscaping is not characteristic of the area.

The Westway Terminal Administration Building (also known as the Pan-American Oil Company Pump House) would be adaptively reused by a future occupant. The Mission Revival style character of the Westway Terminal Building would be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize this building, stucco wall cladding, or stepped Mission parapet, would be avoided.

Deteriorated historic features of the Westway Terminal Building would be repaired rather than replaced, to the extent feasible. Where the severity of deterioration requires replacement of a distinctive feature, the new feature would match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features would be substantiated by documentary, physical, or pictorial evidence, to the extent available.

In addition, Berths 70–71 along the Main Channel would be made available for berthing of research vessels, with a maximize vessel length of approximately 250 feet. There are no plans to relocate current vessels in the NOAA fleet to the proposed project site, but there is a possibility that future built vessels could be home ported at City Dock No.1. Furthermore, full functioning of the site would include the regular docking of NOAA vessels home-ported in other locations but passing through Los Angeles as part of research expeditions.

Redevelopment of Berths 70–71 would also involve development of an 80,000-square-foot steel-reinforced concrete wave tank on the land side, which would be enclosed within its own five-story, 100,000-square-foot building. The wave tank would be constructed to allow the study of tsunamis, rouge waves, and the generation of wave energy, as well as vessel and platform and coastal engineering studies. The wave tank building would include an internal crane mechanism for moving tank baffles and actuators and equipment within the building.

The base of the building would be above the mean high tide mark, which would allow for a depth of approximately 10 feet below the existing grade elevation. The first story would comprise the foundation, the next two stories would house the wave tank, the fourth story would include walkways and view platforms, and the final story would provide clearance for cranes to maneuver the wave tank baffles.

The building would be designed to be compatible with the historic materials and features of nearby historic structures to the extent feasible given its required size. For example, the design of the wave tank would reference motifs, massing, and materials of other large-scale buildings in the immediate vicinity to help maintain the industrial maritime character of the district.

ES.3.3.8 Marine Research Facility Support Structures

The proposed urban marine research center is intended to support marine research and entrepreneurial business development to address the next generation of ocean-driven challenges and opportunities, such as tidal, wind, and biomass energy; aquaculture and sustainable fisheries; shoreline dynamics; and tsunamis, rouge waves, remote sensing, coastal resource management, marine pollution, marine biochemistry and pharmacology, underwater robotics, and climate change and sea-level rise. The proposed Project would not only support marine research being conducted by Southern California universities and colleges and state and national marine-related agencies, but is also intended to accommodate visiting researchers from around the nation and world.

Research would be selected, undertaken, and managed by the tenants/subtenants of City Dock No. 1. Research topics are anticipated to evolve and change over time, as new information and environmental concerns are identified. Similarly, equipment storage needs, seawater circulation system, life support system, and seawater volume needs are anticipated to fluctuate over time based on research being conducted.

ES.3.3.8.1 Marine Research Seawater In-take, Life Support, and Treatment Systems

Initially, the seawater system, associated life support and water treatment systems, and water would only serve Berth 57, but the intake/discharge infrastructure would be designed with enough capacity to eventually serve Berths 58–60 and 70–71 once those upgrades and new construction are completed in Phase II. The current combined volume of all Berths 57–60 and 71 marine research tanks is estimated at approximately 1,000,000 gallons.

Seawater storage tanks necessary for Berth 57 marine research operations would be installed as part of Phase I. Additional seawater storage tanks would be added as additional research and business incubator facilities are developed in Phase II in order to address the needs of those additional operations. Life support systems, such as water filtration, protein skimmers, and ozone treatment systems would also be constructed and installed, as applicable, to all City Dock No. 1 facilities, with space reserved for additional components to be added as build out of the center proceeds. Chillers and heaters would be installed for seawater systems that require specific temperature requirement.

The exact seawater system(s), life support, and treatment systems to be utilized at the facilities would be designed to meet the needs of the research planned to be conducted within each section of the proposed City Dock No. 1 facility, for which specific detailed needs are currently unknown. However, it is anticipated that the seawater systems would comprise a combination of both flow-through and recirculating capabilities. Depending on the system that is ultimately developed, the quantity of discharge, and the types of activities that occur and species handled in the research laboratories, different discharge and filtration requirements may be needed for either ocean or sewer discharge. Conservative intake and discharge estimates for each type of seawater system are included to ensure that potential impacts of both potential marine research facility seawater systems are evaluated and addressed in this Draft EIR.

Seawater In-Take and Discharge

The seawater intake and discharge locations for the Berths 57–60 and 70–71 research facilities are proposed to be located at the southern end of City Dock No.1, slightly extending out past the rip-rap, or under the Berths 57–60 wharves, as deemed most appropriate for the final seawater system design. It is anticipated that the seawater systems would comprise a combination of both flow-through and recirculating capabilities. The intake flows would be limited to 0.5 foot per second or less, which is the velocity identified in the U.S. Environmental Protection Agency (EPA) guidelines as a rate that generally allows fish to pull away from the intake structure and results in de minimus impingement levels. The intake pipe size would be designed to acquire the volume of water needed, while ensuring a velocity of 0.5 foot/second or less. The in-take would be located in an area without nearby sensitive habitat, would operate at low flows and velocities, and would be screened to minimize entrainment and impingement. Should a combination of recirculation and flow-through system be used, seawater in-take volume would be significantly less.

The discharge rate for flow-through systems would use the same rate as the in-take. The discharge location would be to the west of the proposed in-take location at the southern end of City Dock No.1, or under the Berths 57–58 wharves, as deemed most appropriate for the final seawater system design.

Flow-Through Seawater System

Flow-through seawater systems would take in seawater and circulate it through the marine tanks. After circulation through the tanks, the seawater would be filtered and treated for discharge back to the harbor. This type of system minimizes the need for: (1) seawater storage tanks; (2) life support treatment systems, such as protein skimmers and ozone treatment; (3) seawater discharge to the sewer; and (4) electricity usage. Based on the experience of the existing SCMI operation, it is currently anticipated that filtering systems would be adequate to treat seawater from the flow-through system for ocean discharge.

To ensure a healthy environment for marine life, it is anticipated that the water in all tanks would need to be turned over twice daily. This would result in the need to intake and discharge 2,000,000 gallons per day, twice the volume of the City Dock No. 1 research facility tanks, every 24-hour period.

In-take seawater may be chilled, or heated, as appropriate for the tanks and research being conducted. Water that is higher or lower than ambient harbor water temperatures would be managed during discharge to achieve ambient water temperatures prior to discharge to the harbor. Seawater used in tanks that house nonnative species would either be discharged to the sewer or processed through enhanced treatment systems, as necessary to eradicate any nonnative species and prevent their introduction into harbor waters.

Recirculating Seawater System

Recirculating seawater systems would take in seawater, circulate it through tanks, and then filter and treat the water to remove biological waste created by marine organisms maintained in the tanks through filtration, protein skimmers, and ozone treatment. The water would then be recirculated through the tanks. New seawater would be introduced on an ongoing basis as needed to maintain the appropriate water quality, and re-used seawater would be discharged. The turnover rate of seawater for recirculation systems varies based on the treatment systems used and marine organisms maintained. Based on the experience of local aquariums an annual turnover rate of between 6 and 10 is anticipated, resulting in daily intake and discharge volumes of between 16,438 and 27,397 gallons, respectively. Maximum marine research facility sanitary seawater discharge, based on a 100% recirculating seawater system with a 10 times per year turnover rate would be 27,397 gallons/day. However, should a combination of recirculation be used, seawater discharge volume would be significantly less.

Used seawater would require treatment prior to discharge to the sanitary sewer or harbor. Should sanitary sewer discharge be involved, discharges would need to be scheduled to avoid negative impacts on the Terminal Island Treatment Plant, and would be sampled and monitored to ensure compliance with industrial waste discharge requirements for sanitary sewer discharge. In addition, filters used in the recirculated seawater cleansing process must be backwashed to maintain the cleansing ability. The backwash would require discharge to the sanitary sewer. Recirculation systems minimize water in-take and are able to better control fluctuations in water quality. However, recirculation systems are space intensive, requiring a large footprint for storage tanks and life support/treatment systems, and are energy intensive. In addition, due to the re-use of water, biological wastes are concentrated, and discharged water requires a greater level of treatment than flow-through systems for harbor discharge, resulting in additional space needs and energy resources.

As in the case of the flow-through system, in-take seawater may be chilled, or heated, as appropriate for the tanks and research being conducted. However, water temperature would not be a consideration for seawater discharged to the sanitary sewer.

ES.3.3.8.2 Wave Tank Seawater In-take and Discharge

A separate seawater intake and treatment system would be developed for the wave tank during Phase II. As mentioned previously, the proposed wave tank has a total proposed volume of approximately 14,361,600 gallons, and the in-take is proposed to be located along the Berths 70–71 wharf in the main channel.

The gallon per day seawater in-take for filling the proposed wave tank would largely be dependent upon the time allocated to initially fill the tank. A 90-day tank fill time would require 159,574 gallons/day. The in-take flows would be limited to 0.5 foot per second or less. After the initial filling of the wave tank, ongoing seawater in-take needs would be minimal because discharges from the wave tank would be infrequent and intermittent.

Once filled, the seawater in the wave tank would be chemically treated to eliminate marine growth within the tank and retained in stasis except on rare occasions when lower water levels would be needed for a study. On such occasions water may be discharged from the tank. Upon completion of the study, seawater would be needed to again fill the tank. Prior to discharge, chemically treated water would be filtered to ensure that chemicals used to treat the water are removed prior to discharge to the harbor or would be discharged to the sanitary sewer. Discharges would be tested and monitored to ensure compliance with all applicable discharge requirements. The wave tank harbor discharge location would be adjacent to the in-take location along the Berths 70–71 wharf in the main channel.

ES.3.3.9 Waterfront Promenade

The San Pedro Waterfront (SPW) project EIS/EIR (LAHD 2009) assessed the construction of a continuous waterfront pedestrian promenade throughout the waterfront project site. Extending the promenade through a marine laboratory facility could pose special challenges because the waterfront would be utilized for vessel loading on a routine basis by forklifts, cranes, and other heavy equipment at unpredictable intervals. The approximately 6,000-linear-foot promenade would be constructed along the edge of the wharf in such a manner as to maintain public access without creating a safety hazard or otherwise unduly impeding the work that is necessary at a marine laboratory. As such, as part of the proposed Project, the proposed location of the promenade would be along East 22nd Street and Signal Street, and along the existing wharf that runs the perimeter of City Dock No. 1, to the extent feasible. The south end of Berth 60 would be developed to accommodate a public viewing area and platform.

ES.3.3.10 Signal Street Improvements

Signal Street would be repaved and realigned as part of the proposed Project. As part of the realignment, a total of approximately 195 diagonal parking spaces would be provided along one side of the street. The proposed Project would add 15 spaces adjacent to the Berth 56 Learning Center building, 40 new spaces adjacent to the Berth 57 transit shed, and 155 spaces adjacent to Berths 58–60. In addition, the existing heavy rail tracks that are embedded within Signal Street would be removed (approximately 8,000 lineal feet), and the area that is disturbed during the rail removal would be repaved.

ES.3.3.11 Utility Improvements

The proposed Project would provide new utility connections to the proposed buildings as well as the existing buildings to allow for the proposed project elements described above. All connections would be located within the proposed project site and would connect with the existing infrastructure located under Signal Street. In addition to the general utility connections, the proposed Project would potentially upgrade the existing sewer pump servicing the proposed project site. This upgrade to the sewer pump would provide additional capacity to accommodate the proposed Project under full buildout as well as additional future projects if needed.

ES.3.4 Sustainable Design Project Features

The proposed Project is intended to showcase LAHD’s commitment to sustainability. The proposed Project would incorporate a number of sustainable elements focusing on the effort of LAHD to create a green Port. These are analyzed as part of the proposed Project within this Draft EIR. Additionally, the proposed Project would incorporate several features to enhance the final design of the proposed Project. Although not required to mitigate a significant impact, these design measures would further minimize the proposed Project’s effect on surrounding uses and environmental resources. The following proposed Project elements and design measures are consistent with LAHD’s Sustainability Program and policies.

- Use recycled water if available for all landscaping and water feature purposes to decrease the proposed Project’s use of potable water.
- Include drought-tolerant plants and shade trees in the planting palette.
- Require Leadership in Energy & Environmental Design (LEED™) certification for all new buildings as feasible by implementing and ensuring consistency with LAHD’s Green Building Policy; LEED Certification (minimum Silver) is required for all new development over 7,500 square feet.
- Follow LAHD sustainable engineering design guidelines in the siting and design of new development.
- Employ LAHD sustainability measures during construction and operation and use recycled and locally derived materials for proposed project construction, while achieving recycling goals for construction and demolition debris.
- Implement energy efficient design features in the final design to help ensure energy needs are minimized to the extent feasible during construction and operation of the proposed Project.

- Implement water quality and conservation design features in the final design to help ensure water quality impacts are minimized during construction at the water's edge and in the water and operationally through the use of construction best management practices (BMPs) and bioswales.
- Implement aesthetic design features. Public art would be integrated into the proposed project area and would include sculptural pieces. Views of the waterfront would be created through the construction of the waterfront promenade around the edge of the site. The proposed Project would also implement the San Pedro Waterfront Development Design Guidelines to improve efficiency and reduce glare.
- Implement pedestrian access features. Pedestrian access to the waterfront and throughout the proposed project site would be improved through development of a waterfront promenade. The proposed Project would also be designed to accommodate the extension of the Waterfront Red Car Line, which was previously approved under the SPW project in 2009.

ES.4 Alternatives to the Proposed Project

ES.4.1 Basis of Alternatives Selection and Analysis

State CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to a proposed project, or to the location of a proposed project that could feasibly attain most of the basic objectives of the proposed project but would avoid or substantially lessen any significant environmental impacts. According to State CEQA Guidelines, the EIR should compare merits of the alternatives and determine an environmentally superior alternative. CEQA requires that an EIR present a range of reasonable alternatives to the proposed Project. LAHD defines a reasonable range of alternatives in light of its legal mandates under the Port of Los Angeles Tidelands Trust (Los Angeles City Charter, Article VI, Section 601), the California Coastal Act (PRC Division 20 Section 30700 et seq.), and LAHD's leasing policy (LAHD 2006).

The lead agencies may make an initial determination as to which alternatives are feasible and therefore merit in-depth consideration, and which alternatives are infeasible. The range of alternatives need not be beyond a reasonable range necessary to permit a reasoned choice between the alternatives and the proposed project.

According to CEQA regulations, the alternatives section of an EIR is required to:

- rigorously explore and objectively evaluate a reasonable range of alternatives;
- include reasonable alternatives not within the lead agency's jurisdiction or congressional mandate, if applicable;
- include a "no project" alternative;

- develop substantial treatment to each alternative, including the proposed action, so that reviewers may evaluate their comparative merits;
- identify the environmentally superior alternative;
- include appropriate mitigation measures (when not already part of the proposed action or alternatives); and
- present the alternatives that were eliminated from detailed study and briefly discuss the reasons for elimination.

In addition to the No Project Alternative, alternatives for an EIR usually take the form of a reduced project size, different project design, or suitable alternative project sites. The range of alternatives discussed in an EIR is governed by the "rule of reason" that requires the identification of only those alternatives necessary to permit a reasoned choice between the alternatives and the proposed project. An EIR need not consider an alternative that would be infeasible. State CEQA Guidelines Section 15126.6 explains that the evaluation of project alternative feasibility can consider "site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site." The EIR is also not required to evaluate an alternative that has an effect that cannot be reasonably identified or that has remote or speculative implementation, and that would not achieve the basic proposed project objectives.

This section provides a description of alternatives considered, including those analyzed within this Draft EIR, as well as those considered but withdrawn from further discussion, including the rationale for eliminating the other alternatives from detailed analysis.

ES.4.2 Alternatives Considered

This document presents a reasonable range of alternatives pursuant to CEQA. LAHD must define alternatives in light of the requirements of the Los Angeles City Charter, the Los Angeles Tidelands Trust Grant, the Public Trust Doctrine, and the California Coastal Act. These legal mandates demand that LAHD use the Port for the purposes of promoting and accommodating waterborne commerce, navigation, fishery, and related purposes.

Five alternatives, including the proposed Project and the No Project Alternative, were considered and evaluated in regards to how well each met the objectives for the proposed Project. Three of these alternatives were eliminated from detailed consideration for various reasons, as discussed in Section ES.4.4 and Section 2.9.3. Two of the alternatives met most of the proposed project objectives and are presented in Section ES.4.3. In addition, the No Project Alternative was considered as required by CEQA. Chapter 5, "Project Alternatives," compares the proposed Project and the alternatives and identifies the environmentally superior alternative.

The following alternatives were considered:

- Alternative 1—No Project Alternative
- Alternative 2—Reduced Project

The following alternatives were considered, but eliminated from further analysis:

- New Construction at Berths 57–60
- Alternative Site

ES.4.3 Alternatives Analyzed in this EIR

The proposed Project and two other alternatives meet most of the proposed project objectives. The alternatives that were considered during preparation of this Draft EIR include:

- Proposed Project
- Alternative 1—No Project Alternative
- Alternative 2—Reduced Project

Each of the alternative development scenarios has been carried forward for detailed analysis in Chapter 5, "Project Alternatives," and is summarized below.

ES.4.3.1 Alternative 1—No Project Alternative

Alternative 1 considers what would reasonably be expected to occur on the site if no future discretionary actions occurred. LAHD would not issue any discretionary permits or discretionary approvals, and would take no further action to construct or permit the construction of any portion of the proposed Project. Under this alternative, no construction impacts associated with a discretionary permit would occur.

Under Alternative 1, the proposed Project would not be constructed. Berths 57–60 would continue to be used for SP Bait company operations; these berths would not be converted to a marine research center, and wharf repair and transit shed repairs would not occur. SCMI would continue to operate the 19,000-square-foot office building in Fish Harbor and continue to face the inadequate space and conditions required for their research. Berth 56 would continue with existing uses, which include the use of a small building by CDFG and surface parking.

As part of the SPW project action (and not part of the proposed Project), the Westway Terminal liquid bulk storage tanks would be removed, and Berths 70–71 would subsequently be remediated. With the exception of the existing historic Westway/Pan-American Oil Company Pump House, which would remain, and the existing office building, Berths 70–71 would remain vacant indefinitely after remediation until new development plans could be established and evaluated.

The No Project Alternative would maintain the existing conditions at the proposed project site, and none of the proposed project objectives would be met.

ES.4.3.2 Alternative 2—Reduced Project Alternative

Under this alternative, only Berths 57–60 would be developed into marine research space to be occupied by SCMI, and repairs, rehabilitation, and upgrades would be made to Berth 57 and Berth 58–60 transit sheds and wharves as specified under Section ES.3.3.4 above. SCMI would be relocated to Berth 57, and SCMI facilities at Berth 260 would be demolished as described in Chapter 2, "Project Description."

Development of Berths 70–71, including the NOAA facilities, opportunity site, and installation of the wave tank, would not occur. Because it is proceeding under a separate permitting process (i.e., not part of the proposed Project), the Westway Terminal liquid bulk storage tanks would be removed, and Berths 70–71 would subsequently be remediated. With the exception of the existing historic Westway/Pan-American Oil Company Pump House, which would remain, and the existing office building, Berths 70–71 would remain vacant indefinitely after remediation until new development plans could be established and evaluated. This alternative would also not include the auditorium at Berth 56 or the additional 15 parking spaces proposed at Berth 56. The waterfront promenade would be constructed within City Dock No. 1 as part of implementation of the SPW project. Table ES-2 summarizes development under this alternative.

Table ES-2. Alternative 2: Reduced Project Alternative

Phase/Element	*Area*
PHASE I (2012–2016)	
Berth 57	
▪ Convert Berth 57 Transit Shed into SCMI Research Facility and Develop Marine Research- and Education-Related Facilities ▫ Office-Related Space (12,000 sf) o Faculty Office Space o Administrative Suite o Staff Support Facilities (toilets, showers, and lockers) ▫ Laboratory Related Space (34,500 sf) o Teaching Laboratories o Research Laboratories and Facilities o Lab Support Space o Building Support Facilities (machine shop, storeroom, chemical storage, hazardous waste, scuba gear, instrument support, etc.) ▫ Outdoor Space (8,200 sf)[1]	46,500 sf

Phase/Element	*Area*
o Outdoor Teaching/Outreach Classroom o Outside Storage Space	
▪ Replace Berth 57 Entrance (3,640 sf) with New Addition (Public Interpretive Center)	3,600 sf
▪ Install Seawater Circulation and Life Support System including Exterior Storage Tanks for Berth 57 and Seawater Intake/Discharge Infrastructure to Serve City Dock No.1 Research Laboratory Buildout	New utility
▪ Construct Floating Docks Adjacent to Berth 57 (12 vessel slips)	18,500 sf
▪ Rehabilitate/Repair Berth 57 Wharf and Associated Ground Improvements	625 lf[1]
▫ Create Berthing for Research Vessels and Loading Space on the Wharf for Crane	--
▪ Construct Public Plaza at Berth 57	7,500 sf[1]
▪ Relocate SCMI from Berth 260 to new Berth 57 Facilities	--
Berth 260	
▪ Demolish Existing SCMI Facility (demolition of existing 19,000-sf building, 2,700-sf warehouse, and 2,400-sf shop storage)	(24,100 sf)
Total Structure Square Feet in Phase I	*80,100 sf*[2]
Signal Street Improvements/Parking Facilities	
▪ Repair/Repave/Restripe	625 lf[1]
▪ Add Surface Parking Adjacent to Berth 57	40 spaces
▪ Utilize Sampson Way and 22nd Street (existing parking lot)	409 spaces
Total Parking Added in Phase I	*40 spaces*
Total Available Parking in Phase I	*449 spaces*
Total Area Redeveloped and Enhanced in Phase I	*7.35 acres*[3]
PHASE II (2013–2024)	
Berths 58–60	
▪ Covert Transit Sheds into Marine Research Facility ▫ Office Related Space (50,000 sf) o Office/Administrative Space o Staff Support Facilities (toilets, showers, and lockers) o Hallways, Walkways ▫ Laboratory Related Space (70,000 sf) o Research Laboratories and Facilities o Lab Support Space o Storage Facilities (robotics, instruments, etc. deployed on marine research vessels) o Marine Research Vessel Support Facilities (crew quarters, showers, etc.)	120,000 sf

Phase/Element	*Area*
o Building Support Facilities (machine shop, storeroom, chemical storage, hazardous waste, scuba gear support, etc.) ▫ Outdoor Space (16,400 sf) o Outside Storage Space	
▪ Convert Transit Shed to Marine Business Incubator Space ▫ Office Related Space (20,000 sf) o Office/Administrative Space o Staff Support Facilities (toilets, showers, and lockers) ▫ Laboratory Related Space (40,000 sf) o Research Laboratories and Facilities o Lab Support Space o Storage Facilities (robotics, instruments, etc. deployed on marine research vessels)	60,000 sf
▪ Develop Waterfront Promenade including Public Plaza/Viewing Platform at Berth 60	6,000 lf[1]
▪ Construct Waterfront Café	1,000 sf
▪ Install Seawater Circulation System including Exterior Storage Tanks for Berths 58–60	New utility
▪ Relocate Items Stored by Water Taxi Service (to within the general vicinity)	--
▪ Rehabilitate/Repair Berths 58–60 Wharf and Associated Ground Improvements	1,875 lf[1]
▫ Create Berthing for Research Vessels and Loading Space on the Wharf	--
Signal Street Improvements/Parking Facilities	
▪ Implement Repaving and Restriping	1,875 lf[1]
▪ Install New Diagonal Parking	155 spaces
▪ Remove Existing Heavy Rail Line from Street	8,000 lf[1]
Total Parking Added in Phase II	*155 spaces*
Total Parking Available in Phase II	*604 spaces*[4]
Total Area Redeveloped and Enhanced in Phase II	*10.70 acres*[5]
PROPOSED PROJECT TOTALS	
Total Project Area Structures	249,600 sf
Total Parking Spaces Available for Proposed Project	604
Total Project Area Redeveloped and Enhanced	18.85 acres[5]

[1] Not a structure and is therefore not counted in total structure sf.

[2] Excludes demolition of existing SCMI Facility at Berth 260.

[3] Acreage was calculated by taking the 8.00 acres of Phase I minus the 0.65 acres at Berth 56 for the auditorium and parking.

[4] In addition to the 155 new parking spaces provided under Phase II, visitors and employees would have access to the 449 parking spaces identified under Phase I for a total of 604 spaces for the proposed Project.

[5] Acreage was calculated by taking the Phase II total of 25.00 acres from the proposed Project and subtracting 14.3 for

Phase/Element	*Area*
Berths 70–71.	
[6] Acreage was calculated by taking the total 33.8 acres from the proposed Project and subtracting 0.65 for Berth 56 and 14.3 for Berths 70–71.	
sf=square feet; lf = linear feet	

Alternative 2 would meet a majority of the proposed project objectives except for Objective 2, which includes development of a natural seawater wave tank, and part of Objective 1, which includes the lecture hall/auditorium and classroom development at Berth 56 and adaptive reuse of Berths 70–71.

ES.4.4 Alternatives Eliminated from Further Consideration

As discussed in Section ES.4.1 above, CEQA requires an EIR to present a range of reasonable alternatives to the proposed project, or to the location of the project, that could feasibly attain a majority of the basic project objectives, but would avoid or substantially lessen one or more significant environmental impacts of the project. CEQA also requires an evaluation of the comparative merits of the alternatives. An EIR is not required to consider alternatives that would be infeasible, would not reduce any identified significant impact, or would not meet a majority of the project objectives. Additional details regarding these alternatives and the reasons for rejecting them are included in Chapter 5, “Project Alternatives.”

The following proposed project alternatives were considered in the selection process but were rejected due to one or more of the following:

- infeasibility due to physical, legal, or technical factors;
- inability to meet a majority of the project objectives; or
- inability to reduce one or more identified significant impact(s).

The alternatives below were considered, but eliminated from further analysis:

- New Construction at Berths 57–60
- Alternative Site

ES.5 Environmental Impacts

ES.5.1 Scope of Analysis and Impacts Considered in this Draft EIR

The scope of this Draft EIR was established based on the Initial Study (IS) prepared pursuant to CEQA (see Appendix A) and comments received during the NOP review process. The breadth of the analysis and technical work plans developed during the preparation of this Draft EIR were designed to ensure that comments received from regulatory agencies and the public during this review process would be addressed. The NOP scoping period lasted from December 3, 2010, until January 31, 2011, and included one scoping meeting on Thursday, January 13, 2011. Public and agency comments received during this period were considered in the scope of the analysis for this EIR.

This Draft EIR focuses on the significant environmental effects of the proposed Project and their relevance to the decision-making process. State CEQA Guidelines (Section 15360) define the *environment* as follows:

> The physical conditions which exist within the areas which will be affected by a proposed project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.

Based on the Initial Study, the following issues have been determined to be potentially significant and are therefore evaluated in this Draft EIR:

- Aesthetics
- Air Quality and Greenhouse Gases
- Biological Resources
- Cultural Resources
- Geology
- Groundwater and Soils
- Hazards and Hazardous Materials
- Land Use and Planning
- Noise
- Public Services and Recreation
- Transportation and Circulation—Ground and Marine
- Utilities
- Water Quality, Sediments, and Oceanography

Chapter 3, "Environmental Analysis," discusses the issues that would be significantly affected by the proposed Project. The criteria for determining the significance of environmental impacts in this Draft EIR analysis are described in the "Thresholds of Significance" sections for each resource topic in Chapter 3. Mitigation measures to reduce impacts to less-than-significant levels are proposed whenever feasible.

ES.5.2 Impacts Not Considered in this Draft EIR

The scope of this Draft EIR was established based on the NOP, which identified potential impact areas of the proposed Project. The NOP also determined that agricultural resources, mineral resources, and population and housing would not be affected by the proposed Project. In accordance with CEQA, issues found in the NOP/Initial Study that would have no impact or less-than-significant impact would not require further evaluation in the EIR.

ES.5.3 Impacts of the Proposed Project

Sections 3.1 through 3.13 discuss the anticipated potential environmental effects of the proposed Project. The 13 issues listed above are discussed in these sections, and mitigation measures to avoid impacts or reduce impacts to less-than-significant levels are proposed whenever possible. Chapter 5, "Project Alternatives," discusses the anticipated potential environmental effects of the alternatives. Chapter 6, "Environmental Justice," evaluates the potential for the proposed Project to result in serious and adverse impacts that disproportionately affect low-income and/or minority populations. Summary descriptions of the significant impacts, mitigation measures, and residual impacts for the proposed Project are presented in Table ES-3 below.

For each of the 13 environmental resources analyzed in this Draft EIR, Chapter 3 identifies significant impacts associated with the proposed Project. The following sections describe the significant and less-than-significant impacts.

ES.5.3.1 Summary of Significant and Unavoidable Impacts

Table ES-3 identifies significant unavoidable impacts associated with the proposed Project. This Draft EIR has determined that implementation of the proposed Project would result in significant and unavoidable impacts on the following:

- Air Quality and Greenhouse Gases
- Cultural Resources
- Noise

ES.5.3.2 Summary of Significant Impacts that Can Be Mitigated, Avoided, or Substantially Lessened

Table ES-3 identifies significant impacts associated with the proposed Project that can be mitigated, avoided, or substantially lessened. This Draft EIR has determined that implementation of the proposed Project would result in significant impacts that can be mitigated to less than significant on the following:

- Biological Resources
- Hazards and Hazardous Materials
- Land Use and Planning
- Transportation (Ground)

Table ES-3. Summary of Impact Determinations

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		3.1 Aesthetics	
Construction			
AES-1a: Construction of the proposed Project would not result in an adverse effect on a scenic vista from a designated scenic resource due to obstruction of views.	Less than significant	No mitigation is required.	Less than significant
AES-2a: Construction of the proposed Project would not substantially damage scenic resources (including, but not limited to, trees, rock outcroppings, and historic buildings) within a state scenic highway.	No impact	No mitigation is required.	No impact
AES-3a: Construction of the proposed Project would not substantially degrade the existing visual character or quality of the site or its surroundings.	Less than significant	No mitigation is required.	Less than significant
AES-4a: Construction of the proposed Project would not result in an adverse effect due to shading on the existing visual character or quality of the site or its surroundings.	Less than significant	No mitigation is required.	Less than significant
AES-5a: Construction of the proposed Project would not create a new source of	No impact	No mitigation is required.	No impact

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
substantial light or glare that would adversely affect day or nighttime views of the area.			
Operations			
AES-1b: Operation of the proposed Project would not result in an adverse effect on a scenic vista from a designated scenic resource due to obstruction of views.	Less than significant	No mitigation is required.	Less than significant
AES-2b: Operation of the proposed Project would not substantially damage scenic resources (including, but not limited to, trees, rock outcroppings, and historic buildings) within a state scenic highway.	No impact	No mitigation is required.	No impact
AES-3b: Operation of the proposed Project would not substantially degrade the existing visual character or quality of the site or its surroundings.	Less than significant	No mitigation is required.	Less than significant
AES-4b: Operation of the proposed Project would not result in an adverse effect due to shading on the existing visual character or quality of the site or its surroundings.	Less than significant	No mitigation is required.	Less than significant
AES-5b: Operation of the proposed Project would not create a new source of	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
substantial light or glare that would adversely affect day or nighttime views of the area.			
3.2. AIR QUALITY AND GREENHOUSE GASES			
Construction			
AQ-1: The proposed Project would result in construction-related emissions that exceed an SCAQMD threshold of significance.	Significant	**MM AQ-1: Implement Harbor Craft Engine Standards.** All harbor craft used during the construction phase of the proposed Project will, at a minimum, be repowered to meet EPA Tier 2. Additionally, where available, harbor craft will meet EPA Tier 3 or cleaner marine engine emission standards. Analysis conservatively reflects the use of engines that meet EPA Tier 2 standards. This harbor craft measure will be met unless one of the following circumstances exists, and the contractor is able to provide proof of its existence: ▪ A piece of specialized equipment is unavailable in a controlled form within the state of California, including through a leasing agreement. ▪ A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the proposed Project, but the application process is not yet approved, or the application has been approved but funds are not yet available. ▪ A contractor has ordered a control device for a piece of equipment planned for use on the proposed Project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must have attempted to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the proposed Project has the controlled equipment available for lease.	Significant and unavoidable

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		MM AQ-2: Implement Fleet Modernization for Construction Equipment. ▪ Tier Specifications: a. From the start of construction through December 31, 2014: All off-road diesel-powered construction equipment greater than 50 hp, except marine vessels and harbor craft, will meet Tier-3 off-road emission standards at a minimum. In addition, all construction equipment greater than 50 hp will be retrofitted with a CARB-verified Level 3 Diesel Emission Control Strategy (DECS). Any emissions control device used by the contractor will achieve emissions reductions that are no less than what could be achieved by a Level 3 DECS for a similarly sized engine as defined by CARB regulations. b. From January 1, 2015: All off-road diesel-powered construction equipment greater than 50 hp, except marine vessels and harbor craft, will meet Tier-4 off-road emission standards at a minimum. Any emissions control device used by the contractor will achieve emissions reductions that are no less than what could be achieved by a Level 3 DECS for a similarly sized engine as defined by CARB regulations. A copy of each unit's certified tier specification, BACT documentation, and CARB or SCAQMD operating permit will be provided at the time of mobilization of each applicable unit of equipment. The above "Tier Specifications" measures will be met, unless one of the following circumstances exists, and the contractor is able to provide proof that any of these circumstances exists: ▪ A piece of specialized equipment is unavailable within 200 miles of the Port of Los Angeles, including through a leasing agreement. If this circumstance exists, the equipment must comply with one of the options contained in the Step-Down Schedule as shown in Table 3.2-14. At no time will equipment meet less than a Tier 1 engine standard with a CARB40-verified Level 2 DECS.	

Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
		▪ The availability of construction equipment will be reassessed in conjunction with the years listed in the above Tier Specifications on an annual basis. For example, if a piece of equipment is not available prior to January 1, 2015, the contractor will reassess this availability on January 1, 2015. ▪ Construction equipment will incorporate, where feasible, emissions-savings technology such as hybrid drives and specific fuel economy standards.	

Table 3.2-14. Compliance Step-Down Schedule for Non-Road Construction Equipment

Compliance Alternative	*Engine Standard*[a]	*CARB-Verified DECS*	*PM Emissions*[b] *(g/bhp-hr)*	*NO_X Emissions (g/bhp-hr)*
1	Tier 4	N/A	0.01	0.3
2	Tier 3	Level 3	0.02	2.9
3	Tier 2	Level 3	0.02	4.7
4	Tier 1	Level 3	0.06	6.9
5	Tier 2	Level 2	0.08	4.7
6	Tier 2	Level 1	0.11	4.7
7	Tier 2	Uncontrolled	0.15	4.7
8	Tier 1	Level 2	0.2	6.9

[a] Equipment less than Tier 1, Level 2 will not be permitted.

[b] Stated emission levels are for engine hp ratings to 176 bhp and above. Emission levels for engine bhp ratings below 176 hp are marginally higher (0.02–0.08 g/bhp-hr depending on hp, Tier, and Vehicle Diesel Emission Control (VDEC) level).

g/bhp-hr = grams per brake horse power hour

MM AQ-3: Implement Additional Fugitive Dust Controls. The calculation of fugitive dust (PM10) from proposed project earth-moving activities assumes a 61% reduction from uncontrolled levels to simulate three times per day watering of the site and use of other measures (listed below) to ensure compliance with SCAQMD Rule 403

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		(SCAQMD 2005). The construction contractor will reduce fugitive dust emissions by 74% from uncontrolled levels (SCAQMD 2007a). The proposed project construction contractor will specify dust-control methods that will achieve this control level in a SCAQMD Rule 403 dust control plan and will include holiday and weekend periods when work may not be in progress. Measures to reduce fugitive dust include, but are not limited to, the following: ▪ Active grading sites will be watered every two hours. ▪ Contractors will apply approved non-toxic chemical soil stabilizers according to manufacturer's specifications to all inactive construction areas or replace groundcover in disturbed areas (previously graded areas inactive for ten days or more). ▪ Construction contractors will provide temporary wind fencing around sites being graded or cleared. ▪ Trucks hauling dirt, sand, or gravel will be covered in accordance with Section 23114 of the California Vehicle Code. ▪ Construction contractors will install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off tires of vehicles and any equipment leaving the construction site. Pave road and road shoulders. ▪ The use of clean-fueled sweepers will be required pursuant to SCAQMD Rule 1186 and Rule 1186.1 certified street sweepers. Sweep streets at the end of each day if visible soil is carried onto paved roads on site or on roads adjacent to the site to reduce fugitive dust emissions. ▪ A construction relations officer will be appointed to act as a community liaison concerning onsite construction activity including resolution of issues related to PM10 generation.	

Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
		▪ Traffic speeds on all unpaved roads will be reduced to 15 mph or less. ▪ Temporary traffic controls such as a flag person will be provided during all phases of construction to maintain smooth traffic flow. ▪ Construction activities that affect traffic flow on the arterial system will be conducted during off-peak hours to the extent practicable. ▪ The grading contractor will suspend all soil disturbance activity when winds exceed 25 mph or when visible dust plumes emanate from a site; disturbed areas will be stabilized if construction is delayed. **MM AQ-4: Implement SCAQMD's Super-Compliant Standard**. Architectural coatings used on site will meet SCAQMD's super-compliant VOC standard of 10 grams of VOC per liter. **MM AQ-5: Implement the Clean Trucks Program for Construction Haul Trucks**. Heavy duty diesel trucks used for hauling must meet the EPA 2007 emission standards for on road heavy duty diesel engines (EPA 2006) by 2012. The CTP applies to heavy duty trucks used during construction activities. **MM AQ-6: Implement Best Management Practices**. The following types of measures are required on construction equipment (including on-road trucks), as determined feasible and appropriate: ▪ Use diesel oxidation catalysts and catalyzed diesel particulate trap; ▪ Maintain equipment according to manufacturers' specifications ▪ Restrict idling of on-road heavy-duty trucks to a maximum of five minutes when not in use ▪ Install high-pressure fuel injectors on construction equipment vehicles ▪ Re-route construction trucks away from congested streets or sensitive receptor areas	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		LAHD will implement a process by which to select additional BMPs to further reduce air emissions during construction. LAHD will determine the BMPs once the contractor identifies and secures a final equipment list and project scope. LAHD will then meet with the contractor to identify potential BMPs and work with the contractor to include such measures in the contract. BMPs will be based on BACT guidelines and may also include changes to construction practices and design to reduce or eliminate environmental impacts. **MM AQ-7: Implement General Mitigation Measure.** For any of the above mitigation measures, if a CARB-certified technology becomes available and is shown to be as good as or better in terms of emissions performance than the existing measure, the technology could replace the existing measure pending approval by LAHD. For construction, measures will be set at the time a specific construction contract is advertised for bid.	
AQ-2: The proposed Project would result in offsite ambient air pollutant concentrations during construction that exceed a threshold of significance.	Significant	Implement Mitigation Measures MM AQ-1 through MM AQ-7.	Significant and unavoidable
Operations			
AQ-3: The proposed Project would result in operational emissions that exceed a SCAQMD threshold of significance.	Significant	Implement Mitigation Measures MM AQ-4 and MM AQ-7.	Significant and unavoidable
AQ-4: The proposed Project would not result in offsite ambient air pollutant concentrations during operation that exceed a	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
threshold of significance.			
AQ-5: The proposed Project would not generate on road traffic that would contribute to an exceedance of the 1- or 8-hour CO standards.	Less than significant	No mitigation is required.	Less than significant
AQ-6: The proposed Project would not create an objectionable odor at the nearest sensitive receptor.	Less than significant	No mitigation is required.	Less than significant
AQ-7: The proposed Project would not expose receptors to significant levels of TACs.	Less than significant	No mitigation is required.	Less than significant
AQ-8: The proposed Project would not conflict with or obstruct implementation of an applicable air quality plan.	Less than significant	No mitigation is required	Less than significant
GHG-1: The proposed Project would produce GHG emissions that exceed CEQA thresholds.	Significant	**MM GHG-1: Solar Panels.** The Port shall review the feasibility of including the City Dock site on their Inventory of Potential PV Solar Sites at POLA from their December 2007 Climate Action Plan. This measure is not quantified.	Significant and unavoidable
GHG-2: The proposed Project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.	Less than significant	No mitigation is required	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.3 BIOLOGICAL RESOURCES			
Construction			
BIO-1a: Construction activities would result in the loss of individuals, or the reduction of existing habitat, of a state- or federally listed endangered, threatened, rare, protected, or candidate, or a species of special concern, or the loss of federally listed critical habitat.	Significant	**MM BIO-1. Avoid Marine Mammals.** Via the construction contract and the development permit the LAHD will require that pile driving activities for construction of the proposed Project include establishment of a safety zone and monitoring of the area surrounding the operations for pinnipeds by a qualified marine biologist. The monitor will have the authority to halt operations unless, in the opinion of the Port's project engineer (Engineer), halting operations would be unsafe. The safety zone will extend out to 500 meters from the site of the pile driving, wherever that activity is taking place. Before pile driving is scheduled to commence, observers on shore or in boats will survey the safety zone to ensure that no marine mammals are present. If marine mammals are observed within the safety zone, driving will be delayed until they move out of the area. If a marine mammal is seen above water and then dives below, the contractor will wait at least 15 minutes, and if no marine mammals are seen, it may be assumed that the animal has moved beyond the safety zone. This 15-minute criterion is based on a study indicating that pinnipeds dive for a mean time of up to about 4 minutes; the 15-minute delay will allow a more than sufficient period of observation to be reasonably sure the animal has left the vicinity. If pinnipeds enter the safety zone after pile has begun, pile driving will continue. The monitor will record the species and number of individuals observed and make note of their behavior patterns. If animals appear distressed, and if it is operationally safe to do so, the monitor will inform the Engineer that pile driving will cease until the animal leaves the area. In certain circumstances pile driving cannot be terminated safely and without severe operational difficulties. Therefore, if it is deemed operationally unsafe by the Engineer to discontinue pile driving activities, and a pinniped is observed in the safety zone, pile driving activities will continue <u>only</u> until the Engineer deems it safe to discontinue.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		MM BIO-2. Minimize In-water Pile Driving Noise. Via the construction contract the LAHD will require the contractor to use sound abatement techniques to reduce both noise and vibrations from pile driving activities. In addition to the "soft-start technique, which will be required at the initiation of each pile driving event or after breaks of more than 15 minutes, sound abatement techniques will include, but not be limited to, vibration or hydraulic insertion techniques, bubble curtains, isolation cage technology, sound aprons, and use of a cushion block on top of the pile being driven. Use of these techniques will reduce both the intensity of the underwater sound pressure levels radiating from the pile driving location and the area in which levels would exceed the Level A and B harassment levels for marine mammals. **MM BIO-3. Conduct Nesting Bird Surveys.** Between February 15 and September 1 and prior to ground-disturbing activities, a qualified biologist will conduct surveys for the presence of nesting birds protected under the MBTA and/or similar provisions of the California Fish and Game Code within areas of the proposed project study area that contain potential nesting bird habitat. Surveys will be conducted 24 hours prior to the clearing, removal, or grubbing of any vegetation or ground disturbance. If active nests are located, then a barrier installed at a 50–foot radius from the nest(s) will be established and the tree/location containing the nest will be marked and will remain in place and undisturbed until a qualified biologist performs a survey to determine that the young have fledged or the nest is no longer active.	
BIO-2a: Construction activities would not result in a substantial reduction or alteration of a state-, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.	Less than significant	No mitigation is required.	Less than significant
BIO-3a: Construction	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
activities would not result in interference with wildlife movement/ migration corridors that may diminish the chances for long-term survival of a species.			
BIO-4a: Construction activities for the proposed Project would not result in a substantial disruption of local biological communities.	Less than significant	No mitigation is required.	Less than significant
BIO-5a: Construction of the proposed Project would not result in a permanent loss of marine habitat.	Less than significant	No mitigation is required.	Less than significant
Operations			
BIO-1b: Operation of the proposed Project would not result in the loss of individuals, or the reduction of existing habitat, of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a species of special concern, or the loss of federally listed critical habitat.	Less than significant	No mitigation is required.	Less than significant
BIO-2b: Operation of the proposed Project would not result in a substantial reduction or alteration of a state-, federally, or locally designated natural habitat,	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
special aquatic site, or plant community, including wetlands.			
BIO-3b: Operation of the proposed Project would not result in interference with wildlife movement/migration corridors that may diminish the chances for long-term survival of a species.	Less than significant	No mitigation is required.	Less than significant
BIO-4b: Operation of the proposed Project would not result in a substantial disruption of local biological communities.	Less than significant	No mitigation is required.	Less than significant
BIO-5b: Operation of the proposed Project would not result in a permanent loss of marine habitat.	No impact	No mitigation is required.	No impact
3.4 CULTURAL RESOURCES			
CR-1: The proposed Project would not disturb, damage, or degrade a known prehistoric and/or historical archaeological resource resulting in a reduction of its integrity or significance as an important resource.	No impact	No mitigation is required.	No impact
CR-2: The proposed Project would not disturb, damage, or degrade an unknown prehistoric and/or historical archaeological resource	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
resulting in a reduction of its integrity or significance as an important resource.			
CR-3: The proposed Project would not disturb, damage, or degrade unknown human remains.	Less than significant	No mitigation is required.	Less than significant
CR-4: The proposed Project would not result in the permanent loss of, or loss of access to, a paleontological resource of regional or statewide significance.	No impact	No mitigation is required.	No impact
CR-5: The proposed Project would result in a substantial adverse change in the significance of an historical resource, involving demolition, relocation, conversion, rehabilitation, alteration, or other construction that reduces the integrity or significance of important resources on the site or in the vicinity.	Significant	**MM CR-1. HABS/HAER Recordation of Municipal Pier No. 1 Historic District Setting.** Prior to construction of the wave tank and undertaking the Berths 57–60 wharf upgrades and ground improvements, LAHD will record the existing setting of the Municipal Pier No. 1 Historic District, including recordation of the western elevation of the wharf, in accordance with the federal Historic American Building Survey/Historic American Engineering Record (HABS/HAER) program. This program consists of large-format, black and white photographs, preparation of a historic resources report, and archiving of both at local repositories of historical information.	Significant and unavoidable
3.5 GEOLOGY			
Construction			
GEO-1a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from fault	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure.			
GEO-2a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk involving tsunamis or seiches.	Less than significant	No mitigation is required.	Less than significant
GEO-3a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from land subsidence/ settlement.	Less than significant	No mitigation is required.	Less than significant
GEO-4a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from expansive soils.	Less than significant	No mitigation is required.	Less than significant
GEO-5a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from landslides or mudslides.	Less than significant	No mitigation is required.	Less than significant
GEO-6a: Construction of the	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from unstable soil conditions from excavation, grading, or fill**.**			
GEO-7a: Construction of the proposed Project would not destroy, permanently cover, or materially and adversely modify one or more distinct and prominent geologic or topographic features. Such features may include, but not be limited to, hilltops, ridges, hillslopes, canyons, ravines, rock outcrops, water bodies, streambeds, and wetlands.	No impact	No mitigation is required.	No impact
Operations			
GEO-1b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure.	Less than significant	No mitigation is required.	Less than significant
GEO-2b: Operation of the proposed Project would not result in substantial damage to	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
structures or infrastructure, or expose people to substantial risk involving tsunamis or seiches.			
GEO-3b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from land subsidence/settlement.	Less than significant	No mitigation is required.	Less than significant
GEO-4b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from expansive soils.	Less than significant	No mitigation is required.	Less than significant
GEO-5b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from landslides or mudslides.	Less than significant	No mitigation is required.	Less than significant
GEO-6b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from unstable soil conditions from excavation, grading, or fill.	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
GEO-7b: Operation of the proposed Project would not destroy, permanently cover, or materially and adversely modify one or more distinct and prominent geologic or topographic features. Such features may include, but not be limited to, hilltops, ridges, hillslopes, canyons, ravines, rock outcrops, water bodies, streambeds, and wetlands.	No impact	No mitigation is required.	No impact
3.6 GROUNDWATER AND SOILS			
Construction			
GW-1a. Construction of the proposed Project would not encounter toxic substances or other contaminants associated with historical uses of the Port, resulting in short-term exposure (duration of construction) to construction/operations personnel and/or long-term exposure to future site occupants.	Less than significant	No mitigation is required.	Less than significant
GW-2a. Construction of the proposed Project would not result in changes in the rate or direction of movement of existing contaminants, expansion of the area affected by contaminants, or increased level of groundwater	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
contamination, which would increase risk of harm to humans.			
GW-3a: Construction of the proposed Project would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity nor would construction result in a change in potable water levels.	No impact	No mitigation is required.	No impact
GW-4a: Construction of the proposed Project would not result in a violation of regulatory water quality standards at an existing production well, as defined in CCR, Title 22, Division 4, Chapter 15 and in the Safe Drinking Water Act.	No impact	No mitigation is required.	No impact
Operations			
GW-1b: Operation of the proposed Project would not result in exposure of soils containing toxic substances and petroleum hydrocarbons associated with prior operations, which would be deleterious to humans based on regulatory standards established by the lead agency for the site.	Less than significant	No mitigation is required.	Less than significant
GW-2b: Operation of the proposed Project would not	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
result in expansion of the area affected by contaminants.			
GW-3b: Operation of the proposed Project would not result in a change to potable water levels.	No impact	No mitigation is required.	No impact
GW-4b: Operation of the proposed Project would not result in a violation of regulatory water quality standards at an existing production well, as defined in CCR, Title 22, Division 4, Chapter 15 and in the Safe Drinking Water Act.	No impact	No mitigation is required.	No impact
3.7 HAZARDS AND HAZARDOUS MATERIAL			
Construction			
RISK-1a: Construction of the proposed Project would comply with applicable federal, state, regional, and local security and safety regulations, and Port policies guiding Port development.	No impact	No mitigation is required.	Less than significant
RISK-2a: Construction of the proposed Project would not substantially interfere with an existing emergency response or evacuation plan or require a new emergency or evacuation plan, thereby increasing the risk of injury or death.	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
RISK-3a: Construction of the proposed Project would not result in a substantial increase in public health and safety concerns as a result of the accidental release, spill, or explosion of hazardous materials due to a tsunami.	Less than significant	No mitigation is required.	Less than significant
RISK-4a: Construction of the proposed Project would not substantially increase the likelihood of an accidental spill, release, or explosion of hazardous material(s) due to a terrorist action.	Less than significant	No mitigation is required.	Less than significant
RISK-5a: Construction of the proposed Project would not substantially increase the likelihood of an accidental spill, release, or explosion of hazardous material(s) as a result of proposed project–related modifications.	Less than significant	No mitigation is required.	Less than significant
RISK-6a: Construction of the proposed Project would introduce the general public to hazard(s) defined by the EPA and the Port RMP associated with offsite facilities.	Significant	**MM RISK-1. Remove all hazardous materials with flashpoints below 140°F from Mike's fueling station.** Mike's fueling station will cease to handle hazardous materials with flashpoints below 140°F per the letter sent from LAHD to Mike Albano dated June 16, 2008, regarding the successor permit to revocable permit No. 98-14 prior to the operation of the proposed waterfront promenade. Products with a flashpoint below 140°F will not be permitted within the project area (i.e., San Pedro Waterfront Project area). The successor permit to RP No. 98-14 to allow the operation for Mike's fueling station and continued lease of Mike's fueling station will only allow handling of products above said threshold. Prior to the operation of the waterfront	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		promenade, Mike's fueling station will submit written confirmation identifying the complete removal of all hazardous materials on site with a flashpoint below 140°F as directed by the letter dated June 16, 2008. At the time of the written confirmation, Mike's fueling station will also provide copies of all Material Safety Data Sheets (MSDS) for each product stored in bulk on site.	
Operations			
RISK-1b: Operation of the proposed Project would comply with applicable federal, state, regional, and local security and safety regulations, and LAHD policies guiding Port development.	No impact	No mitigation is required.	No impact
RISK-2b: Operation of the proposed Project would not substantially interfere with an existing emergency response or evacuation plan or require a new emergency or evacuation plan, thereby increasing the risk of injury or death.	Less than significant	No mitigation is required.	Less than significant
RISK-3b: Operation of the proposed Project would not substantially increase the likelihood of a spill, release, or explosion of hazardous material(s) due to a tsunami.	Less than significant	No mitigation is required.	Less than significant
RISK-4b: Operation of the proposed Project would not substantially increase the likelihood of a spill, release, or explosion of hazardous	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
material(s) due to a terrorist action.			
RISK-5b: Operation of the proposed Project would not substantially increase the likelihood of an accidental spill, release, or explosion of hazardous material(s) as a result of proposed project–related modifications.	Less than significant	No mitigation is required.	Less than significant
RISK-6b: Operation of the proposed Project would introduce the general public to hazard(s) defined by the EPA and the Port RMP associated with offsite facilities.	Significant	Implement MM RISK-1.	Less than significant
3.8 LAND USE AND PLANNING			
Construction			
LU-1a: Construction of the proposed Project would not be inconsistent with the adopted land use/density designation in the Community Plan, redevelopment plan, or specific plan for the site.	Less than significant	No mitigation is required.	Less than significant
LU-2a: Construction of the proposed Project would not be inconsistent with the General Plan or adopted environmental goals or policies contained in other applicable plans.	Less than significant	No mitigation is required.	Less than significant
Operations			

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
LU-1b: Operation of the proposed Project would not be inconsistent with the adopted land use/density designation in the Community Plan, redevelopment plan, or specific plan for the site.	Less than significant	No mitigation is required.	Less than significant
LU-2b: Operation of the proposed Project would be inconsistent with the General Plan or adopted environmental goals or policies contained in other applicable plans, which would result in an adverse physical effect on the environment.	Significant	Implement Mitigation Measure MM RISK-1 (see Section 3.7, "Hazards and Hazardous Materials").	Less than significant
3.9 NOISE			
Construction			
NOI-1: Construction of the proposed Project would last more than 1 day but would not exceed existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use; construction activities lasting more than 10 days in a 3-month period would not exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use.	Significant	**MM NOI-1: Maintain Construction Equipment.** All construction equipment powered by internal combustion engines will be properly muffled and maintained. **MM NOI-2: Locate Equipment away from Noise-Sensitive Land Uses.** All stationary noise-generating construction equipment, such as air compressors and portable power generators, will be located as far as practical from existing noise-sensitive land uses. **MM NOI-3: Utilize Quiet Equipment.** Quiet construction equipment (such as vibratory pile driving or pneumatic tools) will be utilized where practicable. Noise limits established in the City of Los Angeles Noise Ordinance will be fully complied with. **MM NOI-4: Notify Sensitive Receptors.** Cabrillo Way Marina liveaboards will be notified of the construction schedule in writing prior to the beginning of construction	Significant and unavoidable

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
NOI-2: Construction activities would not exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9 p.m. and 7 a.m. Monday through Friday, before 8 a.m. or after 6 p.m. on Saturday, or at any time on Sunday.	Less than significant	No mitigation is required.	Less than significant
NOI-3: The proposed Project would not expose persons to, or generate, excessive groundborne vibration or groundborne noise levels.	Less than significant	No mitigation is required.	Less than significant
Operation			
NOI-4: Operations would not result in ambient noise level measured at the property line of affected uses increasing by 3 dBA in CNEL to or within the “normally unacceptable” or “clearly unacceptable category,” or increasing in any way by 5 dBA or more.	Less than significant	No mitigation is required.	Less than significant
3.10 PUBLIC SERVICES			
Construction			
PS-1a: Construction of the proposed Project would not substantially reduce public services such as law enforcement, emergency services, and park services.	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
PS-2a: Construction of the proposed Project would not burden existing LAPD or Port Police staff levels and facilities such that the LAPD or Port Police would not be able to maintain an adequate level of service without constructing additional facilities that could cause significant environmental effects.	Less than significant	No mitigation is required.	Less than significant
PS-3a: Construction of the proposed Project would not require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service.	Less than significant	No mitigation is required.	Less than significant
PS-4a: Construction of the proposed Project would not increase the demand for recreation and park services and facilities resulting in the physical deterioration of these facilities	Less than significant	No mitigation is required.	Less than significant
Operations			
PS-1b: Operation of the proposed Project would not substantially reduce public services such as law enforcement, emergency services, and park services.	Less than significant	No mitigation is required.	Less than significant
PS-2b: Operation of the	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
proposed Project would not burden existing LAPD or Port Police staff levels and facilities such that the LAPD or Port Police would not be able to maintain an adequate level of service without constructing additional facilities that could cause significant environmental effect**s.**			
PS-3b: Operation of the proposed Project would not require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service.	Less than significant	No mitigation is required.	Less than significant
PS-4b: Operation of the proposed Project would not increase the demand for recreation and park services and facilities resulting in the physical deterioration of these facilities	Less than significant	No mitigation is required.	Less than significant
3.11 TRANSPORTATION AND CIRCULATION—GROUND AND MARINE			
Ground Construction			
TC-1: Construction of the proposed Project would result in a short-term, temporary increase in construction-related truck and auto traffic, decreases in roadway capacity, and disruption of vehicular	Significant	**MM TC-1: Develop and implement a Traffic Control Plan throughout proposed project construction**. In accordance with the City's policy on street closures and traffic diversion for arterial and collector roadways, the construction contractor will prepare a traffic control plan (to be approved by City and County engineers) before construction. The traffic control plan will include: ▪ a street layout showing the location of construction activity and	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
and nonmotorized travel.		surrounding streets to be used as detour routes, including special signage; ▪ a tentative start date and construction duration period for each phase of construction; ▪ the name, address, and emergency contact number for those responsible for maintaining the traffic control devices during the course of construction; and ▪ written approval to implement traffic control from other agencies, as needed. Additionally, the traffic control plan will include the following stipulations: ▪ provide access for emergency vehicles at all times; ▪ avoid creating additional delay at intersections currently operating at congested conditions, either by choosing routes that avoid these locations, or constructing during nonpeak times of day; ▪ maintain access for driveways and private roads, except for brief periods of construction, in which case property owners will be notified; ▪ provide adequate off-street parking areas at designated staging areas for construction-related vehicles; ▪ maintain pedestrian and bicycle access and circulation during proposed project construction where safe to do so; if construction encroaches on a sidewalk, a safe detour will be provided for pedestrians at the nearest crosswalk; if construction encroaches on a bike lane, warning signs will be posted that indicate bicycles and vehicles are sharing the roadway; ▪ utilize flag persons wearing OSHA–approved vests and using a "Stop/Slow" paddle to warn motorists of construction activity; ▪ maintain access to Metro and LADOT transit services and ensure that public transit vehicles are detoured;	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		▪ post standard construction warning signs in advance of the construction area and at any intersection that provides access to the construction area; ▪ post construction warning signs in accordance with local standards or those set forth in the Manual on Uniform Traffic Control Devices (Federal Highway Administration 2009) in advance of the construction area and at any intersection that provides access to the construction area; ▪ during lane closures, have contractor and/or LAHD notify LAFD and LAPD, as well as the Los Angeles County Sheriff's and Fire Departments, of construction locations to ensure that alternative evacuation and emergency routes are designed to maintain response times during construction periods, if necessary; ▪ provide written notification to contractors regarding appropriate routes to and from construction sites, and weight and speed limits for local roads used to access construction sites; submit a copy of all such written notifications to the City of Los Angeles Planning Department; and ▪ repair or restore the road right-of-way to its original condition or better upon completion of the work.	
Ground Operations			
TC-2a: Operation of the Proposed project would increase traffic volumes and degrade LOS at intersections within the proposed project vicinity.	Less than significant	No mitigation is required.	Less than significant
TC-2b: Operation of the Proposed project would not significantly increase traffic volumes or degrade operations on CMP facilities within the	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
proposed project vicinity beyond adopted thresholds.			
TC-3: Operation of the Proposed project would not cause increases in demand for transit service beyond the supply of such services.	Less than significant	No mitigation is required.	Less than significant
TC-4: Operation of the Proposed project would not result in a violation of the City's adopted parking policies and parking demand would not exceed supply.	Less than significant	No mitigation is required.	Less than significant
TC-5: The proposed Project does not include design elements that would result in conditions that would increase the risk of accidents, either for vehicular or nonmotorized traffic.	Less than significant	No mitigation is required.	Less than significant
Marine Construction			
VT-1a: Construction of the proposed Project would not interfere with operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, East Basin area, or precautionary areas.	Less than significant	No mitigation is required.	Less than significant
VT-1b: Operation of the proposed Project would not interfere with the operation of	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, or precautionary areas.			
3.12 UTILITIES			
UT-1: The proposed Project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.	Less than significant	No mitigation is required.	Less than significant
UT-2: The proposed Project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	Less than significant	No mitigation is required.	Less than significant
UT-3: The proposed Project would have sufficient water supplies available to serve the project from existing entitlements and resources, and would not require new or expanded entitlements.	Less than significant	No mitigation is required.	Less than significant
UT-4: The proposed Project would result in a determination by the wastewater provider that would serve the project that it has adequate capacity to serve	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
the project's projected demand in addition to the provider's existing commitments.			
UT-5: The proposed Project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.	Less than significant	No mitigation is required.	Less than significant
UT-6: The proposed Project would not require new, offsite energy supply and distribution infrastructure, or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs.	Less than significant	No mitigation is required.	Less than significant
3.13 WATER QUALITY, SEDIMENTS, AND OCEANOGRAPHY			
Construction			
WQ-1a: Construction of the proposed Project would not substantially reduce or increase the amount of surface water in a water body.	Less than significant	No mitigation is required.	Less than significant
WQ-2a: 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	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
permit or Water Quality Control Plan for the receiving water body.			
Operations			
WQ-1b: Operation of the proposed Project would not substantially reduce or increase the amount of surface water in a water body.	No impact	No mitigation is required.	No impact
WQ-2b: 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.	Less than significant	No mitigation is required.	Less than significant

ES.5.3.3 Summary of Less-than-Significant or No Impacts

Based on the environmental review in this Draft EIR, as summarized in Table ES-3, either less-than-significant impacts or no significant impacts are expected under CEQA from the proposed Project in the following environmental issue areas:

- Aesthetics
- Geology and Soils
- Groundwater and Soils
- Public Services and Recreation
- Utilities
- Water Quality, Sediments, and Oceanography

ES.5.3.4 Cumulative Impacts

The proposed Project was analyzed in conjunction with other related projects in the area for potential to contribute to significant cumulative impacts. The proposed Project's incremental contribution would result in cumulatively considerable impacts for the following resource areas:

- Air Quality and Greenhouse Gases
- Cultural Resources
- Noise

The proposed Project would either not result in cumulatively considerable impacts or not result in cumulatively considerable impacts after applicable mitigation is applied for the following resource areas:

- Aesthetics
- Biological Resources
- Geology and Soils
- Groundwater and Soils
- Hazards and Hazardous Materials
- Land Use
- Public Services and Recreation
- Transportation and Circulation—Ground and Marine
- Utilities
- Water Quality, Sediments, and Oceanography

Cumulative impact evaluations for each resource are included in Chapter 4, “Cumulative Effects,” of this Draft EIR.

ES.5.3.5 Environmental Justice

CEQA is only concerned with the disclosure and mitigation of significant physical environmental effects related to the construction and operation of a proposed project. However, LAHD is committed to disclosing any disproportionate impacts a proposed Project may have on minority and low-income residents.

The potential for the proposed Project to cause disproportionately serious and adverse human health and environmental effects on low-income and minority populations is discussed in the Environmental Justice analysis (Chapter 6).

The proposed Project would result in disproportionate effects on minority and low-income populations as a result of significant impacts related to air quality (ambient concentrations of criteria pollutants during construction). Other potentially significant impacts of the proposed Project would either be reduced to less than significant or less than cumulatively considerable through implementation of mitigation measures, or would not have disproportionate effects on minority and low-income populations.

ES.5.3.6 Socioeconomic Impacts

As mentioned above, CEQA is only concerned with the disclosure and mitigation of significant physical environmental effects related to the construction and operation of a proposed project. For the purposes of information disclosure, however, socioeconomics and environmental quality issues are analyzed in Chapter 7 of this EIR. Socioeconomics encompasses a number of topical areas, including employment and income, population, and housing.

Existing businesses near Berth 71 include Mike’s Marine Fueling Station and the municipal fish market, which would remain open during proposed project construction and operation. The proposed Project would result in the redevelopment of the City Dock No. 1 site and would attract marine science and research jobs to the area (most of which are currently working in other locations). The proposed Project would result in the adaptive reuse of transit sheds at Berths 57–60, wharf retrofits, a waterfront café, the establishment of a marine science park, and development of a new building for NOAA operations within Berths 70 and 71. Also, existing facilities at Berth 260 would be relocated to the proposed project site. Because the proposed Project would introduce employment and visitor-serving activities within the site, proposed project impacts are expected to be beneficial on local businesses.

The proposed Project would lead to increased tax revenues by expanding the tax base of the area through the introduction of the adaptive reuse of the transit sheds, the waterfront café, and the marine science park. The construction of new public open spaces in the form of plazas, and landscape and hardscape areas, would make the San Pedro community more attractive to visitors. While it is difficult to quantify the economic benefit that the new facilities would bring until final lease negotiations have taken place, the Port expects that there would be an overall beneficial impact on local business revenue.

The proposed Project would generate 2,233 direct construction jobs (based on 8.1 construction jobs/million dollars of construction cost; estimate from the U.S. Bureau of Economic Analysis). Construction of the proposed Project is expected to take place over the next 12 years, through 2024. The number of construction workers employed and working on site would vary over the course of the construction period. The direct construction jobs would also further result in 1,883 secondary jobs (based on 0.84 jobs for every construction job, given by U.S. Bureau of Economic Analysis). These secondary increases in employment are related to purchases from materials supply firms and their suppliers, and household expenditures by workers, referred to, when combined, as “indirect employment.”

Long-term operation of the proposed Project would not result in a marked increase in jobs following final buildout in 2024. Researchers, university faculty, and government employees, the primary intended users of the proposed Marine Research Institute, are currently performing the same job duties in other locations within the region (i.e., SCMI at Berth 260 and other universities within Southern California). The proposed project would provide centralized laboratory and research facilities to foster greater synergies amongst the users of the facilities at City Dock No. 1. The proposed project facilities could potentially serve as a catalyst for specialized researchers to locate to the South Bay region, but any increase would be negligible.

The proposed Project entails a deindustrialization of the waterfront; therefore, a reduction in property value is not expected with the addition of public amenities like the waterfront promenade and increased open space acreage, aesthetic improvements, and transportation improvements. While proximity of the Port may historically have led to lower residential property values in the communities nearest the Port compared to more affluent communities in southern Los Angeles County, such as Redondo Beach and Rancho Palos Verdes, residential property values in communities near the Port have grown in recent years and do not exhibit depreciated or stagnant numbers. However, the recent housing market slump has led to decreased property values throughout California, a trend mirrored in the study area and the nearby communities. It is not anticipated that the proposed Project would change residential property trends in the areas immediately adjacent to the Port; however, as part of the larger San Pedro Waterfront project and other deindustrialization efforts west of the Main Channel, property values are expected to increase over time. Median home prices increased at high rates in a number of communities in the South Bay area of Los Angeles County from 1998 to 2008. Home prices increased in all communities regardless of price levels at the beginning of the period. Those communities with the highest growth rates were often communities with the lowest home prices.

ES.5.3.7 Growth-Inducing Impacts

State CEQA Guidelines require an EIR to discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Chapter 8, "Growth-Inducing Impacts," discusses the ways in which the proposed Project could foster growth either indirectly or directly.

The proposed Project would foster economic growth but would not directly induce population growth or the construction of new housing in the Port's region of influence (Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties). The proposed Project would include new office and research facilities as well as supporting infrastructure and recreational uses that would improve local economic conditions and public accessibility. However, this would not stimulate a significant growth in population or economic growth that would cause indirect environmental impacts. Finally, the proposed Project would potentially include an upgrade to the existing sewer pump station, which would not require additional wastewater treatment capacity or remove other obstacles to growth. Overall, the proposed Project would not result in growth-inducing effects.

The proposed Project does not include the development of new housing or population-generating uses or infrastructure that would directly induce population growth. Furthermore, the proposed Project is located in an urban area that has experienced significant development over the past century. The proposed Project does not involve any land use plan amendments that would result in significantly more intensive development or uses that currently exist. On the contrary, the proposed Project is intended to de-industrialize a portion of the San Pedro Waterfront to allow for less-intensive uses that are more compatible with the surrounding community.

The proposed Project involves the adaptive reuse of existing warehouse buildings within the Port for the proposed marine research center. The project would consolidate existing research organizations and personnel that are currently performing similar work in other scattered locations throughout the region. The proposed project facilities could potentially serve as a catalyst for specialized researchers to locate to the South Bay region, but any increase would be negligible. It would not result in a major employment center or require the relocation of a substantial number for people from outside the region.

The proposed Project would include infrastructure and transportation improvements such as the extension of the waterfront promenade, improvements to Signal Street that enhance pedestrian mobility and waterfront access, and the potential upgrade to the sewer pump station. However, these improvements would be limited to the project site, and are intended to accommodate the development of the proposed Project (through Phase II). These improvements would not accommodate any further expansion of the proposed uses, nor other enhancements to the proposed project area.

The proposed Project is expected to facilitate investment and interest in the Port as a place of business and leisure. The proposed Project would introduce employment and visitor-serving activities within the site, thereby resulting in some secondary economic improvements for businesses in the local community that may serve these patrons. The introduction of new public open spaces in the form of plazas, and landscape and hardscape areas, would make the San Pedro community more attractive to visitors. However, any secondary growth that may occur in the area as a result of the proposed Project has already been planned as part of the SPW project. The implementation of the SPW project is a 30-year buildout, and the proposed Project is not expected to generate additional economic or physical growth beyond that projected as part of the SPW project.

As discussed in Section 3.12, "Utilities," implementation of the proposed Project would generate increased demand for water, natural gas, and electricity. However, the proposed Project would not require upgrades or new construction of major water, natural gas, or power infrastructure. It is possible that the existing sewer pump station would be inadequate to accommodate operational wastewater from the proposed project site during continuous peak loads. Therefore, the proposed Project would potentially need to upgrade the existing pump to provide more capacity to accommodate the proposed project demand. These improvements would accommodate expected growth associated with the proposed Project.

ES.5.3.8 Significant Irreversible Changes to the Environment

Pursuant to Section 15126.2(c) of the State CEQA Guidelines, an EIR must consider any significant irreversible environmental changes that would be caused by the proposed Project should it be implemented.

The proposed Project would require the use of non-renewable resources, such as waterfront, fossil fuels, and non-renewable construction materials. Operation of individual facilities proposed under the proposed Project would result in an irreversible commitment of non-renewable resources, including fossil fuels and natural gas. Use of these resources, however, would not substantially deplete existing supplies.

Fossil fuels and energy would be consumed during construction and operation activities. Fossil fuels in the form of diesel oil and gasoline would be used for construction equipment and vehicles. During operations, diesel oil and gasoline would be used by ships, Port terminal equipment (e.g., cargo handling), and vehicles. Electrical energy and natural gas would also be consumed during construction and operation. These energy resources would be irretrievable and irreversible.

Construction activities would not irreversibly harm cultural resources, biological resources or water quality, sediments, and oceanography. Non-recoverable materials and energy would be used during construction and operational activities, but the amounts needed would be accommodated by existing supplies. Although the increase in the amount of materials and energy used would be limited, they would nevertheless be unavailable for other uses.

Construction activities that result in physical changes to the environment have the most potential to result in irreversible changes. However, none of the proposed project elements would result in irreversible environmental damage. As discussed in various sections of Chapter 3, "Environmental Analysis," none of the proposed project elements would result in irreversible environmental damage. As described in Section 3.4, "Cultural Resources," the proposed Project would result in significant impacts on the historic Municipal Warehouse No. 1 and the eligible Municipal Pier No. 1 historic district. The impacts would not result from direct physical changes to the structures themselves, but rather as indirect effects from the introduction of a five-story, 100,000-square-foot building for the wave tank facility. Impacts would occur because the building would be incompatible with the historic setting and affect the integrity of the existing historic building and district. However, the effect could be reversed should the wave tank not be constructed or should it be removed at some future date. The proposed Project would not have a significant impact on sensitive biological species or communities (Section 3.3, "Biological Resources") or result in significant water quality impacts (Section 3.13, "Water Quality, Sediments, and Oceanography"). The proposed Project would also not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the current or direction of water flow as no dredge or fill activities would occur (Section 3.13, "Water Quality, Sediments, and Oceanography"). As discussed in Section 3.7, "Hazards and Hazardous Materials," construction and demolition for the proposed Project could potentially result in the release of hazardous materials. Construction-related spills of hazardous materials would be subject to regulatory control and cleanup, and would include the implementation of best management practices to minimize the potential for an accidental release of petroleum products and/or hazardous materials or explosions during construction. Moreover, potential release of asbestos-containing materials and lead-based paint would be avoided through the required implementation of local and state regulations, including South Coast Air Quality Management District Rule 1403.

Impacts associated with operation of the proposed Project would occur as described in Chapter 3, "Environmental Analysis." However, such impacts would cease to exist or change in some fashion should the proposed Project, or portions thereof, cease to operate, change operations, or otherwise be redeveloped and reused.

ES.6 Public Involvement

During the scoping process, various individuals or organizations representatives provided comments on the scope and content of the Draft EIR.

The NOP was issued on December 3, 2010, and mailed to all stakeholders, including elected officials, residents, businesses, Port of Los Angeles tenants, and other community based organizations. The NOP scoping period occurred between December 3, 2010, and January 31, 2011. A public scoping meeting was held on Thursday, January 13, 2011.

ES.6.1 Project Planning History and Community Involvement

The proposed Project was devised in concept during the planning for the SPW project. However, at the time, details for programming the site were not known, and, therefore, as part of the SPW project, the proposed project site was programmatically analyzed for future "institutional/research and development" use in the SPW project's 2009 certified Final EIS/EIR.

The LAHD and SCMI, with support from the Annenberg Foundation, and advice and input from area academic and research institutions, local aquariums, business leaders, environmental organizations, and community groups in San Pedro and Wilmington, joined together to develop a City Dock No. 1 urban marine research center vision, as detailed in the resulting March 2009 visioning study (SCMI 2009). This visioning study compiles and organizes a diverse body of material from academic marine researchers at various campuses, community stakeholders, non-university educators, public officials, and designers into a single volume to envision the outlines of what has the potential to become a major center for marine research on the West Coast. Since completion of the visioning study, LAHD, SCMI, and other City Dock No. 1 stakeholders have been working together to further expand upon that conceptual plan. The proposed Project is a result of this joint effort.

ES.6.2 Scoping Activities

On December 3, 2010, the NOP was released and distributed to over 600 agencies, organizations, individuals, and the California Office of Planning and Research, State Clearinghouse. The NOP was also available in Spanish. Copies of the NOP were posted on the LAHD website:

http://www.portoflosangeles.org/environment/public_notices.asp

Hardcopies and CDs were also available at the Waterfront Information Center and at public scoping meetings.

Over 70,000 postcards were distributed notifying the public of the date of the scoping meeting and the term of the comment period.

Notice of the comment period and public scoping meetings was also posted in five local newspapers: *Los Angeles Times, Long Beach Press-Telegram, Daily Breeze, Random Lengths News,* and *La Opinión*. These newspapers were selected for their circulation and audience. The *Los Angeles Times* is circulated daily throughout the region and country. The *Long Beach Press-Telegram* is a daily, local newspaper distributed throughout Los Angeles County. The *Daily Breeze* is a daily newspaper distributed in South Los Angeles County. *Random Lengths N*ews is a free biweekly publication circulated in the communities of San Pedro, Palos Verdes Peninsula, Long Beach, Carson, Harbor City, Lomita, and Wilmington on Thursdays. *La*

Opinión is the largest Spanish-language newspaper in the United States and is circulated daily throughout the region.

The public scoping meeting was held Port of Los Angeles Board Room in San Pedro, California, on January 13, 2011, and took place from 6:00 p.m. to 8:30 p.m. A court reporter was available for attendees to have their comments transcribed during the open house session and the hearing. The meetings were staffed by LAHD and the proposed Project's consultant team. Spanish interpreters were available to accommodate Spanish-speakers. A transcript of the meeting was posted on the LAHD website.

The public scoping meeting informational materials were available in English and Spanish. The materials included a welcome sheet to explain the purpose and format of the meeting, a public participation guide to summarize how the public could get involved and provide input, comment sheets, speaker cards, and the NOP/Project Description.

ES.6.3 Issues Raised

A summary of the comments received on the NOP during the scoping period can be found in Table ES-4. This list includes issues identified in comment letters and at the public meeting, along with the relevant sections of this EIR where they are addressed.

ES.6.4 Issues to be Resolved

Section 15123(b)(3) of the State CEQA Guidelines requires that an EIR contain issues to be resolved; this includes whether or how to mitigate significant impacts. The major issues to be resolved include decisions by the lead agencies as to whether:

- this EIR adequately describes the environmental impacts of the proposed Project and alternatives,
- the recommended mitigation measures should be adopted or modified,
- additional mitigation measures need to be applied to the project, or
- the project should or should not be approved for implementation.

ES.6.5 Port Community Advisory Committee Issues Raised/Resolution

The Port Community Advisory Committee (PCAC) was established in 2001 as a standing committee of the Port of Los Angeles Board of Harbor Commissioners (Board). The PCAC provides a public forum to discuss Port-related quality of life issues through a series of subcommittees. These subcommittees provide guidance on environmental issues, review of EIRs, master planning, and Port redevelopment.

No PCAC members commented on the proposed Project during the NOP period.

Table ES-4. Summary of Public Comments and Section Where Addressed in the EIR

Commenter Name and Title	*Comment Summary*	*Where Addressed in the DEIR*
	PROPOSED PROJECT DESCRIPTION AND PURPOSE	
Jesse Marquez Executive Director Coalition for a Safe Environment	Research intentions including potential military weapons research	Chapter 2 “Project Description”
	Any public sea food source such as fish, sea mammal, shell fish, aquatic life or aquatic plant genetic research which involves non-natural genetic modification, non-reproduction or genetic use restrictive technology terminator technology which causes second generations to be sterile.	
	All research patents developed on public California Coastal Tidelands, at the Port and POLA owned property to be held in the public domain interest.	
	All tenants public, private and governmental CEO’s sign an annual statement under perjury of law that no such weapons research was performed on public California Coastal Tidelands, at the Port of Los Angeles and POLA owned property.	
	All tenants public, private and governmental annually within 30 days of submission, release or publication provide a copy of all research papers, reports, studies and annual reports to the Port of Los Angeles for placement on the POLA website for public access and provide free copies upon public request.	
	Every research tenant provide for free public access to visit their facility and research.	
	A minimum of one tenant must include research on California Coastal tidelands, wetlands, reefs, plant life, wildlife and aquatic life preservation, eco-systems habitat protection, mitigation, restoration and disaster recovery.	
	A minimum of one tenant must include research on waters, to include tidelands, river passages, estuaries, ocean waters preservation, disaster prevention, clean-up, recovery and remediation.	
	A minimum of one tenant must include research on global warming and climate change impacts on California Coastal tidelands, wetlands, reefs, plant life, wildlife, aquatic life, tidelands, river passages, estuaries and ocean waters.	

Commenter Name and Title	Comment Summary	Where Addressed in the DEIR
	A minimum of one tenant be an aquaculture fish and shell fish hatchery that raises native California coastal fish and shell fish species in order to replenish that currently devastated fish and shell fish populations in San Pedro Bay.	
	The Port of Los Angeles establish a grading and priority system for approving Tenants that incorporate the most public benefit research as described herein.	
	Tenants allow potential small public sponsored research projects that may not involve universities, colleges and institutes or the government, yet may provide significant public benefits.	
	While the NOP includes aquaculture we do not want to find out later the space is not available or so small it could not be a major public benefit because the land was awarded for some other big project idea. The NOP is too vague on information on the size of the proposed aquaculture component, its hatchling growing capacities and future production.	
Nancy Richardson LA Maritime Institute TopSail Youth Program	Would we be able to share shore-side space already being planned for offices, meeting rooms, storage, boat maintenance and repair? Will there be space for indoor storage? (With the Downtown Harbor plan, our current offices and storage will be demolished.)	Chapter 2 "Project Description"
	What are the plans for the Outdoor Teaching/ Outreach classroom? (Consider the opportunity for ships as dockside "classrooms." Cabrillo Marine Aquarium is within walking distance of major water habitats: rocky shore, sandy beach, tide-pool and salt marsh…our ships can add experience on the ocean habitat.)	
	How about plans for a (research) library? (LAMI has a collection of books with inadequate space to make them accessible for use.)	
	Will "Support Facilities" include dockside Pump-Out facilities for vessel wastewater? (Existing pump-out facility is awkward – and costly - for our ships.)	
	What are the plans for docks and docking? Considering surge conditions in the outer harbor. (Our ships are secure at floating docks further up the main channel, but could operate in and out of City Dock No.1, when in service of the MRC – depending on design plans for safe boarding of students.)	
	Could there be space for sail and rigging repair – and training in these skills? (Since such space is mostly non-existent and inaccessible in So. Calif., this would be invaluable for our ships and attract other sailing school vessels in the Pacific.)	
	For the Waterfront Café, how about using students in Restaurant	

Commenter Name and Title	Comment Summary	Where Addressed in the DEIR
	and Hospitality classes from Banning HS MATCH Academy and/or from El Camino and Harbor College?	
	Consider: ▪ Sailing school vessels* for MRC expeditions would be fuel-efficient, for local excursions and distant voyages. (We have overnight accommodations for up to 30 + 8 crew on our LAMI ships.) ▪ Making LAMI ships and crew available as 'Floating Laboratories Under Sail' to complement MRC shore side programs – ▪ College, Graduate-level, Continuing Education, High School and Advanced Placement ▪ Underway seamanship training and sea-time for ship and boat operators ▪ Educational transits, day sails and overnights to research locations or island facilities ▪ Marine-life observations, data-gathering, census-taking in harbor and offshore sites ▪ 'Green' boat operation and maintenance ▪ Organizational/corporate leadership, team-building and management development ▪ Exchanging marine education curricula, linking national and state standards and USCG regulations, infusing Ocean Literacy Principles into diverse content areas and developing 21st Century skills ▪ Modeling, testing and interpreting 'green' technology and practices ▪ Exploring funding for equipping our ships with 'green' engines and equipment ▪ Educating youth and the public on the imperative of 'green' practices and relevant research and technology ▪ Supporting Port TechLA innovations ▪ Offering opportunities for MRC students sailing with TopSail to gain experience and credit as educators in an experiential learning environment ▪ Becoming mentors for TopSail Ocean Ambassadors (our pilot project) ▪ Gathering, analyzing and interpreting data, i.e. on HAB (Harmful Algae Blooms)	

Commenter Name and Title	*Comment Summary*	*Where Addressed in the DEIR*
	▪ Giving community service -Exploring marine and maritime careers at sea and ashore.	
Anthony Michaels Proteus Environmental Technologies	The focus of the review and the plan encompass the full mix of research, education, training, innovation, entrepreneurs, job creation and outreach to the public in a very balanced way. These are all important elements of the plan and engage a wide range of constituents. The current plan seems to focus on the needs of SCMI (which are important), but does so in a way that is out of balance with the plan that will lead to success for the overall facility. Bring in all elements of the plan, ensure their linkage with each other and with a diversity of outside communities and approve a plan that provides for this full mix and an adaptive balance of activities as opportunities arise.	Chapter 2 "Project Description"
	Let there be things to do and make sure that they are fun! Mix in the arts. Add in a variety of food opportunities. Encourage or even mandate regular public events. Make the promenade through this area an interactive science museum experience. Let the public peer into the buildings to see what is going on and have every building have a public space and a gift shop. Create community among the tenants and open that community to the public.	
	Be fairly careful about how proscriptive you are on specific elements of the types of research or education are done. There are adequate safety mechanisms built into environmental laws, OSHA and other agencies to ensure that the standard practices in marine science are safe when these rules are followed. Placing additional restrictions on molecular biology, marine mammals, the types of fish that could be held, the types of class topics that can or cannot be done, whether the department of defense funds research or if any of it helps safeguard our military are all examples of things that I suggest not be too proscriptive in the EIR. Reference the existing laws and the safe records of the local universities. Maybe set up some kind of tenant review process for subleases. However, please don't micro-manage in advance who and what can use the facility. It would hinder its success in many different ways	
PROJECT DESCRIPTION—DESIGN		
Diana Nave President Northwest San Pedro Neighborhood Council	Evaluate linkages to the community so that the project does not become an enclave and include waterfront walkway enhancements in the City Dock 1 project that are similar or the same as have those approved as part of the LA Waterfront Plan.	Chapter 2 "Project Description" Chapter 3.8, "Land Use and Planning" Chapter 3.11, Transportation and Circulation—Ground and Marine

Commenter Name and Title	*Comment Summary*	*Where Addressed in the DEIR*
Anthony Michaels Proteus Environmental Technologies	I suggest that you keep the use of that space flexible and generic in the EIR since it is hard to accurately predict exactly what kinds of companies might need that space	Chapter 2 "Project Description"
Liz Schiller-Johnson Grand Vision Foundation	The proposed project seems like a bit of a distant outpost. Can you do more to help us understand how the proposed Project won't be a separate enclave and how the people involved will be more connected to the community?	Chapter 2 "Project Description" Chapter 3.8, "Land Use and Planning"
	Build in the linkages to blend an educational institution with a community.	Chapter 2 "Project Description" Chapter 3.8, "Land Use and Planning" Chapter 3.11, Transportation and Circulation—Ground and Marine
	Make sure there is at least a small café on the property. Let's make sure that zoning and regulatory and endless security do not prevent people from visiting.	Chapter 2 "Project Description"
	HAZARDS AND HAZARDOUS MATERIALS	
Diana Nave President Northwest San Pedro Neighborhood Council	Evaluate removal of the existing above ground storage tanks and infrastructure at the former Westways facility site as part of all project alternatives.	Chapter 2 "Project Description" Chapter 3.7, "Hazards and Hazardous Materials"
	As part of this evaluation the future use of the Westways site should be evaluated as part of the City Dock 1 project and as part of the Los Angeles Waterfront plan should the City Dock 1 project not occur.	
	The final EIR should study sufficient alternatives so that should the City Dock 1 project not occur, future development at the Westways site can proceed as part of the approved LA Waterfront Plan.	Chapter 2 "Project Description" Chapter 5, "Project Alternatives"
	PUBLIC SERVICES	
Diana Nave President Northwest San Pedro Neighborhood Council	The EIR should discuss incorporation of linkages to local education programs	Chapter 2 "Project Description"

Commenter Name and Title	*Comment Summary*	*Where Addressed in the DEIR*
	ALTERNATIVES	
Anthony Michaels Proteus Environmental Technologies	Repair of the over-water piers may be incredibly expensive. Only a small proportion of the uses identified for the space require a lot of waterfront and, in practice, the whole thing might be successful with only part of that over-water landscape. Thus, the most cost-effective thing may be to tear down some of the warehouses and retain only those that need the waterfront space. I wonder if that balance could be incorporated into the EIR options or balance of options. It is unfortunate that the warehouses are partially over the water and this reality means that a gradation of options for new or reuse of the warehouses is warranted.	Chapter 2 "Project Description" Chapter 5, "Project Alternatives"

1.0

INTRODUCTION

1.0 INTRODUCTION

This chapter presents background and introductory information for the City Dock No. 1 Marine Research Center Project (proposed Project), located within the Port of Los Angeles (Port) and the San Pedro Waterfront Plan (SPWP) area in the City of Los Angeles (City). This chapter includes discussion of the:

- proposed project background,
- location and a brief overview of the proposed Project,
- purpose of this draft Environmental Impact Report (EIR),
- authority of the lead agency—the LAHD—preparing this Draft EIR,
- scope and content of the Draft EIR,
- key principles guiding the preparation of this document, and
- public outreach for the proposed Project.

This Draft EIR has been prepared in accordance with the requirements of the California Environmental Quality Act (CEQA) (California Public Resources Code [PRC] Section 21000 et seq.) and the Guidelines for Implementation of the California Environmental Quality Act of 1970 (State CEQA Guidelines) (14 California Code of Regulations [CCR] Section 15000 et seq.) and will be used to inform decision-makers and the general public about the environmental effects of the construction and operation of the proposed Project; to consider feasible alternatives to the proposed Project; and to propose mitigation measures that would avoid or reduce the significant environmental impacts from construction and operation of the proposed Project.

1.1 Project Background

1.1.1 Role of the Los Angeles Harbor Department

LAHD operates the Port of Los Angeles under the legal mandates of the Port of Los Angeles Tidelands Trust (Los Angeles City Charter, Article VI, Sec. 601; California Tidelands Trust Act of 1911) and the California Coastal Act (PRC Div 20 S30700 et seq.), which identify the Port and its facilities as a primary economic resource of the state and an essential element of the national maritime industry for promotion of commerce, navigation, fisheries, and harbor operations. Activities should be water dependent and give highest priority to navigation, shipping, and necessary support and access facilities to accommodate the demands of foreign and domestic waterborne commerce. LAHD is chartered to develop and operate the Port to benefit maritime uses and functions as a landlord by leasing Port properties to more than 300 tenants. The Port of Los Angeles is the nation's busiest container port, handling 7.9 million twenty-foot equivalent units (TEUs) of cargo containers in 2011.

In addition to moving containerized cargo, the Port's diverse maritime operations include shipping dry bulk items such as scrap metal, steel, and food; cruise vessel terminals, marinas, retail, and tourist shops; and commercial fishing, sport fishing, and a recreational beach area. In 2003 the State Tidelands Trust was amended by Assembly Bill (AB) 2769 to allow funds in the Port to be spent on education, recreation, culture, and tourism. This legislation allows LAHD to further expend funds on non-maritime uses, such as the revitalization of a visitor-serving waterfront for Los Angeles County.

1.1.2 Relation to the San Pedro Waterfront Plan

The proposed project site lies within the SPWP area, which generally encompasses 400 acres along the western side of the Los Angeles Harbor's Main Channel, from the Vincent Thomas Bridge to Cabrillo Beach, adjacent to the City of Los Angeles community of San Pedro. The SPWP was approved by the Los Angeles Board of Harbor Commissioners on September 29, 2009, which proposed "institutional/research and development" use at City Dock No. 1, but no specific details of the proposed facilities were known at the time.

The purpose of the SPWP is to increase public access to the waterfront, allow additional visitor-serving commercial development within the Port, respond to increased demand in the cruise industry, and improve vehicular access to and within the waterfront area. The SPWP seeks to achieve these goals by improving existing infrastructure and providing new infrastructure facilities, waterfront linkages and pedestrian enhancements, increased development and redevelopment opportunities, and berthing opportunities for increased cruise ship capacity.

With the creation of the San Pedro Waterfront Plan, LAHD demonstrated its commitment to improving the compatibility of its operations and activities with the neighboring communities of San Pedro and Wilmington and to placing community concerns about the environment and quality of life at the forefront of its land use policy and development decisions. As part of this commitment, LAHD is removing heavy industrial uses from the proposed project area while increasing public access along the waterfront and enhancing connectivity between nearby communities and the Port. The proposed Project, which would convert the proposed project site to marine research, public education, and institutional, governmental and commercial uses, would further the Port's mission in this regard. Reuse of the City Dock No. 1 Project site for marine science research and development and related institutional uses was considered at a programmatic level in the certified San Pedro Waterfront Project EIS/EIR (2009).

1.1.3 Visioning Study for City Dock No. 1

In 2007 the Port, with funding from the Annenberg Foundation, initiated a visioning process with the Southern California Marine Institute[1] (SCMI) to explore the creation of a marine research center at City Dock No. 1. This work resulted in the preparation of a visioning study that was completed in March 2009. Since development of the visioning study, LAHD, SCMI, and other stakeholders have been working together to develop a plan to create a marine research center that can provide facilities for a cluster of university researchers, educational programs, and spin-off marine science technology ventures. The proposed Project is a result of this joint effort.

1.2 Proposed Project

1.2.1 Project Site Location

The proposed project site is located approximately 20 miles south of downtown Los Angeles, within the SPWP area, adjacent to the community of San Pedro. Regional access to the site is provided by Interstate 110 (I-110) with local access provided by Signal Street and Sampson Way. The San Pedro Community lies to the west and Terminal Island and the Port of Long Beach to the east. The proposed project site is surrounded by the San Pedro Bay on the eastern and western portions of the proposed project boundary, industrial land uses along the southeastern border (e.g., Warehouse No. 1), and by industrial and commercial uses in the northern areas (e.g., Municipal Fish Market).

The proposed project site is generally bounded by the East Channel to the west, the Main Channel to the east, East 22nd Street to the north, and open waters of the San Pedro Bay to the south. The site includes a total of seven berths, including Berths 56 through 60, Berths 70 and 71, and a water taxi service located beyond Berth 60 at the end of City Dock No. 1. Berth 56 currently hosts a field office and vessel berth for the CDFG. Berth 57 is currently used for warehouse operations, docking of two fishing boats, and boat and barge maintenance. Berths 58 through 60 were formerly in use for warehouse operations, and Berths 70 and 71 are part of the Westway Terminal site, formerly used for liquid bulk storage.

1.2.2 Project Overview

The City Dock No. 1 Project involves the development of a marine research center within a 28-acre[2] portion of the 400-acre SPWP area along the west side of the Los

[1] SCMI is a not-for-profit consortium of ten university entities that joined together in 1994 to operate the existing Fish Harbor Marine Laboratory located at Fish Harbor (Berth 260) on Terminal Island. The ten universities now partnering in SCMI include eight campuses of the California State University: Northridge, Long Beach, Fullerton, Los Angeles, Dominguez Hills, San Marcos, San Bernardino, and California State Polytechnic University, Pomona. Joining them are the University of Southern California and Occidental College.

[2] The total proposed project site 33.8 acres once the 22nd and Sampson Way parking lot is included (4.5 acres) and existing SCMI project site at Berth 260 (1.32 acres).

Angeles Harbor's Main Channel. The proposed Project would be built out in two phases and involves the following major project elements:

- adaptive reuse of the transit sheds at Berths 57–60 to accommodate marine research laboratory, classroom, and meeting spaces within a collaborative environment to create research synergies among universities, colleges, government agencies, and business ventures;
- wharf retrofits of Berths 57–60 and related infrastructure, including a seawater circulation system and berthing facilities for large research vessels as well as street improvements;
- construction of a new building at Berth 56 with classrooms and a lecture hall/auditorium;
- relocation of SCMI from its existing location at Berth 260 on Terminal Island to Berths 56 and 57;
- development of an interpretive center open to the public;
- establishment of a marine science business park/incubator space with offices and research laboratory space within Berths 58–60 transit sheds;
- installation of floating docks in the East Channel to accommodate smaller research vessels;
- integration with and development of the waterfront promenade along the water's edge, consistent with the approved San Pedro Waterfront Project while not impacting the health and safety of the visiting public; and
- development of Berths 70 and 71, following the planned demolition and remediation of the existing Westway Terminal site. This development would include the construction of a new building for National Oceanographic and Atmospheric Association (NOAA) operations, the use of existing berthing space for research vessels, and the construction of a new building to host a natural seawater wave tank facility.

This Draft EIR describes the environmental resources that would be affected by the proposed Project. A more detailed description of the proposed Project is provided in Chapter 2.

1.2.2.1 Sustainable Design Project Features

The proposed Project is intended to showcase LAHD's commitment to sustainability. The proposed Project would incorporate a number of sustainable elements focusing on the effort of LAHD to create a green Port. These are analyzed as part of the proposed Project within this Draft EIR. Additionally, the proposed Project would incorporate several features to enhance the final design of the proposed Project. Although not required to mitigate a significant impact, these design measures would further minimize the proposed Project's effect on surrounding uses and environmental resources. The following proposed Project elements and design measures are consistent with LAHD's Sustainability Program and policies:

- Use recycled water if available for all landscaping and water feature purposes to decrease the proposed Project's use of potable water.
- Include drought-tolerant plants and shade trees in the planting palette.
- Require Leadership in Energy & Environmental Design (LEED™) certification for all new buildings as feasible by implementing and ensuring consistency with LAHD's Green Building Policy; LEED Certification (minimum Silver) is required for all new development over 7,500 square feet.
- Follow LAHD sustainable engineering design guidelines in the siting and design of new development.
- Employ LAHD sustainability measures during construction and operation and use recycled and locally derived materials for proposed project construction, while achieving recycling goals for construction and demolition debris.
- Implement energy efficient design features in the final design to help ensure energy needs are minimized to the extent feasible during construction and operation of the proposed Project.
- Implement water quality and conservation design features in the final design to help ensure water quality impacts are minimized during construction at the water's edge and in the water and operationally through the use of construction Best Management Practices (BMPs) and bioswales.
- Implement aesthetic design features. Public art would be integrated into the proposed project area and would include sculptural pieces. Views of the waterfront would be created through the construction of the waterfront promenade around the edge of the site. The proposed Project would also implement the San Pedro Waterfront Development Design Guidelines to improve efficiency and reduce glare.
- Implement pedestrian access features. Pedestrian access to the waterfront and throughout the proposed project site would be improved through development of a waterfront promenade. The proposed Project would also be designed to accommodate the extension of the Waterfront Red Car Line, which was previously approved under the SPWP in 2009.

1.3 CEQA and the Purpose of an EIR

CEQA was enacted by the California legislature in 1970 and requires public agency decision-makers to consider the environmental effects of their actions. When a state or local agency determines that a proposed project has the potential to significantly affect the environment, an EIR is prepared. The purpose of an EIR is to identify significant effects of a proposed project on the environment, to identify alternatives to the project that would avoid or substantially lessen a significant effect, and to indicate the manner in which those significant effects can be mitigated or avoided. A public agency must mitigate or avoid significant environmental impacts of projects it carries out or approves whenever it is feasible to do so. In instances where significant impacts cannot be avoided or mitigated, the project may nonetheless be carried out or approved if the approving agency finds that economic, legal, social, technological, or other benefits outweigh the unavoidable significant environmental impacts.

1.4 Lead, Responsible, and Trustee Agencies

LAHD is the lead agency for evaluating potential impacts and proposing mitigation measures under CEQA. Section 15367 of the State CEQA Guidelines defines the Lead Agency as:

> …the public agency which has the principal responsibility for carrying out or approving a project. The lead agency will decide whether an EIR or negative declaration will be required for the project and will cause the document to be prepared…

Several other agencies have special roles with respect to the proposed Project and may use this EIR as the basis for their decisions to issue any approvals and/or permits that might be required. Section 15381 of the State CEQA Guidelines defines a "responsible agency" as:

> …a public agency which proposes to carry out or approve a project, for which a lead agency is preparing or has prepared an EIR or negative declaration. For the purposes of CEQA, the term "responsible agency" includes all public agencies other than the lead agency which have discretionary approval power over the project.

Additionally, Section 15386 of the State CEQA Guidelines defines a "trustee agency" as:

> …a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California.

Table 1-1 lists responsible and trustee federal, state, and local agencies that may rely on this Draft EIR in a review capacity or as a basis for issuance of a permit for the proposed Project or for related actions.

Table 1-1. Agencies Expected to Use this EIR

Agency	*Responsibilities, Permits, and Approvals*
FEDERAL AGENCIES	
U.S. Army Corps of Engineers (USACE)	Responsible for navigational improvements in waters of the United States. Permitting authority for work and structures in navigable waters and the discharge of dredged or fill material in waters of the United States.
NOAA Fisheries/National Marine Fisheries Service (NMFS)	Reviews and submits recommendations to USACE related to federal construction actions and issuance of permits in accordance with the Fish and Wildlife Coordination Act. Also responsible for Essential Fish Habitat (EFH) under the Magnuson Stevens Act. Provides EFH information, reviews federal action potential effects on EFH, and provides conservation recommendations to USACE through consultation.

Agency	*Responsibilities, Permits, and Approvals*
U.S. Coast Guard (USCG)	Has jurisdiction over marine facilities, bridges, and vessel transportation in harbor waters. Responsible for ensuring safe navigation and for preventing and responding to oil or hazardous materials releases in the marine environment. Responsible for enforcement of the Maritime Transportation Security Act (MTSA) and the International Ship and Port Facility Security (ISPS) Code standards for security at cruise terminals.
U.S. Environmental Protection Agency (EPA)	Reviews and submits recommendations to USACE related to federal construction actions and issuance of permits.
U.S. Fish and Wildlife Service (USFWS)	Reviews and submits recommendations to USACE related to federal construction actions and issuance of permits in accordance with the Fish and Wildlife Coordination Act and consultations pursuant to Section 7 of the Endangered Species Act (ESA).
STATE AGENCIES	
California Coastal Commission (CCC)	Reviews environmental document to ensure compliance with the Coastal Zone Management Act and consistency with the California Coastal Act. Performs a federal consistency determination. Reviews and must approve Coastal Development Permit (CDP) applications and Port Master Plan (PMP) amendments.
California Department of Fish and Game (CDFG)	Reviews and submits recommendations in accordance with CEQA. Consultation in accordance with the Fish and Wildlife Coordination Act.
California Office of Historic Preservation	Consultation under Section 106 of the National Historic Preservation Act (NHPA) regarding impacts on cultural resources (i.e., demolition of buildings and structures) that are either listed or eligible for listing on the National Register of Historic Places (NRHP).
The California Waste Management Board	Statutory and regulatory authority to control the handling and disposal of solid nonhazardous waste in a manner that protects public safety, health, and the environment. State law assigns responsibility for solid waste management to local governments.
Regional Water Quality Control Board (RWQCB), Los Angeles Region	Permitting authority for Clean Water Act (CWA) Section 401 water quality certifications subject to Section 404 of the CWA. Permitting authority for California waste discharge requirements pursuant to the state Porter-Cologne Water Quality Control Act. Responsible for issuance of both construction and industrial National Pollutant Discharge Elimination System (NPDES) stormwater permits and oversight and approval of certain groundwater and soil remediation activities.
California State Lands Commission (CSLC)	The CSLC has oversight responsibility for tidal and submerged lands legislatively granted in trust to local jurisdictions and has adopted regulations for the inspection and monitoring of marine terminals. The CSLC inspects and monitors all marine facilities for effects on public health, safety, and the environment.
California Department of Toxic Substance Control (DTSC)	Regulatory jurisdiction over underground tanks containing hazardous materials. Implements groundwater monitoring provision of the Resource Conservation and Recovery Act. Responsible for general site cleanup outside of underground storage tanks (state superfund sites, etc.).

Agency	*Responsibilities, Permits, and Approvals*
REGIONAL AGENCIES	
Los Angeles County Fire Department (LACFD)	Licensing and inspection authority for all hazardous waste generation in the City. Provides regulation and oversight of site remediation projects involving hazardous waste generators where surface and subsurface soils are contaminated with hazardous substances.
South Coast Air Quality Management District (SCAQMD)	Permitting authority for construction of landfill and operation of pump stations, storage tanks, and terminal facilities; activities involving hydrocarbon-containing soils (Rule 1166); and new or modified sources of air emissions (new source review).
Southern California Association of Government (SCAG)	Responsible for developing regional plans for transportation and federal conformity as well as developing the growth factors used in forecasting air emissions in the South Coast Air Basin (SCAB).
LOCAL AGENCIES	
City of Los Angeles City Council	City Council legislative body that would review any appeal to certification of the EIR by LAHD; reviews and approves leases, permits, and other approvals.
City of Los Angeles Harbor Department (LAHD)	LAHD is the lead agency for CEQA and the California Coastal Act (via the certified PMP). Other City departments have various approval and permitting responsibilities, and are listed separately below for the sake of clarity. Pursuant to its authority, LAHD may approve permits and other approvals (e.g., coastal development permits; leases for occupancy; and approval of operating, joint venture, or other types of agreements for the operation of the facilities) for the projects evaluated in this EIR. Leasing authority for the Port's land. Permitting authority for engineering construction. Responsible for general regulatory compliance. Responsible for master plan amendment and map change and issuance of coastal development permits. Responsible for activities of other City departments for the proposed Project.
City of Los Angeles Building and Safety Department	Responsible agency with permitting authority for building and grading permits.
City of Los Angeles Bureau of Engineering	Responsible agency with permitting authority for storm drain connections and stormwater discharges, permits for water discharges to the wastewater collection system, and approval of street vacations.
City of Los Angeles Bureau of Sanitation	Responsible agency with permitting authority for industrial waste permit for discharges of industrial wastewater to the City sewer system.
City of Los Angeles Fire Department (LAFD)	Responsible agency that reviews facilities' Hazardous Materials Business Plan and Inventory and Risk Management and Prevention Programs. Reviews and submits recommendations regarding design for building permit.
City of Los Angeles Department of Transportation (LADOT)	Responsible agency that reviews and approves changes in City street design, construction, signalization, signage, traffic counts, as well as traffic impact analysis methodology and the study area.
City of Los Angeles Department of Water and Power (LADWP)	Responsible agency that provides a water supply assessment and approves the facilities' new water service connection and meters.
City of Los Angeles Planning Department	Responsible agency that reviews zone changes or amendments, general plan amendments, variances for zoning or parking code requirements.

1.5 Scope and Content of the Draft EIR

The scope of this Draft EIR was established based on the initial study prepared pursuant to CEQA (see Appendix A) and comments received during the notice of preparation (NOP) review process.

1.5.1 Scope of Analysis

This Draft EIR has been prepared in conformance with CEQA (PRC Section 21000 et seq.), the State CEQA Guidelines (14 CCR Section 15000 et seq.), and the Port Guidelines for the Implementation of CEQA. It includes all of the sections required by CEQA.

The criteria for determining the significance of environmental impacts in this Draft EIR analysis are described in each "Thresholds of Significance" subsection within the 15 resource topic sections in Chapter 3, "Environmental Analysis." The threshold of significance for a given environmental effect is the level at which LAHD finds the effect on an environmental resource resulting from the construction and operation of the proposed Project 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" (State CEQA Guidelines, Section 15064.7 [a]). Except as noted in particular sections of the document, LAHD has adopted the *L.A. CEQA Thresholds* (City of Los Angeles 2006) for purposes of this Draft EIR, although some criteria were adapted to the specific circumstances of the proposed Project.

The following is a timeline of the noticing and public involvement that has happened to date within the environmental review process for the proposed Project:

- **December 3, 2010**. The CEQA Notice of Preparation (NOP) and Initial Study (IS) were released and distributed to over 14 agencies, organizations, individuals, and the California Office of Planning and Research, State Clearinghouse. The State Clearinghouse assigned the following State Clearinghouse Number to the proposed Project: 2010121013. An executive summary of the NOP was translated into Spanish and included in the distribution. Over 70,000 postcards were distributed notifying the public of the date of the scoping meeting and the term of the comment period. Notice of the comment period and meeting was also posted in five local newspapers.
- **December 3, 2010.** The NOP was also filed with the Los Angeles City Clerk and the Los Angeles County Clerk.
- **January 13, 2011**. A public scoping meeting was held at the LAHD Board Room in San Pedro, California. Nine people at the meeting provided written or oral comments on the proposed Project. Spanish translation services were made available at the meeting.
- **January 31, 2011**. The comment period ended. Six comment letters were received during the scoping period.

The scope of analysis and technical work plans developed as part of preparing this Draft EIR were designed to ensure that the comments received from regulatory agencies and the public during the NOP review process would be addressed.

Based on the IS, the following issues were determined to be potentially significant and are therefore evaluated in this Draft EIR:

- aesthetics
- air quality
- biological resources
- cultural resources
- geology
- greenhouse gas emissions
- groundwater and soils
- hazards and hazardous materials
- land use and planning
- noise
- public services
- recreation
- transportation and circulation—ground and marine
- utilities
- water quality, sediments, and oceanography

There are no agricultural resources or mineral resources in the area as determined during the IS and discussed therein; therefore, agricultural and mineral resources are not evaluated in this Draft EIR. Also, because the proposed Project would not establish residential uses at the site and because there are no housing units on or adjacent to the proposed project site, population and housing is not evaluated in this Draft EIR. In addition to the above, other topics are evaluated, including alternatives, cumulative impacts, socioeconomics and environmental quality, significant irreversible impacts, and growth-inducing impacts. Although not required under CEQA, the EIR also includes an environmental justice analysis.

Chapter 3, “Environmental Analysis,” discusses the issues that would have the potential to be significantly affected by the proposed Project. Mitigation measures to reduce impacts to a less-than-significant level are proposed whenever feasible.

This Draft EIR has been prepared by ICF International (ICF) under contract to LAHD and has been independently reviewed by LAHD staff. The scope of the document, methods of analysis, and conclusions represent the independent judgment of LAHD. Staff members from LAHD and ICF who helped prepare this Draft EIR are identified in Chapter 11, “List of Preparers and Contributors.”

1.5.2 Intended Uses of this Draft EIR

This Draft EIR has been prepared in accordance with applicable state environmental regulations, policies, and laws to inform federal, state, and local decision-makers regarding the potential environmental impacts of the proposed Project and its alternatives. As an informational document, an EIR does not recommend approval or denial of a project. This Draft EIR is being provided to the public for review, comment, and participation in the planning process. After public review and comment, a final EIR will be prepared. The final EIR will include responses to comments on the Draft EIR received from agencies, organizations, and individuals. It will be distributed to provide the basis for decision making by the lead agency, as described below, and other concerned agencies.

1.5.2.1 Lead Agency Use—LAHD

LAHD has jurisdictional authority over the proposed Project pursuant to the Port of Los Angeles Tidelands Trust, the California Coastal Act, and CEQA. This EIR will be used by LAHD, as the lead agency under CEQA, in making a decision with regard to the construction and operation of the proposed Project and to inform agencies considering permit applications and other actions required to construct, lease, and operate the proposed Project. LAHD's certification of the EIR, notice of completion, findings of fact, and statement of overriding considerations (if necessary) will document LAHD's decision as to the adequacy of the EIR and inform subsequent decisions by LAHD whether to approve and construct the proposed Project.

Actions that could be undertaken by LAHD following preparation of the final EIR include the following:

- certification of the EIR;
- project approval;
- lease approvals;
- issuance of coastal development permits;
- completion of final design;
- approval of engineering permits;
- other agency permits and approvals (e.g., dredge and fill, grading, construction, occupancy, and fire safety); and
- approval of construction contracts;

1.5.2.2 Other Uses

Other agencies (federal, state, regional, and local) that have jurisdiction over some part of the proposed Project or a resource area affected by the proposed Project are expected to use this EIR as part of their approval or permit process as set forth in Table 1-1 above. Specific approvals that could be required for this proposed Project include but are not limited to:

- City of Los Angeles Building and Safety permits;
- USACE permit—pursuant to Section 404 of the CWA, and Section 10 of the RHA;
- water quality permits (CWA Section 401 water quality certification and NPDES permits);
- construction contracts; and
- City of Los Angeles Bureau of Sanitation Industrial Waste Discharge Permit.

1.5.3 Draft EIR Organization

The content and format of this Draft EIR are designed to meet the current requirements of CEQA and the State CEQA Guidelines. Table 1-2 summarizes the organization and content of the Draft EIR.

Table 1-2. Organization and Contents of the Draft EIR

Draft EIR Chapter	*Description*
Executive Summary	Summarizes the proposed Project and alternatives, potentially significant impacts and mitigation measures, the environmentally superior alternative (in accordance with CEQA), public comments and concerns, and unresolved issues and areas of controversy.
Chapter 1 “Introduction”	Provides the proposed project background and overview; describes the purpose of the EIR, the intended uses of the document and authorizing actions, including the necessary project approvals, and the relationship to previous CEQA documents, the scope and content of the document, and the organization of the document.
Chapter 2 “Project Description”	Describes the general environmental setting, lists the proposed Project’s objectives, describes the proposed Project focusing on major elements, lists a general proposed project phasing plan, and summarizes the relationship to existing plans and policies.
Chapter 3 “Environmental Analysis”	Describes, for each environmental resource area, the baseline conditions as of December 2010, criteria for judging whether an impact is significant, impact assessment methodology, impacts that would result from the proposed Project, applicable mitigation measures that would eliminate or reduce significant impacts, and the mitigation and monitoring aspects.
Chapter 4 “Cumulative Effects”	Analyzes the incremental contribution of the proposed Project when combined with past, present, and reasonably foreseeable future development project impacts and proposes mitigation to reduce the proposed Project’s incremental contribution to identified cumulative impacts to less than significant.
Chapter 5 “Project Alternatives”	Compares and contrasts the significant environmental impacts of alternatives to the proposed Project and identifies the environmentally superior alternative.

Draft EIR Chapter	*Description*
Chapter 6 "Environmental Justice"	Addresses the potential effects of the proposed Project on minority populations and low-income communities within and adjacent to the proposed project site.
Chapter 7 "Socioeconomics and Environmental Quality"	Identifies the proposed Project's socioeconomic effects.
Chapter 8 "Growth-Inducing Impacts"	Discusses whether or not the proposed Project would result in growth-inducing impacts.
Chapter 9 "Significant Irreversible Changes"	Describes the significant irreversible changes associated with the proposed Project.
Chapter 10 "References"	Identifies the documents and persons consulted in preparing this Draft EIR.
Chapter 11 "List of Preparers and Contributors"	Lists the individuals involved in preparing this Draft EIR.
Chapter 12 "Acronyms and Abbreviations"	Provides the full names for acronyms and abbreviations used in this document.
Appendices	Present additional background information and technical detail for several of the resource areas.

1.6 Key Principles Guiding Preparation of this Draft EIR

1.6.1 Emphasis on Significant Environmental Effects

This Draft EIR focuses on the significant environmental impacts of the proposed Project and alternatives and their relevance to the decision-making process.

Environmental impacts, as defined by CEQA, include physical effects on the environment. The State CEQA Guidelines (Section 15360) define the *environment* as follows:

> The physical conditions which exist within the areas which will be affected by a proposed project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.

Environmental impacts required to be analyzed under CEQA do not include strictly economic impacts (e.g., changes in property values) or social impacts (e.g., a particular group of persons moving into an area). The State CEQA Guidelines (Section 15131[a]) state, "economic or social effects of a project shall not be treated as significant effects on the environment." However, economic or social effects are relevant to physical effects in two situations. In the first, according to Section

15131(a) of the State CEQA Guidelines, "an EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes to physical changes caused in turn by the economic or social changes." In other words, if implementation of the proposed Project leads to an economic impact, which could then lead to a physical impact, the physical impact must be evaluated in the EIR. In the second instance, according to Section 15131(b) of the State CEQA Guidelines, "economic or social effects of a project may be used to determine the significance of a physical change caused by a project." For example, the closure and demolition of a fully occupied commercial building could be considered more significant than the demolition of a similar vacant building, even though the physical effects are the same.

As with economic or social impacts, psychological impacts are outside the definition of the term "environmental." While not specifically discussed in the State CEQA Guidelines, the exclusion of psychological impacts was specifically affirmed in a court decision (*National Parks and Conservation Association v. County of Riverside* – 71 Cal. App. 4^{th} 1341, 1364 [1999]).

In view of these legal precedents, LAHD is not required to treat economic, social, or psychological impacts as significant environmental impacts absent a related physical effect on the environment. Therefore, such impacts are only discussed to the extent necessary to determine the significance of the physical impacts of the proposed Project and alternatives. However, in an effort to fully disclose all of the reasonably foreseeable effects the proposed Project would have on the surrounding community, including those related to economic and social conditions that lie beyond the requirements of CEQA, this Draft EIR has included chapters on socioeconomics and environmental justice.

1.6.2 Forecasting vs. Speculation

In this Draft EIR, LAHD and its consultants have made their best efforts to predict and evaluate the reasonable, foreseeable, direct, indirect, and cumulative environmental impacts of the proposed Project and the alternatives to the proposed Project. CEQA does not require LAHD to engage in speculation about impacts that are not reasonably foreseeable (State CEQA Guidelines Sections 15144, 15145). In these instances, CEQA does not require a worst-case analysis.

1.6.3 Reliance on Environmental Thresholds and Substantial Evidence

The identification of impacts as significant or less than significant is one of the important functions of an EIR. While impacts determined to be less than significant need only be acknowledged as such, an EIR must identify mitigation measures for any impact identified as significant. In preparing this document, LAHD has based its conclusions about the significance of environmental impacts on identifiable thresholds and has supported these conclusions with substantial scientific evidence.

1.6.4 Disagreement among Experts

It is possible that evidence that might raise disagreements will be presented during the public review of the Draft EIR. Such disagreements will be noted and will be considered by the decision-makers during the public hearing process. However, to be adequate under CEQA, the Draft EIR need not resolve all such disagreements.

In accordance with the provisions of the State CEQA Guidelines, conflict of evidence and expert opinions on an issue concerning the environmental impacts of the proposed Project—when LAHD knows of these controversies in advance—has been identified in this Draft EIR. The Draft EIR has summarized the conflicting opinions and has included sufficient information to allow the public and decision-makers to take intelligent account of the environmental consequences of their actions.

In rendering a decision on a project where there is a disagreement among experts, the decision-makers are not obligated to select the most conservative, environmentally protective, or liberal viewpoint. They may give more weight to the views of one expert than to those of another and need not resolve a dispute among experts. In their proceedings, they must consider the comments received and address objections, but need not follow said comments or objections so long as they state the basis for their decision and that decision is supported by substantial evidence.

1.6.5 CEQA Baseline

Section 15125 of the State CEQA Guidelines requires EIRs to include a description of the physical environmental conditions in the vicinity of a proposed project that exist at the time of the issuance of the NOP, which was released in December 2010. For some resource areas, such as aesthetics or geology, the baseline conditions are defined by what was present at the time the NOP was circulated for review (December 2010). Assessment of other resource areas such as air quality, biology, or water quality may also include information from prior years in order to provide a more reliable and representative characterization of baseline conditions by accounting for fluctuations at any one point in time. This approach is more conservative because it avoids a "snapshot" of the existing conditions, which does not always account for temporary fluctuations. A description of the baseline conditions is included in Chapter 2, "Project Description," and, when special circumstances are present, details are provided in the respective sections of Chapter 3, "Environmental Analysis," prior to the impact analysis. These environmental conditions constitute the baseline physical conditions by which the CEQA lead agency determines whether an impact would be significant.

1.6.6 Duty to Mitigate

According to State CEQA Guidelines Section 15126.4(a), each significant impact identified in an EIR must also include a discussion of feasible mitigation measures that would avoid or substantially reduce the significant environmental effect. To reduce significant effects, mitigation measures must avoid, minimize, rectify, reduce, eliminate, or compensate for a given impact of a proposed project.

Mitigation measures must meet certain requirements in order to be considered adequate. Mitigation should be specific, define feasible actions that would actually improve adverse environmental conditions, and be measurable to allow monitoring of their implementation. Mitigation measures that only require further studies or consultation with regulatory agencies that are not tied to a specific action that would directly reduce impacts, or those that defer mitigation until some future time, should be avoided. Accordingly, effective mitigation measures clearly explain objectives, how a given measure should be implemented, who is responsible for its implementation, and where and when the mitigation would occur. Finally, mitigation measures must be enforceable, meaning that the lead agency must ensure that the measures will be imposed through appropriate permit conditions, agreements, or other legally binding instruments.

State CEQA Guidelines Section 15041 grants a public agency the authority to require feasible changes (mitigation) that would substantially lessen or avoid significant effect on the environment associated with all activities involved in a project. However, public agencies do not have unlimited authority to impose mitigation. An agency may exercise only those express or implied powers provided by law, aside from those provided by CEQA. However, where another law grants an agency discretionary power, CEQA authorizes its use (State CEQA Guidelines Section 15040).

In addition to limitations imposed by CEQA, the U.S. Constitution also limits the authority of regulatory agencies. The Constitution limits an agency's authority to impose conditions to those situations where there is a clear and direct connection (*nexus* in legal terms) between a project impact and the mitigation measure. Finally, there must be a proportional balance between the impact caused by a proposed project and the mitigation measure imposed upon the project applicant (in this case, LAHD). A project applicant cannot be forced to pay more than its fair share of the mitigation, which should be roughly proportional to the impacts caused by a proposed project.

1.6.7 Requirements to Evaluate Alternatives

State CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to a proposed project, or to the location of a proposed project that could feasibly attain most of the basic objectives of the proposed project but would avoid or substantially lessen any significant environmental impacts. According to the State CEQA Guidelines, the EIR should compare merits of the alternatives and determine an environmentally superior alternative. Chapter 5, "Project Alternatives," of this Draft EIR sets forth potential alternatives to the proposed Project and evaluates their suitability, as required by the State CEQA Guidelines (Section 15126.6).

Alternatives for an EIR usually take the form of No Project, reduced project size, different project design, or suitable alternative project sites. The range of alternatives discussed in an EIR is governed by the "rule of reason" that requires the identification of only those alternatives necessary to permit a reasoned choice between the alternatives and the proposed project. An EIR need not consider an alternative that would be infeasible. State CEQA Guidelines Section 15126.6 explains that the evaluation of project alternative feasibility can consider "site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site." The EIR is also not required to evaluate an alternative that has an effect that cannot be reasonably identified or that has remote or speculative implementation, and that would not achieve the basic proposed project objectives.

1.7 Port of Los Angeles Environmental Initiatives

1.7.1 Port of Los Angeles Environmental Management Policy

The Port of Los Angeles Environmental Management Policy as described in this section was adopted on April 11, 2005. The purposes of this policy are to provide an introspective, organized approach to environmental management, to further incorporate environmental considerations into day-to-day Port operations, and to achieve continual environmental improvement. The text of the policy reads as follows:

> The Port of Los Angeles is committed to managing resources and conducting Port developments and operations in both an environmentally and fiscally responsible manner. The Port will strive to improve the quality of life and minimize the impacts of its development and operations on the environment and surrounding communities through the continuous improvement of its environmental performance and the implementation of pollution prevention measures, in a feasible and cost effective manner that is consistent with the Port's overall mission and goals, as well as with those of its customers and the community.
>
> To ensure this policy is successfully implemented the Port will develop and maintain an environmental management program that will:
>
> 1. Ensure this environmental policy is communicated to Port staff, its customers, and the community;
> 2. Ensure compliance with all applicable environmental laws and regulations;
> 3. Ensure environmental considerations include feasible and cost effective options for exceeding applicable regulatory requirements;
> 4. Define and establish environmental objectives, targets, and best management practices and monitor performance;
> 5. Ensure the Port maintains a Customer Outreach Program to address common environmental issues; and
> 6. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations through environmental awareness and

> communication with employees, customers, regulatory agencies, and neighboring communities.
>
> The Port is committed to the spirit and intent of this policy and the laws, rules and regulations, which give it foundation. (Port of Los Angeles 2005.)

The Port of Los Angeles Environmental Management Policy is exemplified in existing environmental initiatives of the Port and its customers, such as the voluntary Vessel Speed Reduction Program (VSRP), Source Control Program, Least Tern Nesting Site Agreement, Hazardous Materials Management Policy, and the Clean Engines and Fuels Policy. In addition, the environmental management policy will encompass new initiatives, such as the development of an environmental management system (EMS) with LAHD's Construction and Maintenance Division and a Clean Marinas Program. These programs are Port-wide initiatives to reduce environmental pollution. Many of the programs relate to the proposed Project. The following discussion includes details on a number of the programs and their goals.

1.7.2 Environmental Plans and Programs

LAHD has implemented a variety of plans and programs to reduce the environmental effects associated with operations at the Port. These programs range from the San Pedro Bay Ports Clean Air Action Plan (CAAP), to deepening the harbor channels to accommodate larger and more efficient ships, to converting to electric and alternative-fuel vehicles. All of these efforts ultimately reduce environmental effects.

1.7.2.1 Clean Air Action Plan

LAHD has had a Clean Air Program in place since 2001 and began monitoring and measuring air quality in surrounding communities in 2004. Through the 2001 Air Emissions Inventory, LAHD has been able to identify emission sources and relative contributions in order to develop effective emissions reduction strategies. LAHD's Clean Air Program has included progressive programs such as alternative maritime power (AMP), use of emulsified fuel and diesel oxidation catalysts (DOCs) in yard equipment, alternative fuel testing, and the VSRP.

In 2004, LAHD developed a plan to reduce air emissions through a number of near-term measures. The measures were primarily focused on decreasing nitrogen oxide (NO_X), but also diesel particulate matter (PM) and sulfur oxides (SO_X). In August 2004, a policy shift occurred and Mayor James K. Hahn established the No Net Increase Task Force to develop a plan that would achieve the goal of No Net Increase (NNI) in air emissions at the Port relative to 2001 levels. The plan identified 68 measures to be applied over the next 25 years that would reduce PM and NO_X emissions to the baseline year of 2001. The 68 measures included near-term measures; local, state, and federal regulatory efforts; technological innovations; and longer-term measures still in development.

In 2006, in response to a new mayor and the Los Angeles Board of Harbor Commissioners, LAHD—along with the Port of Long Beach and in conjunction with the SCAQMD, California Air Resources Board (CARB) and EPA—began work on the CAAP, a comprehensive strategy to cut air pollution and reduce health risks from port-related air emissions. The CAAP's goal was to expand upon existing emissions reductions strategies and to develop new ones. The draft CAAP was released as a draft plan for public review on June 28, 2006, and it was approved at a joint meeting of both the Los Angeles and Long Beach Boards of Harbor Commissioners on November 20, 2006.

Through the CAAP, the ports have established uniform air quality standards for the San Pedro Bay. To attain such standards, the ports will leverage a number of implementation mechanisms including, but not limited to, lease requirements, tariff changes, CEQA mitigation, and incentives. Specific strategies to significantly reduce the health risks posed by air pollution from port-related sources include:

- aggressive milestones with measurable goals for air quality improvements,
- specific standards for individual source categories,
- recommendations to eliminate emissions of ultra-fine particulates,
- a technology advancement program to reduce greenhouse gases, and
- a public participation process with environmental organizations and the business communities.

The CAAP focuses primarily on reducing diesel PM, along with NO_X and SO_X, with two main goals: 1) to reduce port-related air emissions in the interest of public health, and 2) to disconnect cargo growth from emissions increases. The CAAP is expected to eliminate more than 47% of diesel PM emissions, 45% of smog-forming NO_X emissions, and 52% of SO_X from port-related sources within the next 5 years.

On April 7, 2010, the ports of Los Angeles and Long Beach released for public review a proposed, updated document, the 2010 San Pedro Bay Ports Clean Air Action Plan (CAAP Update) that includes new, far-reaching goals for curbing port-related air pollution over the next decade. The focus areas of the draft CAAP Update remain the same as the original CAAP. The CAAP Update includes information on the ports' overall progress in implementing the original CAAP strategies, as well as updates based on changes in federal and state regulations. The most significant addition to the draft CAAP Update is the San Pedro Bay Standards, which establish long-term goals for emissions and health-risk reductions for the ports. Also, the draft CAAP Update identifies milestone dates and forecasts potential emissions reductions and budget commitments through the end of 2013.

The draft CAAP's goals for 2014 include cutting Port-related diesel particulate matter (DPM) emissions by 72%, NO_X emissions by 22%, and SO_X emissions by 93% below 2005 levels. Further decreases including reducing the population-weighted residential cancer risk of Port-related DPM emissions by 85% are targeted by 2023. The CAAP goals are closely tied to the South Coast Air Quality Management District's plan to meet federal air quality standards.

The CAAP includes near-term measures implemented largely through the CEQA/NEPA process and through new leases at both ports. Port-wide measures at both ports are also part of the plan. This Draft EIR analysis assumes compliance with the CAAP. Proposed project-specific mitigation measures applied to reduce air emissions and public health impacts are consistent with, and in some cases exceed, the emission reduction strategies of the CAAP.

1.7.2.2 Environmental Management System

In December 2003, LAHD was selected by the EPA, the American Association of Port Authorities, and the Global Environment and Technology Foundation to participate in the Port Environmental Management System Assistance Project. One of only 11 U.S. ports to be selected, the Port of Los Angeles is the first California seaport to incorporate the program into its operations.

An EMS is a set of processes and practices that enable an organization to reduce environmental impacts and increase operational efficiency. Participating ports are selected on the basis of existing environmental programs, diverse maritime facilities, and management resources. An EMS weaves environmental decision making into the fabric of an organization's overall business practices, with a goal of systematically improving environmental performance. An EMS follows the "Plan-Do-Check-Act" model of continual improvement. LAHD has implemented the EMS within its Construction and Maintenance Division facilities, with the goal of expanding the EMS to additional functions over the course of the next several years.

1.7.2.3 Other Environmental Programs

1.7.2.3.1 Air Quality

- **Alternative Maritime Power.** AMP reduces emissions from container vessels docked at the Port. Normally, ships shut off their propulsion engines when at berth but use auxiliary diesel generators to power electrical needs such as lights, pumps, and refrigerator units. These generators emit an array of pollutants, primarily NO_X, SO_X, and particulate matter smaller than or equal to 10 or 2.5 microns in diameter (PM10 or PM2.5). The AMP program dramatically reduces these emissions by allowing ships to "plug in" to shore-side electrical power while at dock instead of using their onboard generators. (This process is also referred to as cold ironing.) Before being used at the Port, AMP was only used commercially by the cruise ship industry in Juneau, Alaska. However, AMP facilities have been installed and are currently in use at the wharf at Berth 100. Additionally, AMP facilities are complete at the Yusen Terminals (the NYK ship Atlas is AMP-capable and has begun plug-in testing at Yusen) and TraPac Terminals with plans for additional facilities at the Evergreen Terminal, among others. AMP facilities have been installed for the existing World Cruise Center at Berths 91/21, 93, and 230.
- **OffPeak Program.** The OffPeak program extends cargo terminal operations by five night and weekend work shifts. It is managed by PierPASS, an organization created by marine terminal operators. This program has been successful in increasing cargo movement, reducing truck waiting time inside Port terminals, and reducing truck traffic during peak daytime commuting periods.

- **On-Dock Rail and the Alameda Corridor.** Use of rail for long-haul cargo is acknowledged as an air quality benefit. Four on-dock railyards at the Port significantly reduce the number of short-distance truck trips (the trips that would normally convey containers to and from offsite rail yards). Combined, these intermodal facilities eliminate an estimated 1.4 million truck trips per year and the emissions and traffic congestion that go along with them. A partner in the Alameda Corridor Project, LAHD is using the corridor to transport cargo to downtown railyards at 10 to 15 miles per hour faster than before. Use of the Alameda Corridor allows cargo to travel the 20 miles to downtown Los Angeles at a faster pace and promotes the use of rail versus truck. In addition, the Alameda Corridor eliminates 200 rail/street crossings and emissions produced by cars waiting on the streets as the trains pass.
- **Tugboat Retrofit Project.** The engines of several tugboats in the Port were replaced with ultra-low-emission diesel engines. This was the first time this technology had been applied to such a large engine. Emissions testing showed a reduction of more than 80 tons of NO_X per year, which is nearly three times better than initial estimates. Under the Carl Moyer Program, the majority of tugboats operating in the Ports of Los Angeles and Long Beach have since been retrofitted.
- **Electric and Alternative Fuel Vehicles.** More than 35% of the Port's fleet has been converted to electric or alternative-fuel vehicles. These include heavy-duty vehicles as well as passenger vehicles. LAHD has proactively embarked on the use of emulsified fuels that are verified by CARB to reduce diesel PM by more than 60% compared to diesel-powered equipment.
- **Electrified Terminal Operating Equipment.** The 57 ship-loading cranes currently in use at the Port run on electric power. In addition, numerous other terminal operations equipment has been fitted with electric motors.
- **Yard Equipment Retrofit Program.** Over the past 5 years, diesel oxidation catalysts have been applied to nearly all yard tractors at the Port. This program has been carried out with Port funds and funding from the Carl Moyer Program**.**
- **Vessel Speed Reduction Program.** Under this voluntary program, oceangoing vessels slow down to 12 knots within 20 miles of the entrance to Los Angeles Harbor, thus reducing emissions from main propulsion engines. Currently, approximately 80% of ships comply with the voluntary program.

1.7.2.3.2 Water Quality

- **Water Resources Action Plan.** The Ports of Los Angeles and Long Beach have developed a coordinated Water Resources Action Plan (WRAP), a comprehensive effort to target remaining water and sediment pollution sources in the San Pedro Bay. Both ports face ongoing challenges from contaminants that remain in port sediments, flow into the harbor from port land, and flow from upstream sources in the watershed, well beyond the ports' boundaries. The goals for the WRAP are: 1) to support the attainment of full beneficial uses of harbor waters and sediments by addressing the impacts of past, present, and future port operations, and 2) to prevent port operations from degrading existing water and sediment quality. Both ports are working closely with federal and state officials and other stakeholders to develop measures that will further minimize landside and waterside sources of pollutants in the San Pedro Bay. The WRAP incorporates these new programs while continuing the many water quality initiatives already underway at both ports. The final plan was adopted at a joint meeting of the Los Angeles and Long Beach Boards of Harbor Commissioners on August 12, 2009.

- **Clean Marinas Program.** To help protect water and air quality in Los Angeles Harbor, LAHD is developing a Clean Marinas Program. The program advocates that marina operators and boaters use BMPs—environmentally friendly alternatives to some common boating activities that may cause pollution or contaminate the environment. It also includes several innovative clean water measures unique to the Port. The Clean Marinas Program features both voluntary components and measures required through Port leases; CEQA mitigation requirements; or established federal, state, and local regulations.
- **Water Quality Monitoring.** LAHD has been monitoring water quality at 31 established stations in San Pedro Bay since 1967, and the water quality today at the Port is among the best of any industrialized port in the world. Samples are tested on a monthly basis for dissolved oxygen, biological oxygen demand, and temperature. Other observations are noted, such as odor and color, as well as the presence of oil, grease, and floating solids. The overall results of this long-term monitoring initiative show the tremendous improvement in harbor water quality that has occurred over the last four decades.
- **Cabrillo Beach Water Quality Improvements.** The Port is one of the few industrial ports in the world that also has a swimming beach. Inner Cabrillo Beach provides still water for families with small children. However, bacteria in shoreline waters frequently exceed water quality standards. LAHD has invested several million dollars in water circulation/quality models and studies to investigate and remediate the problem. Recently, LAHD repaired storm drains and sewer lines in this area and replaced the beach sand as part of its commitment to make sure that Cabrillo Beach continues to be an important regional recreational asset.

1.7.2.3.3 Endangered Species

- **California Least Tern Nesting Site Management.** The endangered California least tern (a species of bird) shares a home with the Port’s largest container terminal on Pier 400. LAHD maintains, monitors, and protects 15 acres on Pier 400 for the nesting of these indigenous birds. Reproductive success is evident with the number of nesting pairs and fledglings increasing over the last decade. In recent years, the Port has had the second largest colony in the state, with more than 1,000 nests.

1.7.2.3.4 Port Planning

- **Green Terminal Program.** LAHD is developing a green terminal program that would be applied to the long-term development of Port container facilities. The program would embrace all aspects of terminal construction and operation and include guidance on a suite of environmental measures to minimize the effects of cargo handling on air, water, and land resources.

- **Channel Deepening.** By deepening the main and ancillary channels, the Port can accommodate larger ships. Larger ships would result in fewer ship visits to bring in the same amount of goods, and fewer ships would result in fewer emissions.
- **Green Ports Program.** LAHD and the Port of Shanghai have signed a historic agreement to share technology aimed at improving air quality, improving water quality, and mitigating environmental impacts on the operations of the Ports.
- **Recycling.** LAHD incorporates a variety of innovative environmental ideas into Port construction projects. For example, when building an on-dock rail facility, LAHD saved nearly $1 million and thousands of cubic yards of landfill space by recycling existing asphalt pavement instead of purchasing new pavement. LAHD also maintains an annual contract to crush and recycle broken concrete and asphalt. In addition, LAHD has successfully used recycled plastic products, such as fender piles and protective front-row piles, in many wharf construction projects.

1.7.3 Port of Los Angeles Leasing Policy

On February 1, 2006, the Los Angeles Board of Harbor Commissioners approved a comprehensive leasing policy for the Port that not only establishes a formalized, transparent process for tenant selection but also includes environmental requirements as a provision in Port leases.

Specific emission-reducing provisions contained in the leasing policy are:

- compliance with VSRPs;
- use of clean AMP (or cold-ironing technology), plugging into shore-side electric power while at dock, where appropriate;
- use of low sulfur fuel in main and auxiliary engines while sailing within the SCAB boundaries;
- for all Cargo Handling Equipment purchases, adherence to one of the following performance standards:
  - cleanest available NO_X alternative-fueled engine, meeting 0.01 gram/brake horsepower-hour (g/bhp-hr) PM, available at time of purchase;
  - cleanest available NO_X diesel-fueled engine, meeting 0.01 g/bhp-hr PM, available at time of purchase; or
  - if no engines meet 0.01 g/bhp-hr PM, then cleanest available engine (either fuel type) and installation of cleanest Verified Diesel Emissions Controls (more commonly known as VDEC) available; and
- use of clean, low-emission trucks within terminal facilities.

1.7.4 Port Community Advisory Committee

The Port Community Advisory Committee (PCAC) was established in 2001 as a standing committee of the Los Angeles Board of Harbor Commissioners. The purposes of the PCAC are to:

- assess the impacts of Port developments on the harbor area communities and recommend suitable mitigation measures to the Los Angeles Board of Harbor Commissioners for such impacts;
- review past, present, and future environmental documents in an open public process and make recommendations to the Los Angeles Board of Harbor Commissioners to ensure that impacts to the communities are appropriately mitigated in accordance with federal and California law; and
- provide a public forum and make recommendations to the Los Angeles Board of Harbor Commissioners to assist the Port in taking a leadership role in creating balanced communities in Wilmington, Harbor City, and San Pedro so that the quality of life is maintained and enhanced by the presence of the Port.

1.8 Availability of the Draft EIR

This Draft EIR is being distributed directly to agencies, organizations, and interested groups and persons for comment during a 45-day review period to comply with Section 15087 of the State CEQA Guidelines. During the public review period, which begins on May 24, 2012, and ends on July 9, 2012, the Draft EIR is available for general public review at the following locations:

Los Angeles Harbor Department
Environmental Management Division
425 S. Palos Verdes Street
San Pedro, CA 90731

Los Angeles Public Library
Wilmington Branch
1300 North Avalon Boulevard
Wilmington, CA 90744

Los Angeles Public Library
San Pedro Branch
931 South Gaffey Street
San Pedro, CA 90731

In addition to printed copies of the Draft EIR, electronic versions are also available. Due to the size of the document, the electronic versions have been prepared as a series of PDF files to facilitate downloading and printing. Members of the public can request a CD containing the Draft EIR. The Draft EIR is also available in its entirety on the LAHD website at: www.portoflosangeles.org/environmental/publicnotice.htm.

To request a copy of the CD mentioned above, please call Kevin Grant at the LAHD Environmental Management Division at (310) 732-7693.

Interested parties may provide written comments on the Draft EIR, which must be postmarked by July 9, 2012. Please address comments to:

Christopher Cannon
Director of Environmental Management
Los Angeles Harbor Department
425 South Palos Verdes Street
P.O. Box 151
San Pedro, CA 90733-0151

2.0

PROJECT DESCRIPTION

2.0 PROJECT DESCRIPTION

2.1 Introduction and Project Overview

The proposed Project is located within the Port, near the San Pedro Community in the City. LAHD administers development within the Port and overall Port operations, and is charged with preparing this Draft EIR to assess the potential significant physical effects of the proposed Project. The City Dock No. 1 Project involves the development of an urban marine research center within a 28-acre portion of the 400-acre San Pedro Waterfront Master Plan area along the west side of the Los Angeles Harbor's Main Channel. The proposed Project would be built out in two phases and involves the following major elements:

- adaptive reuse of the transit sheds at Berths 57–60 to accommodate marine research laboratory, classroom, and meeting spaces within a collaborative environment to create research synergies among universities, colleges, government agencies, and business ventures;
- wharf retrofits of Berths 57–60 and related infrastructure, including a seawater circulation system and berthing facilities for large research vessels as well as street improvements;
- construction of a new building at Berth 56 with classrooms and a lecture hall/auditorium;
- relocation of SCMI from its existing location at Berth 260 on Terminal Island to Berths 56 and 57;
- development of an interpretive center open to the public;
- establishment of a marine science business park/incubator space with offices and research laboratory space within Berths 58–60 transit sheds;
- installation of floating docks in the East Channel to accommodate smaller research vessels;
- integration with and development of the waterfront promenade along the water's edge, consistent with the approved San Pedro Waterfront Project while not impacting the health and safety of the visiting public; and
- development of Berths 70 and 71, following the planned demolition and remediation of the existing Westway Terminal site. This development would include the construction of a new building for NOAA operations, the use of

existing berthing space for research vessels, and the construction of a new building to host a natural seawater wave tank facility.

Each of these key proposed project elements is described in further detail in this chapter.

2.2 Existing Environmental Setting

2.2.1 Regional Setting

The Port is located at the southernmost portion of the City and comprises 43 miles of waterfront and 7,500 acres of land and water, with approximately 300 commercial berths. The Port is approximately 23 miles south of downtown Los Angeles and is surrounded by the community of San Pedro to the west, the Wilmington community to the north, the Port of Long Beach to the east, and the Pacific Ocean to the south. Figure 2-1 shows the regional location of the proposed project area.

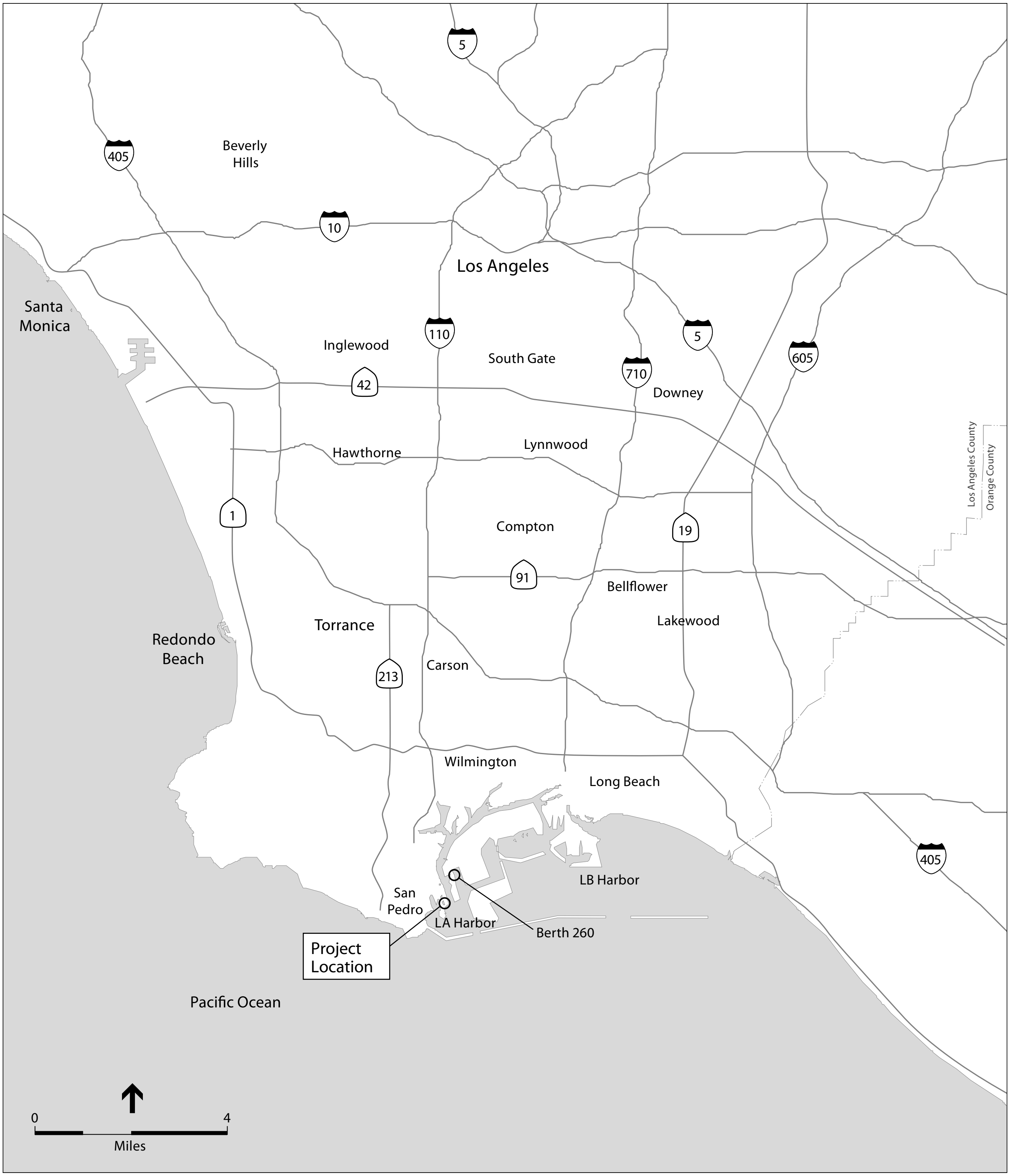
The Port is an area of mixed uses, supporting various maritime-themed activities. Port operations are predominantly centered on shipping activities, including containerized, break-bulk, dry-bulk, liquid-bulk, auto, and intermodal rail shipping. In addition to the large shipping industry at the Port, there is also a cruise ship industry and a commercial fishing fleet. The Port also accommodates boat repair yards and provides slips for approximately 3,950 recreational vessels, 150 commercial fishing boats, 35 miscellaneous small service crafts, and 15 charter vessels that handle sportfishing and harbor cruises. The Port has retail shops and restaurants, primarily along the west side of the Main Channel. It also has recreation, community, and educational facilities, such as a public swimming beach, Cabrillo Beach Youth Waterfront Sports Center, the Cabrillo Marine Aquarium, and the Los Angeles Maritime Museum, 22nd Street Park, and the Wilmington Waterfront Park.

2.2.2 Proposed Project Setting

City Dock No.1 consists of approximately 28 acres within the Port near the San Pedro Community and includes Berths 56 through 60 and Berths 70 and 71 within the San Pedro Waterfront area. The proposed project site also includes a 4.5-acre parking lot adjacent to the 28-acre site across 22nd Street and 1.3-acre site at Berth 260, the current location of SCMI, for a total of 33.8 acres. At the local level, the proposed project site is bounded by the East Channel to the west, the Main Channel to the east, 22nd Street to the north, and the open water of the San Pedro Bay to the south. Local access to the site is provided by 22nd Street and Sampson Way. Figure 2-2 shows the proposed Project's local setting.

2.2.3 Existing Site Conditions

The existing site comprises eight berths, including Berths 56 through 60, 70 and 71 (former Westway Terminal Site), and 260 (the existing SCMI facility). The existing Berths 56 through 60, 70, and 71 were constructed between the 1910s and 1930s, and several buildings within Berths 56, 57, 58–60, and 70–71 are considered eligible for



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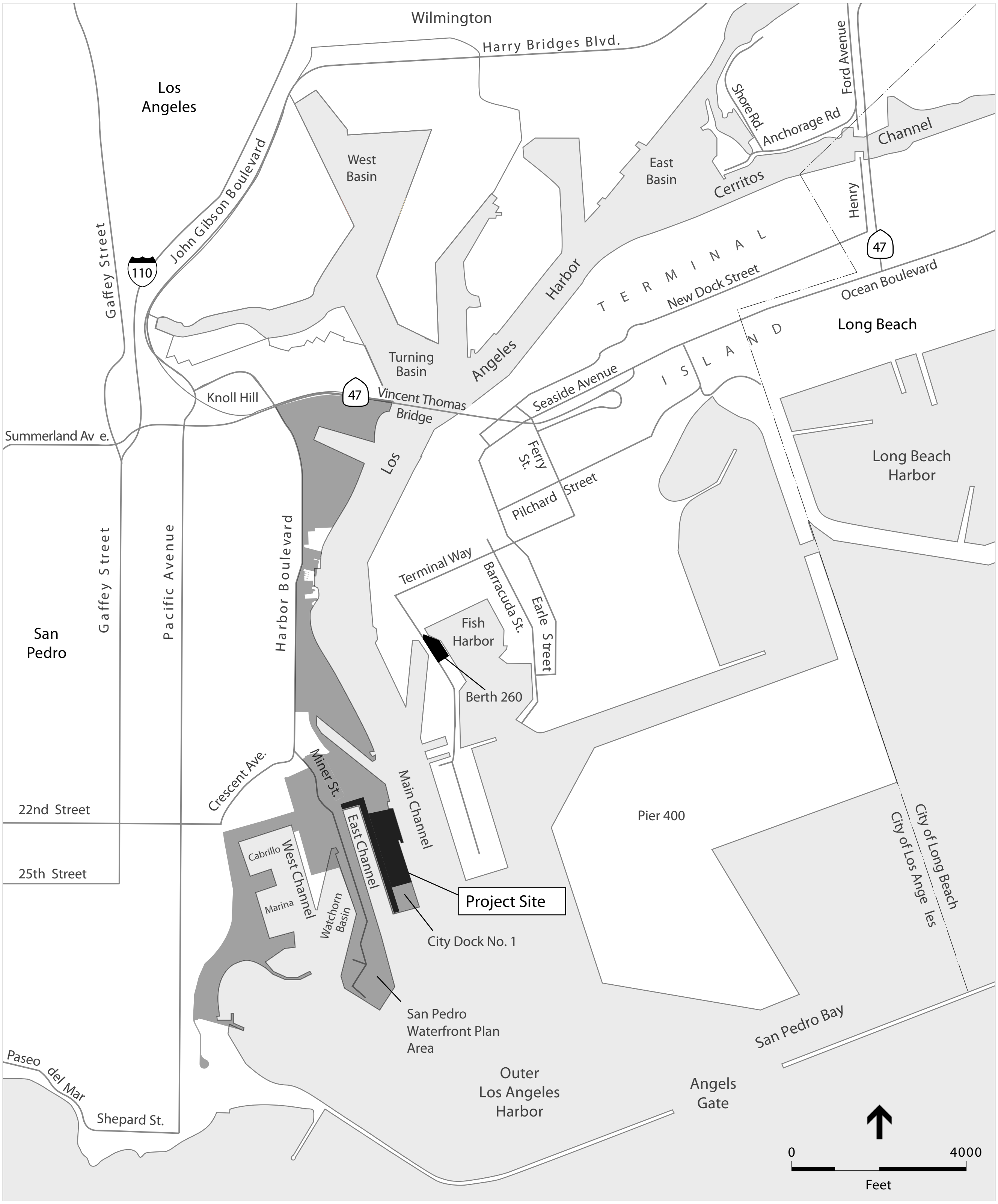
SOURCE: ESA (2010)

Figure 2-1
Regional Location
City Dock No. 1 Marine Research Center Project



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SOURCE: POLA, ESA (2010)

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Figure 2-2
Project Vicinity
City Dock No. 1 Marine Research Center Project

listing as historically significant resources (see Section 3.4, "Cultural Resources"). Figure 2-3 shows the existing conditions on the proposed project site.

2.2.3.1 Berth 56 (Pan-Am Terminal Facility Site)

Berth 56 is located along the southern edge of 22nd Street in the northwestern portion of the proposed project site. Berth 56 contains the Pan-Am Terminal Facility Building, an approximately 1,600-square-foot building operated as a field office for CDFG. The field office is immediately adjacent to the proposed project boundary and is served by a 16-space parking lot and a vessel berth. The portion of Berth 56 within the proposed project boundary is a vacant area of approximately 0.65 acres.

2.2.3.2 Berth 57 (Transit Shed)

Berth 57 is occupied by one tenant: the San Pedro Bait Company (SP Bait Company). The second tenant, Crescent Warehouse Company, Ltd. (Crescent), recently moved to the Port of Long Beach.[1] The SP Bait Company occupies 14,240 square feet on the Berth 57 wharf, which is used for general bait barge maintenance (e.g., welding, steel cutting, manual painting) as well as storage. Of the 14,240 square feet, 8,240 square feet is for ingress and egress only. The SP Bait Company also occupies 2,280 square feet of water adjacent to the wharf, which is used for docking commercial fishing boats and the occasional docking of the bait barge during routine maintenance. In addition, there are also some surface parking spaces reserved for the SP Bait Company.

Crescent occupied a portion of the transit shed located at Berth 57. The transit shed at Berth 57 is a single-story steel-frame structure built in the mid-1920s, which Crescent used to store hay. This 46,000-square-foot wood-framed rectangular building is approximately 500 feet long by 93 feet wide and 25 feet high. Clad in corrugated metal, the transit shed includes a loading dock that spans the full horizontal length of the north side of the building. Attached to the shed is an additional 3,640-square-foot wood frame façade on its north side (facing East 22nd Street) that was added in 1933 and which most recently housed Crescent administrative operations. A structural assessment conducted by LAHD for the building concluded that the roof and siding appear to be in good condition with some corrosion (Port of Los Angeles 2002). However, the steel rolling doors that provide access to the loading dock are unstable to lateral forces due to the absence of bracing elements. In addition, the building lacks solid connections between some of its columns and the roof trusses, and there is some evidence of corrosion in some of the steel columns. The building has been determined eligible for listing in the NRHP and the California Register of Historical Resources (CRHR), and as a City of Los Angeles Historic-Cultural Monument (ICF Jones & Stokes 2008).

[1] The environmental impacts associated with the relocation of Crescent operations were considered by the Port of Long Beach and determined exempt from CEQA (Cameron pers. comm.).

2.2.3.3 Berths 58–60 (Transit Shed)

The transit shed at Berths 58 through 60 is a single-story steel-frame structure built in the 1910s. This 180,000-square-foot rectangular building measures 1,800 feet long by 100 feet wide and is approximately 35 feet high, and includes a loading dock that spans the full horizontal length of the building. The transit shed is clad with corrugated metal siding. A structural assessment for the building concluded that it is in good-to-fair condition with signs of deterioration similar to those noted for the transit shed at Berth 57. The building has been determined eligible for listing in the NRHP and CRHR, and as a City of Los Angeles Historic-Cultural Monument (ICF Jones & Stokes 2008).

A water taxi service provided by US Water Taxi is located at the southwestern corner of Berth 60 and includes an office, which is outside of the proposed project boundary. A small maintenance shed, some storage areas for supplies, and a fleet of approximately five vessels is maintained by the taxi service within the proposed project boundary. This service transports supplies and materials to ships anchored outside the breakwater.

2.2.3.4 Berths 57–60 Wharf

The original wharf structure was built in 1913 with an apron wharf added in 1938. Both structures are potentially historic, and a historic resources assessment of the wharves has been conducted to support this Draft EIR.

Recent Port engineering studies have shown that the slope and wharf structure over which the transit sheds at Berth 57 and Berths 58–60 are built are badly deteriorated with widespread damage to the piles, caps, beams, and deck soffit noted in the inspections.

2.2.3.5 Berths 70–71 (Westway Terminal Site)

The Westway Terminal site encompasses approximately 14.3 acres in the northeastern portion of the proposed project site, between the Main Channel and Signal Street, and occupies a large portion of the south side of the dock at Berths 70–71. The Westway Terminal site includes 134 aboveground storage tanks, associated pipelines and infrastructure, a historic pumping station, the Westway Terminal Building (also known as the Pan American Petroleum Company Marine Loading Station Facility and the Pan American Oil Company Pump House), and an office building that was recently in use by Crescent. The Westway/Pan-American Oil Company Pump House within Berth 70 is eligible for listing on the NRHP and CRHR, and as a City of Los Angeles Historic-Cultural Monument (ICF Jones & Stokes 2008). Historic site operations were served by rail, truck, and vessel, and involved the use of oils, lubricants, fuels, and other hazardous materials. Considered a hazardous cargo facility under the Port's Risk Management Plan (RMP), this facility closed in 2009. A demolition and remediation strategy is being developed in

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Figure 2-3
Existing Conditions
City Dock No. 1 Marine Research Center Project

coordination with the RWQCB.[2] Completion of a full site characterization study and remedial action design, and an evaluation of future land use restrictions would occur after demolition of the aboveground storage tanks.

2.2.3.6 Sampson Way and 22nd Street Parking Lot

The existing 4.5-acre surface parking lot located north of 22nd Street and east of Sampson Way is located within the proposed project boundary. The parking lot has spaces for 409 vehicles but is currently underused.

2.2.3.7 Berth 260 (Existing SCMI Facility Site)

Berth 260 is located less than 1 mile northeast of the proposed project site on Terminal Island, and contains SCMI's existing operations, which are proposed to be relocated to the proposed project site. SCMI occupies a 1.32-acre site at 820 South Seaside Avenue and consists of two noncontiguous parcels separated by a building operated by the Los Angeles Port Police. The northern side of the site includes a 19,000-square-foot building that contains offices, laboratories, classrooms, a circulating seawater system, and storage, meeting, and warehouse space. The site also includes a small parking lot, seawater storage tanks, and dock space at which approximately seven vessels are docked. The southern side of the site is occupied by a machine shop, warehouse space, and an open storage yard. The current SCMI facility accommodates approximately 25 researchers and staff, and operates as the shoreside support facility for the University of Southern California's Wrigley Marine Science Center on Catalina Island.

2.2.4 Surrounding Uses

The Port includes a variety of uses supporting various maritime-themed activities, as well as retail shops and restaurants, recreation, community, and educational facilities, as identified in Figure 2-4. Port operations are predominantly centered on shipping activities, including containerized, break-bulk, dry-bulk, liquid-bulk, auto, and intermodal rail shipping. In addition to the large shipping industry at the Port, there is also a cruise ship industry and a commercial fishing fleet.

The Port also accommodates boat repair yards and provides slips for approximately 3,950 recreational vessels, 150 commercial fishing boats, 35 miscellaneous small service crafts, and 15 charter vessels that handle sportfishing and harbor cruises. Two businesses related to recreational vessels and small service crafts, Pacific Performance Racing and RS Marine Engine Services, are located just north of the proposed project site near the intersection of 22nd Street and Signal Street. Other uses include Cabrillo Beach Park and Cabrillo Beach Youth Waterfront Sports Center, with a public recreation area used for swimming and other beach activities and which is operated by the Los Angeles Department of Recreation and Parks. This area also features a public boat launch and the Cabrillo Marine Aquarium. The aquarium is

[2] Demolition of the existing tanks and remediation of the Westway Terminal site was analyzed under the SPW EIR/EIS and will occur independently of the City Dock No. 1 Project. Therefore, these actions are not part of the proposed Project.

used for educational purposes and frequently hosts large school groups. Other recreational areas include the 22nd Street Park and the YMCA's Bloch Field.

Berths 87–93, located about a mile north of the proposed project site, are currently used by the World Cruise Center, which has been active at the Port for over 30 years. In 2002, the Port renovated Berth 93 at the World Cruise Center to update the Berth 93 Cruise Terminal to meet current cruise ports standards for security features and the ability to handle the current class of cruise vessels. The World Cruise Center currently operates out of two existing terminals (Berths 91–92 Terminal and Berth 93 Terminal), with two permanent berths (91–92 and 93) and use of a temporary third berth on occasion at Berth 87. Cargo-handling operations occurred at Berths 87–90 until August 2006, after which they permanently ceased.

There are a variety of land and water uses to the south of the World Cruise Center. Anchored by the Los Angeles Maritime Museum, other existing land and water uses within the proposed project area between 3rd and 6th Streets include tug vessel services, Fire Station #112, Port police dock, and John S. Gibson, Jr. Park along the east side of Harbor Boulevard just north of 6th Street.

One of the main draws of the surrounding area is Ports O'Call Village, located between the harbor's Main Channel and Sampson Way from 7th Street to 13th Street. Ports O'Call Village is a faux New England fishing village that was established in 1963. This approximately 10-acre commercial retail site also is used as a staging area for various annual events, including the Lobster Festival and the Tall Ship Festival. Just south of Ports O'Call Village in the Southern Pacific Slip (SP Slip) is an active commercial fishing fleet.

For over 100 years, Los Angeles Harbor has been a premier location for fishing. The commercial fishing industry in Los Angeles Harbor saw its peak in the 1940s during World War II but declined substantially after the depletion of the sardine and mackerel populations. Today, although smaller than it once was, the commercial fishing fleet at the Port is intact, providing fresh fish to customers throughout the U.S. A fish market, located south of the SP Slip and just north of the proposed project site, includes a number of local seafood retailers at the eastern terminus of 22nd Street, including J&D Seafood, Star Fisheries, Standard Seafood, Deluca J Fish, and the Los Angeles Fish & Oyster Company.

The Port of Los Angeles Pilot Station and Warehouse No. 1 are located south of the proposed project site, adjacent to the Westway Terminal but outside of the proposed project boundary. Warehouse No.1 is a six-story building completed in 1917 and is listed on the NHRP. The building is occasionally used as warehouse space for the Port, and provides filming locations for television shows and other media.

Across the East Channel from City Dock No. 1 are additional transit sheds at Berths 54 and 55 (which includes fruit storage space for Stevedoring Services of America [SSA]), future cruise facilities at Berths 45 through 47 and 49 through 50, Cabrillo Way Marina Phase II, and public park space. As discussed above, Berth 56 contains the Pan-Am Terminal Facility Building, an approximately 1,600-square-foot building operated as a field office for CDFG. The field office is immediately adjacent to the proposed project boundary. The building was built in 1930 before being moved to its

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Figure 2-4
Surrounding Uses
City Dock No. 1

current location in 1940, and has been determined eligible for listing on the NRHP and CRHR.

2.3 Proposed Project

2.3.1 Proposed Project Purpose

The overall purpose of the proposed Project is to adaptively reuse the transit sheds at Berths 57–60 and the adjacent Berths 70-71 proposed project site and existing buildings (e.g., transit centers) to provide world-class marine research facilities and space to bring together leading researchers and entrepreneurs, including SCMI, Southern California universities and colleges, government research agencies, such as NOAA, and businesses to conduct cutting-edge urban marine research and education, and develop technologies to address the most pressing marine-related problems of the day. The proposed Project seeks to achieve this purpose though the rehabilitation of the existing buildings and wharves to house state-of-the art marine research and educational facilities and provide deep draft berthing space for research vessels, and by providing for a cluster of university researchers, educational programs, and spin-off marine science technology ventures.

2.3.2 Proposed Project Objectives

State CEQA Guidelines (Section 15124[b]) require that a project description contain a statement of objectives, including the underlying purpose of the proposed project. The proposed Project is intended to fulfill the overall project purpose of the LAHD. The proposed Project would provide a world-class urban marine research center and support the research needs of the Southern California region’s universities, research and education institutions, and government agencies, as well as provide an incubator for marine-related business venues. Specifically, the proposed Project would achieve the following objectives.

- Adaptively reuse Berths 56–60 and 70–71 to provide marine researchers in Southern California with world-class marine research facilities including laboratories, a seawater circulation system, offices, classrooms, a lecture hall/auditorium, and storage space to study the most pressing marine-related problems of the day.
- Construct a natural seawater wave tank to allow scientists from around the world to study tsunamis, rouge waves, and the generation of wave energy; conduct vessel and platform studies; and conduct coastal engineering studies.
- Provide space within Los Angeles Harbor to relocate, upgrade, and expand SCMI’s operations, which are currently located at Berth 260 in Fish Harbor.
- Provide an opportunity for SCMI and its members, government and other institutional researchers and research organizations with multiple deep draft berths to accommodate vessels ranging in size from small to large 300-foot vessels adjacent to landside facilities.

- Provide a location for a marine-related business incubator park for synergy among research and commercial interests, and develop commercial technologies to address marine environmental problems.
- Provide public amenities, including public education classroom space and interpretive exhibits related to marine studies and a cafe, along with a waterfront promenade, consistent with the San Pedro Waterfront Project while not impacting the health and safety of the visiting public.

2.3.3 Proposed Project Background

The proposed Project was devised in concept during the planning for the SPWP. However, at the time, details for programming the site were not known, and, therefore, as part of the SPWP, the proposed project site was programmatically analyzed for future “institutional/research and development” use in the SPWP 2009 certified Final EIR/Environmental Impact Statement (EIS).

The LAHD and SCMI, with support from the Annenberg Foundation, and advice and input from area academic and research institutions, local aquariums, business leaders, environmental organizations, and community groups in San Pedro and Wilmington, joined together to develop a City Dock No. 1 urban marine research center vision, as detailed in the resulting March 2009 visioning study (SCMI 2009). This “visioning study” compiles and organizes a diverse body of material from academic marine researchers at various campuses, community stakeholders, non-university educators, public officials, and designers into a single volume to envision the outlines of what has the potential to become a major center for marine research on the West Coast. Since completion of the visioning study, the Port, SCMI, and other City Dock No. 1 stakeholders have been working together to further expand upon that conceptual plan. The proposed Project is a result of this joint effort.

2.3.4 Proposed Project Elements

The proposed Project involves a comprehensive plan for the reuse of City Dock No. 1 that would be built out in two phases. Phase I, which is anticipated to begin in late 2012 and conclude in 2016, would include the conversion of Berths 56 and 57 into a new SCMI facility and development of an interpretive center open to the public. The majority of the remaining proposed project elements would be constructed under Phase II, which is anticipated to commence construction in 2013 and conclude around 2024. Table 2-1 provides a summary of the two phases of development by each element and the total area each major element would contribute to the overall proposed Project. The proposed site plan is illustrated in Figure 2-5.

All construction staging and material laydown would occur within the proposed project site at Berths 70-71 and the Sampson Way and 22nd Street Parking Lot during Phase I, with the majority of the staging and laydown occurring at the parking lot as Phase II progresses toward completion. In addition, prior to commencement of the proposed Project, the existing occupant (San Pedro Bait Company) would relocate its operations from the proposed project site.

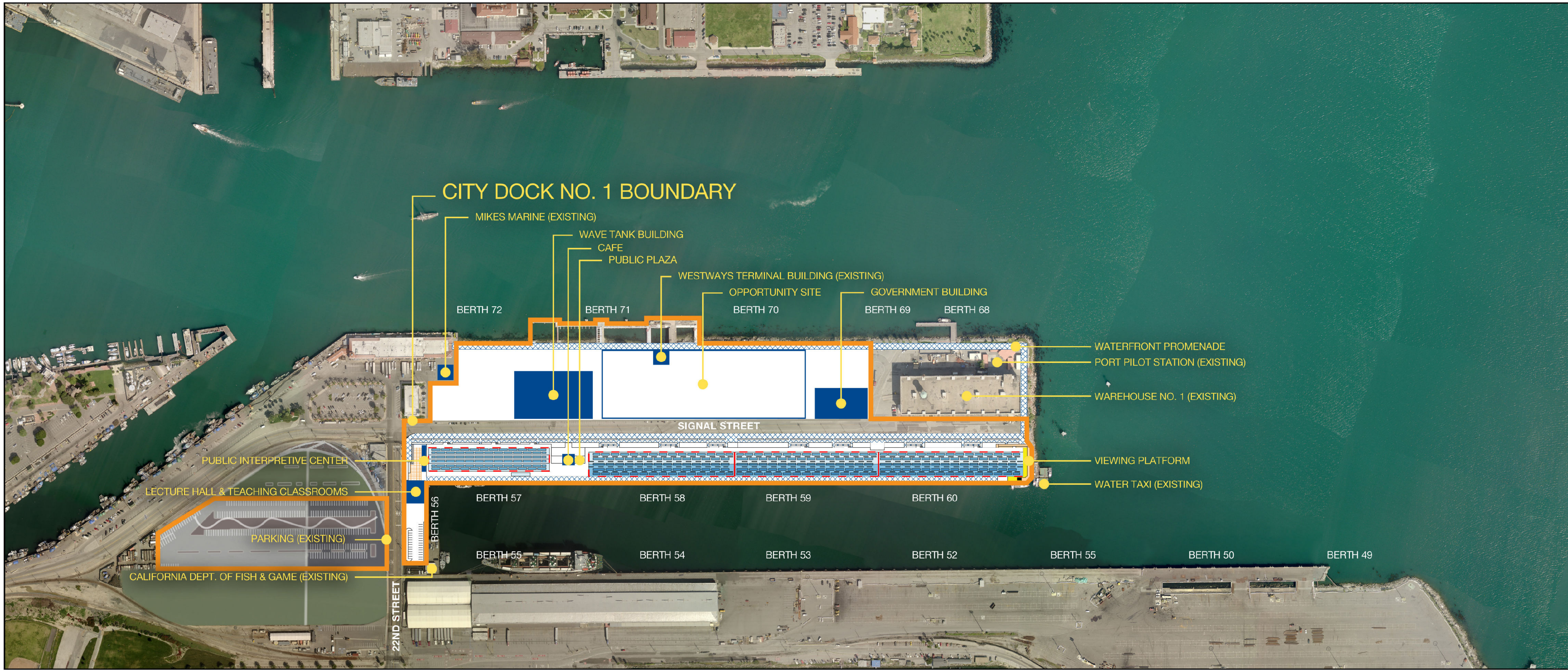

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Figure 2-5
Proposed Project Site Plan
City Dock No. 1 Marine Research Center Project

1 **Table 2-1.** Elements of the Proposed Project

Element/Phase	*Area*
PHASE I (2012–2016)	
Berth 56	
▪ Construct 2-Story Learning Center at Berth 56 (150-seat lecture hall/auditorium and classrooms)	11,500 sf
Berth 57	
▪ Convert Berth 57 Transit Shed into SCMI Research Facility and Develop Marine Research- and Education-Related Facilities ▫ Office-Related Space (12,000 sf) o Faculty Office Space o Administrative Suite o Staff Support Facilities (toilets, showers, and lockers) ▫ Laboratory Related Space (34,500 sf) o Teaching Laboratories o Research Laboratories and Facilities o Lab Support Space o Building Support Facilities (machine shop, storeroom, chemical storage, hazardous waste, scuba gear, instrument support, etc.) ▫ Outdoor Space (8,200 sf)[1] o Outdoor Teaching/Outreach Classroom o Outside Storage Space	46,500 sf
▪ Replace Berth 57 Entrance (3,640 sf) with New Addition (Public Interpretive Center)	3,600 sf
▪ Install Seawater Circulation and Life Support System including Exterior Storage Tanks for Berths 57 and Seawater Intake/Discharge Infrastructure to Serve City Dock No.1 Research Laboratory Buildout	New utility
▪ Construct Floating Docks Adjacent to Berth 57 (12 vessel slips)	18,500 sf
▪ Rehabilitate/Repair Berth 57 Wharf and Associated Ground Improvements	625 lf[1]
▫ Create Berthing for Research Vessels and Loading Space on the Wharf for Crane	--
▪ Construct Public Plaza at Berth 57	7,500 sf[1]
▪ Relocate SCMI from Berth 260 to new Berth 57 Facilities	--

Element/Phase	Area
Berth 260	
▪ Demolish Existing SCMI Facility (demolition of existing 19,000-sf building, 2,700-sf warehouse, and 2,400-sf shop storage)	(24,100 sf)
Total Structure Square Feet in Phase I	*80,100 sf*[2]
Signal Street Improvements/Parking Facilities	
▪ Repair/Repave/Restripe	625 lf[1]
▪ Add Surface Parking Adjacent to Berth 56	15 spaces
▪ Add Surface Parking Adjacent to Berth 57	40 spaces
▪ Utilize Sampson Way and 22nd Street (existing parking lot; 4.5 acres)	409 spaces
Total Parking Added in Phase I	*55 spaces*
Total Available Parking in Phase I	*464 spaces*
Total Area Redeveloped and Enhanced in Phase I	*8.8 acres*
PHASE II (2013–2024)	
Berths 58–60	
▪ Covert Transit Sheds into Marine Research Facility □ Office Related Space (50,000) o Office/Administrative Space3 o Staff Support Facilities (toilets, showers, and lockers) o Hallways, Walkways □ Laboratory Related Space (70,000) o Research Laboratories and Facilities o Lab Support Space o Storage Facilities (robotics, instruments, etc. deployed on marine research vessels) o Marine Research Vessel Support Facilities (crew quarters, showers, etc.) o Building Support Facilities (machine shop, storeroom, chemical storage, hazardous waste, scuba gear support, etc.) □ Outdoor Space (16,400 sf) o Outside Storage Space	120,000 sf
▪ Convert Transit Shed to Marine Business Incubator Space □ Office Related Space (20,000) o Office/Administrative Space3 o Staff Support Facilities (toilets, showers, and lockers) □ Laboratory Related Space (40,000) o Research Laboratories and Facilities o Lab Support Space o Storage Facilities (robotics, instruments, etc. deployed on marine research vessels)	60,000 sf

Element/Phase	*Area*
▪ Develop Waterfront Promenade including Public Plaza/Viewing Platform at Berth 60	6,000 lf[1]
▪ Construct Waterfront Café	1,000 sf
▪ Install Seawater Circulation System including Exterior Storage Tanks for Berths 58–60	New utility
▪ Relocate Items Stored by Water Taxi Service (to within the general vicinity)	--
▪ Rehabilitate/Repair Berths 58–60 Wharf and Associated Ground Improvements	1,875 lf[1]
▫ Create Berthing for Research Vessels and Loading Space on the Wharf[3]	--
Berths 70-71 (Westways)[4]	
▪ Construct 2-Story NOAA Administration and Research Facility	50,000 sf
▪ Implement Wharf Maintenance	--
▪ Construct 5-story Building (to house an 80,000 sf wave tank), including Seawater Intake	100,000 sf
▪ Opportunity Site. Options could include: ▫ Support Facilities for Berth 57–60 Operations such as Seawater Storage Tanks, Life Support Facilities, Discharge Treatment Facilities, and Storage Space. ▫ Outside Research Tanks ▫ Additional Marine Research/Business Laboratory Space	
Total Structure Square Feet in Phase II	*331,000 sf*
Signal Street Improvements/Parking Facilities	
▪ Implement Repaving and Restriping	1,875 lf[1]
▪ Install New Diagonal Parking	155 spaces
▪ Remove Existing Heavy Rail Line from Street	8,000 lf[1]
Total Parking Added in Phase II	*155 spaces*
Total Parking Available in Phase II	*619 spaces[5]*
Total Area Redeveloped and Enhanced in Phase II	*25.00 acres*
PROPOSED PROJECT TOTALS	
Total Proposed Project Area Structures	411,100
Total Parking Spaces Available for Proposed Project	619
Total Proposed Project Area Redeveloped and Enhanced	33.8 acres

[1] Not a structure and is therefore not counted in total structure sf.

[2] Excludes demolition of existing SCMI Facility at Berth 260.

[3] NOAA facilities, including office and research space within Berths 58–60 Transit Shed and berthing space at Berths 58–60 to be relocated to Berths 70–71 when remediation and development of those berths has been completed.

[4] Demolition of the Westway tanks, piping, and related structures at Berths 70–71 as well as the remediation following has been analyzed under the San Pedro Waterfront EIS/EIR and is not considered a component of the proposed Project.

[5] In addition to the 155 new parking spaces provided under Phase II, visitors and employees would have access to the 464 parking spaces identified under Phase I for a total of 619 spaces for the proposed Project.

sf = square feet; lf = linear feet

2.3.4.1 Learning Center Building (Berth 56)

Berth 56 improvements under Phase I would include construction of a Learning Center building. This building would include three classrooms and a 150-seat auditorium that would feature theater-style seating and related facilities. The Learning Center would be designed in accordance with the Secretary of the Interior's Standards for Rehabilitation (Secretary's Standards) to ensure architectural compatibility with adjacent historic resources, including plan review by a qualified consulting architectural historian for compliance with the Secretary's Standards.

2.3.4.2 Transit Shed Upgrades for SCMI (Berth 57)

In order to achieve the conversion of Berth 57, construction would first involve wharf upgrades and landside improvement to meet current seismic code (see Section 2.3.4.4, below). Upon completion of the wharf retrofit and ground improvements, work would begin on upgrading the existing Berth 57 transit shed to current seismic and occupancy codes. Phase I would also include the demolition of an existing 1933 wood-frame structure to allow construction of a new glazed entryway to potentially house the public interpretive center. The new structure would introduce a contemporary, neutral, and visually prominent entrance into the SCMI facility, distinct from the existing historic transit shed façade. This new façade may include large glass aquaria at the entrance way. The façade would reflect the same general shape and profile as the transit shed in height and massing and could include an area for public education and outreach.

The existing Berth 57 transit shed would require extensive renovations prior to occupancy, by SCMI. The SCMI research facility would include office space for faculty, staff, and administration; laboratory space for teaching and research laboratories; lab support and building support spaces; and outdoor space for outdoor teaching, classrooms, and storage space. A seawater circulation and life support system would be installed at Berth 57, including exterior storage tanks, and seawater intake/discharge infrastructure adequate to serve City Dock No. 1 urban marine research center build-out. Additional description of this system is provided in Section 2.3.4.8.

Repair, retrofit, and rehabilitation of the transit shed to address structural deficiencies would be facilitated by the exposed condition of all structural elements. These include repairing rusted exterior corrugated metal siding with new panels, upgrading structural connections to meet established seismic and wind load resistance, retrofitting large openings (east and west façades) to ensure stability and water tight openings, sandblasting and repainting corroded steel members and gusset plates, and replacing deteriorated and damaged steel members, as required. In addition, it is anticipated that new traverse and longitudinal frames would be added, interior steel columns repaired, and new concrete encasements around the base of each column constructed. Installation of a continuous perimeter foundation wall, limited to shallow (2 to 3 feet maximum) excavations to inhibit water intrusion at the building perimeter and utility placement may be required. However, as noted under Section 2.3.4.4, to gain access to the wharf underlying the transit sheds, the roof and western façade of the transit sheds would be temporarily removed to provide direct access to the wharf for pile driving purposes.

All renovations would be required to conform to the Secretary's Standards) for buildings eligible for listing or listed on the NRHP and would undergo a plan review by a qualified consulting architectural historian to ensure compliance. Due to the minimal nature of the existing structure (without insulation), the existing transit sheds would primarily serve as an "outer shell building" to provide basic shelter from water and wind and sun. The proposed marine laboratory, classroom, and office SCMI facility facilities would be within the existing envelope of the transit shed and be constructed by the tenant, SCMI. Therefore, the historic integrity of Berth 57 would be maintained and, at the same time, it would be adaptively re-used to integrate state of the art fire/life safety protection, seismic resistance, security features, and utility infrastructure as required by its change in use. The exterior of the transit sheds would largely be maintained with the exception of necessary improvements to the siding, roof, cornices, etc. There is a potential that a few of the current loading doors would be replaced with windows, to provide for public viewing/research interpretive opportunities. The following discussion provides a summary of how this project element would generally meet the guidance provided in the Secretary's Standards.

- Existing metal roll-up-style doors would be replaced with new glazed openings to provide more light, air, and egress into the interior spaces. This modification would be consistent with the guidance provided by the Secretary's Standards because it would maintain the repetitive punched openings along the structure's elevations, and most of the roll-up doors are non-original replacements. The design of the new glazing systems would reference the industrial maritime character of the building, with industrial metal sashes and clear glazing, as opposed to vinyl or wood sashes and reflective or opaque glazing.
- Deteriorated historic features would be repaired rather than replaced whenever feasible. Where the severity of deterioration requires replacement of a distinctive feature, the new feature would match the old in design, color, texture, and other visual qualities and, where possible, materials. In the case of the Berth 57 transit shed, rusting corrugated metal siding, steel members, and gusset plates would be repaired, and those materials that cannot be repaired due to advanced deterioration would be replaced in-kind with similar metal materials.
- Correcting structural deficiencies in preparation for the new use is allowable by the Secretary's Standards assuming that the improvements are completed in a manner that preserves the structural system and individual character-defining features. In the case of the interior of the transit shed at Berth 57, the open trusses are character-defining features of the building's interior. Upgrading the structural connections would not obscure, remove, or otherwise significantly alter in an adverse manner the metal truss system.
- Removal and replacement of portions of the roof and western façade to accommodate the wharf improvements and associated ground improvements at the Berths 57–60 transit shed would reuse the existing materials (corrugated metal roofing and siding) to the extent feasible. Where the severity of deterioration requires replacement of a distinctive feature, the new feature would

match the old in design, color, texture, and, where feasible, materials). Please also see discussion below under Section 2.3.4.4.

- In the case of the Berth 57 transit shed, the new interior "buildings" would not obscure or destroy the interior truss work, allowing these features to read as original features of the building. The new interior structures would not reach the ceiling, thus allowing the open, floor-to-ceiling height of the interior spaces to read visually as they do today (i.e., not obscure the clerestories). The new construction would also retain a significant amount of open interior space, particularly in the center of the building, where long interior vistas are possible (i.e., new construction will be relegated to the side aisles of the structure). The buildings would be differentiated from the old but also compatible with the massing and scale of the building. Therefore, industrial shed-like architecture with exposed steel structures and metal siding would be an appropriate architectural motif for the new construction.
- New additions and adjacent or related new construction would be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

2.3.4.3 Floating Docks (Berth 57)

Phase I would also develop an 18,500-square-foot, 12-slip floating dock in the East Channel adjacent to Berth 57 to accommodate existing small SCMI research vessels and to allow sufficient capacity for additional small research vessels.

2.3.4.4 Wharf Improvements and Associated Ground Improvements (Berths 57–60)

In order to accommodate the proposed project elements at Berths 57–60, construction would involve first upgrading the adjacent wharf and the existing retaining wall to current seismic code. There are two potential options for the wharf improvements and associated ground improvements.

The first option involves installing 127 new 72-inch diameter steel pipe piles (superpiles) with 20 feet of spacing along the footprint of the existing building. The superpiles would be installed in-water and would carry virtually all of the seismic loads, leaving the existing structure to carry only gravity loads. In addition, to retain the existing aesthetic appearance, the new superpiles would be set back from view and the existing viewable rows of piles would be replaced with new concrete piles that would be indistinguishable from the existing condition, which would allow the new wharf to retain the same general appearance. Similar to the existing wharf design, the first row of concrete piles, end caps, and decking along the westernmost edge of the wharf would be reconstructed using approximately 16-inch-square concrete piles spaced about 15 feet apart with a concrete deck resting directly above. As such, these new features would match the old in design, color, texture, and materials, and would conform to the guidance provided by the Secretary's Standards. When detailed plans of the replacement piles are available, they would be reviewed by a qualified consulting architectural historian to ensure compliance with the

Secretary's Standards. Work would include removing the roof of the existing transit sheds, demolishing 18,288 square feet of existing concrete slab, installing silt curtains, driving the piles, pouring new pile caps and deck slab, and replacing the roof. Exterior façade removal and reinstallation along the entire length of Berths 58–60 would be required.

The second option involves the installation of 252 new 60-inch-diameter steel pipes (in groups of four), which would be located along the back face of the existing seawall, outside of the water, spaced 40 feet apart. The four-pile groups would be installed with a 5-foot-thick concrete pile cap to minimize the displacement of the wharf structure during a seismic event. A 6-inch-thick topping slab acting as a "drag-slab" would extend across the existing deck to tie in the existing wharf structure to the new pile clusters. The existing viewable rows of piles would be replaced with new concrete piles that would be indistinguishable from the existing condition, which would allow the new wharf to retain the same general appearance. Similar to the existing wharf design, the first row of concrete piles, end caps, and decking along the westernmost edge of the wharf would be reconstructed using approximately 16-inch-square concrete piles spaced about 15 feet apart with a concrete deck resting directly above. As such, these new features would match the old in design, color, texture, and materials, and would conform to the guidance provided by the Secretary's Standards. When detailed plans of the replacement piles are available, they would also be reviewed by a qualified consulting architectural historian to ensure compliance with the Secretary's Standards. Work would include removing the roof of the existing transit sheds, demolishing 6,300 square feet of existing concrete slab, installing silt curtains, driving the piles, pouring new pile caps and deck slab, and replacing the roof.

Both options would require removal and replacement of the transit shed's roof and western façade, which are considered character-defining features of these historic buildings. In order to comply with the Secretary's Standards, the existing corrugated metal siding and roofing would be removed, stored, and reinstalled to the extent feasible and where such materials and features are currently in good condition, or would be replaced in-kind if such materials are deteriorated beyond repair.

Prior to initiating the wharf improvements, the SP Bait Company would relocate operations either across the East Channel or to Fish Harbor. However, the barge would remain in its current location as permitted under the current lease.

2.3.4.5 Demolition of SCMI Facilities (Berth 260)

Upon completion of the conversion of Berth 57 into new SCMI marine research and educational space, SCMI would be relocated from its Berth 260 location to Berth 57. The existing SCMI building and parking lot at Berth 260 in Fish Harbor on Terminal Island would be vacated. The facilities to be demolished include an existing office and research building, a storage warehouse, a workshop, and shop storage. The floating docks would remain. After structure demolition, the site would be graded and restored as required by LAHD's agreement with SCMI. Any future development associated with this site would be subject to separate environmental review in accordance with CEQA.

2.3.4.6 Transit Shed Upgrades for Marine Research Facility and Business Incubator Space (Berths 58–60)

Under Phase II, Berths 58–60 would be converted to provide approximately 120,000 square feet for marine research facilities and approximately 60,000 square feet of marine business incubator space. These facilities would include office space, which could be utilized for temporary office space for NOAA, until Berths 70–71 are developed. The storage areas at the end of Berth 60 utilized by the water taxi service would be relocated within the general vicinity of Berth 60 to better accommodate the proposed Project.

The seawater circulation and life support system would be expanded to Berths 58–60 during Phase II, as described further in Section 2.3.4.8. In order to achieve the conversion of Berths 58–60, construction would first involve wharf upgrades and ground improvement to meet current seismic code (see Section 2.3.4.4, above). Upon completion of the wharf and ground improvements, the next steps would involve upgrading the existing transit shed at Berths 58–60 to meet current seismic code, as well as renovating the building in conformance with the Secretary's Standards for buildings eligible for listing or listed on the NRHP. Conversion of Berths 58–60 would occur much as it would for Berth 57 in that tenant improvements would be constructed within the envelope of the existing transit shed.

The repairs and upgrades to the transit shed at Berths 58–60 would be designed to meet the Secretary's Standards' requirement for new work to be compatible with, yet architecturally differentiated from, the old, including plan review by a qualified consulting architectural historian for compliance with the Secretary's Standards. The building parameters discussed above for the Berth 57 transit shed would be applicable to the Berth 58–60 transit shed repairs.

2.3.4.7 Berths 70 and 71 (Westway Terminal)

Once remediation and restoration activities at Berths 70–71 are completed, the proposed Project would develop Berths 70–71 with a 50,000-square-foot facility for NOAA that would include office and laboratory space. The NOAA building would be designed in accordance with the Secretary's Standards, including plan review by a qualified consulting architectural historian for compliance with the Secretary's Standards.

The two-story building would be subordinate to the six-story Municipal Warehouse No. 1 primary historical resource. The building design would reference the adjacent building's maritime industrial character, materials, and massing. As an example, appropriate design cues would be taken from the adjacent Municipal Warehouse No. 1 building, such as a rectilinear form with flat roof or monitor roof shapes, exposed exterior walls painted a light color, expressed pilasters, repetitively punched openings, and symmetrically arranged elevation. The use of overly elaborate architectural styles that purposely depart from the simple, maritime industrial character of the area would be avoided, as would large amounts of landscaping, because landscaping is not characteristic of the area.

The Westway Terminal Administration Building (also known as the Pan-American Oil Company Pump House) would be adaptively reused by a future occupant. The Mission Revival style character of the Westway Terminal Building would be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize this building, stucco wall cladding, or stepped Mission parapet, would be avoided.

Deteriorated historic features of the Westway Terminal Building would be repaired rather than replaced, to the extent feasible. Where the severity of deterioration requires replacement of a distinctive feature, the new feature would match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features would be substantiated by documentary, physical, or pictorial evidence, to the extent available.

In addition, Berths 70–71 along the Main Channel would be made available for berthing of research vessels, with a maximize vessel length of approximately 250 feet. There are no plans to relocate current vessels in the NOAA fleet to the proposed project site, but there is a possibility that future built vessels could be home ported at City Dock No.1. Furthermore, full functioning of the site would include the regular docking of NOAA vessels home-ported in other locations but passing through Los Angeles as part of research expeditions.

Redevelopment of Berths 70–71 would also involve development of an 80,000-square-foot steel-reinforced concrete wave tank on the land side, which would be enclosed within its own five-story, 100,000-square-foot building. The wave tank would be constructed to allow the study of tsunamis, rouge waves, and the generation of wave energy, as well as vessel and platform, and coastal engineering studies. The wave tank building would include an internal crane mechanism for moving tank baffles and actuators and equipment within the building.

The base of the building would be above the mean high tide mark, which would allow for a depth of approximately 10 feet below the existing grade elevation. The first story would comprise the foundation, the next two stories would house the wave tank, the fourth story would include walkways and view platforms, and the final story would provide clearance for cranes to maneuver the wave tank baffles.

The building would be designed to be compatible with the historic materials and features of nearby historic structures to the extent feasible given its required size. For example, the design of the wave tank would reference motifs, massing, and materials of other large-scale buildings in the immediate vicinity to help maintain the industrial maritime character of the district.

2.3.4.8 Marine Research Facility Support Structures

The proposed urban marine research center is intended to support marine research and entrepreneurial business development to address the next generation of ocean-driven challenges and opportunities such as tidal, wind, and biomass energy; aquaculture and sustainable fisheries; shoreline dynamics; and tsunamis, rouge waves, remote sensing, coastal resource management, marine pollution, marine biochemistry and pharmacology, underwater robotics, and climate change and sea-level rise. The proposed Project would not only support marine research being conducted by Southern California universities and colleges and state and national marine-related agencies, but is also intended to accommodate visiting researchers from around the nation and world.

Research would be selected, undertaken, and managed by the tenants/subtenants of City Dock No. 1. Research topics are anticipated to evolve and change over time, as new information and environmental concerns are identified. Similarly, equipment storage needs, seawater circulation system, life support system, and seawater volume needs are anticipated to fluctuate over time based on research being conducted.

2.3.4.8.1 Marine Research Seawater In-Take, Life Support, and Treatment Systems

Initially, the seawater system, and associated life support and water treatment systems, and water would only serve Berth 57, but the intake/discharge infrastructure would be designed with enough capacity to eventually serve Berths 58–60 and 70–71 once those upgrades and new construction are completed in Phase II. The current combined volume of all Berths 57–60 and 71 marine research tanks is estimated at approximately 1,000,000 gallons.

Seawater storage tanks necessary for Berth 57 marine research operations would be installed as part of Phase I. Additional seawater storage tanks would be added as additional research and business incubator facilities are developed in Phase II in order to address the needs of those additional operations. Life support systems, such as water filtration, protein skimmers, and ozone treatment systems would also be constructed and installed, as applicable, to all City Dock No. 1 facilities, with space reserved for additional components to be added as build out of the center proceeds. Chillers and heaters would be installed for seawater systems that require specific temperature requirement.

The exact seawater system(s), life support, and treatment systems to be utilized at the facilities would be designed to meet the needs of the research planned to be conducted within each section of the proposed City Dock No. 1 facility, for which specific detailed needs are currently unknown. However, it is anticipated that the seawater systems would comprise a combination of both flow-through and recirculating capabilities. Depending on the system that is ultimately developed, the quantity of discharge, and the types of activities that occur and species handled in the research laboratories, different discharge and filtration requirements may be needed for either ocean or sewer discharge. Conservative intake and discharge estimates for each type of seawater system are included to ensure potential impacts of both potential marine research facility seawater systems are evaluated and addressed in this Draft EIR.

Seawater In-Take and Discharge

The seawater intake and discharge locations for the Berths 57–60 and 70–71 research facilities are proposed to be located at the southern end of City Dock No.1, slightly extending out past the rip-rap, or under the Berths 57–60 wharves, as deemed most appropriate for the final seawater system design. It is anticipated that the seawater systems would comprise a combination of both flow-through and recirculating capabilities. The intake flows would be limited to 0.5 feet per second or less, which is the velocity identified in the EPA guidelines as a rate that generally allows fish to pull away from the intake structure and results in de minimus impingement levels. The intake pipe size would be designed to acquire the volume of water needed, while ensuring a velocity of 0.5 feet/second or less. The in-take would be located in an area without nearby sensitive habitat, would operate at low flows and velocities, and would be screened to minimize entrainment and impingement. Should a combination of recirculation and flow-through system be used, seawater in-take volume would be significantly less.

The discharge rate for flow-through systems would use the same rate as the in-take. The discharge location would be to the west of the proposed in-take location at the southern end of City Dock No.1, or under the Berths 57–58 wharves, as deemed most appropriate for the final seawater system design.

Flow-Through Seawater Systems

Flow-through seawater systems would take in seawater and circulate it through the marine tanks. After circulation through the tanks, the seawater would be filtered and treated for discharge back to the harbor. This type of system minimizes the need for: (1) seawater storage tanks; (2) life support treatment systems, such as protein skimmers and ozone treatment; (3) seawater discharge to the sewer; and (4) electricity usage. Based on the experience of the existing SCMI operation, it is currently anticipated that filtering systems would be adequate to treat seawater from the flow-through system for ocean discharge.

To ensure a healthy environment for marine life, it is anticipated that the water in all tanks would need to be turned over twice daily. This would result in the need to in-take and discharge 2,000,000 gallons per day, twice the volume of the City Dock No. 1 research facility tanks, every 24-hour period.

In-take seawater may be chilled, or heated, as appropriate for the tanks and research being conducted. Water that is higher or lower than ambient harbor water temperatures would be managed during discharge to achieve ambient water temperatures prior to discharge to the harbor. Seawater used in tanks that house nonnative species would either be discharged to the sewer or processed through enhanced treatment systems, as necessary to eradicate any nonnative species and prevent their introduction into harbor waters.

Recirculating Seawater Systems

Recirculating seawater systems would take in seawater, circulate it through tanks, and then filter and treat the water to remove biological waste created by marine organisms maintained in the tanks through filtration, protein skimmers, and ozone treatment. The water would then be recirculated through the tanks. New seawater would be introduced on an ongoing basis as needed to maintain the appropriate water quality, and re-used seawater would be discharged. The turnover rate of seawater for recirculation systems vary based on the treatment systems used and marine organisms maintained. Based on the experience of local aquariums an annual turnover rate of between 6 and 10 is anticipated, resulting in daily intake and discharge volumes of between 16,438 and 27,397 gallons, respectively. Maximum marine research facility sanitary seawater discharge, based on a 100% recirculating seawater system with a 10 times per year turnover rate would be 27,397 gallons/day. However, should a combination of recirculation be used, seawater discharge volume would be significantly less.

Used seawater would require treatment prior to discharge to the sanitary sewer or harbor. Should sanitary sewer discharge be involved, discharges would need to be scheduled to avoid negative impacts on the Terminal Island Treatment Plant, and would be sampled and monitored to ensure compliance with industrial waste discharge requirements for sanitary sewer discharge. In addition, filters used in the recirculated seawater cleansing process must be backwashed to maintain the cleansing ability. The backwash would require discharge to the sanitary sewer. Recirculation systems minimize water in-take and are able to better control fluctuations in water quality. However, recirculation systems are space intensive, requiring a large footprint for storage tanks and life support/treatment systems, and are energy intensive. In addition, due to the re-use of water, biological wastes are concentrated, and discharged water requires a greater level of treatment than flow-through systems for harbor discharge, resulting in additional space needs and energy resources.

As in the case of the flow-through system, in-take seawater may be chilled, or heated, as appropriate for the tanks and research being conducted. However, water temperature would not be a consideration for seawater discharged to the sanitary sewer.

2.3.4.8.2 Wave Tank Seawater In-Take and Discharge

A separate seawater intake and treatment system would be developed for the wave tank during Phase II. As mentioned previously, the proposed wave tank has a total proposed volume of approximately 14,361,600 gallons and the in-take is proposed to be located along the Berths 70–71 wharf in the main channel.

The gallon per day seawater in-take for filling the proposed wave tank would largely be dependent upon the time allocated to initially fill the tank. A 90-day tank fill time would require 159,574 gallons/day. The in-take flows would be limited to 0.5 feet per second or less. After the initial filling of the wave tank, ongoing seawater in-take needs would be minimal because discharges from the wave tank would be infrequent and intermittent.

Once filled, the seawater in the wave tank would be chemically treated to eliminate marine growth within the tank and retained in stasis except on rare occasions when lower water levels would be needed for a study. On such occasions water may be discharged from the tank. Upon completion of the study, seawater would be needed to again fill the tank. Prior to discharge, chemically treated water would be filtered to ensure that chemicals used to treat the water are removed prior to discharge to the harbor or would be discharged to the sanitary sewer. Discharges would be tested and monitored to ensure compliance with all applicable discharge requirements. The wave tank harbor discharge location would be adjacent to the in-take location located along the Berths 70–71 wharf in the main channel.

2.3.4.9 Waterfront Promenade

The SPWP EIS/EIR (POLA 2009) assessed the construction of a continuous waterfront pedestrian promenade throughout the waterfront project site. Extending the promenade through a marine laboratory facility could pose special challenges because the waterfront would be utilized for vessel loading on a routine basis by forklifts, cranes, and other heavy equipment at unpredictable intervals. The approximately 6,000-linear-foot promenade would be constructed along the edge of the wharf in such a manner as to maintain public access without creating a safety hazard or otherwise unduly impeding the work that is necessary at a marine laboratory. As such, as part of the proposed Project, the proposed location of the promenade would be along East 22nd Street and Signal Street, and along the existing wharf that runs the perimeter of City Dock No. 1, to the extent feasible. The south end of Berth 60 would be developed to accommodate a public viewing area and platform.

2.3.4.10 Signal Street Improvements

Signal Street would be repaved and realigned as part of the proposed Project. As part of the realignment, a total of approximately 195 diagonal parking spaces would be provided along one side of the street. The proposed Project would add 15 spaces adjacent to the Berth 56 Learning Center building, 40 new spaces adjacent to the Berth 57 transit shed, and 155 spaces adjacent to Berths 58–60. In addition, the existing heavy rail tracks that are embedded within Signal Street would be removed (approximately 8,000 lineal feet), and the area that is disturbed during the rail removal would be repaved.

2.3.4.11 Utility Improvements

The proposed Project would provide new utility connections to the proposed buildings as well as the existing buildings to allow for the proposed project elements described above. All connections would be located within the proposed project site and would connect with the existing infrastructure located under Signal Street. In addition to the general utility connections, the proposed Project would potentially upgrade the existing sewer pump servicing the proposed project site. This upgrade to the sewer pump would provide additional capacity to accommodate the proposed Project under full buildout as well as additional future projects if needed.

2.3.5 Sustainable Design Project Features

The proposed Project is intended to showcase LAHD's commitment to sustainability. The proposed Project would incorporate a number of sustainable elements focusing on the effort of LAHD to create a green Port. These are analyzed as part of the proposed Project within this Draft EIR. Additionally, the proposed Project would incorporate several features to enhance the final design of the proposed Project. Although not required to mitigate a significant impact, these design measures would further minimize the proposed Project's effect on surrounding uses and environmental resources. The following proposed Project elements and design measures are consistent with LAHD's Sustainability Program and policies.

- Use recycled water if available for all landscaping and water feature purposes to decrease the proposed Project's use of potable water.
- Include drought-tolerant plants and shade trees in the planting palette.
- Require LEED™ certification for all new buildings as feasible by implementing and ensuring consistency with LAHD's Green Building Policy; LEED Certification (minimum Silver) is required for all new development over 7,500 square feet.
- Follow LAHD sustainable engineering design guidelines in the siting and design of new development.
- Employ LAHD sustainability measures during construction and operation and use recycled and locally derived materials for proposed project construction, while achieving recycling goals for construction and demolition debris.
- Implement energy efficient design features in the final design to help ensure energy needs are minimized to the extent feasible during construction and operation of the proposed Project.
- Implement water quality and conservation design features in the final design to help ensure water quality impacts are minimized during construction at the water's edge and in the water and operationally through the use of construction BMPs and bioswales.
- Implement aesthetic design features. Public art would be integrated into the proposed project area and would include sculptural pieces. Views of the waterfront would be created through the construction of the waterfront promenade around the edge of the site. The proposed Project would also implement the San Pedro Waterfront Development Design Guidelines to improve efficiency and reduce glare.
- Implement pedestrian access features. Pedestrian access to the waterfront and throughout the proposed project site would be improved through development of a waterfront promenade. The proposed Project would also be designed to accommodate the extension of the Waterfront Red Car Line, which was previously approved under the SPWP in 2009.

2.4 Alternatives

2.4.1 CEQA Requirements for Alternatives

CEQA's evaluation criteria for alternatives are described fully in Chapter 1, "Introduction," Section 1.6. Briefly, State CEQA Guidelines, Section 15126.6, require that an EIR present a range of reasonable alternatives to a proposed project, or to the location of the project, that could feasibly attain a majority of the basic project objectives but would avoid or substantially lessen one or more significant environmental impacts of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice. An EIR need not consider every conceivable alternative to a project. Rather, the alternatives must be limited to ones that meet the project objectives, are ostensibly feasible, and would avoid or substantially lessen at least one of the significant environmental effects of the project (State CEQA Guidelines, Section 15126.6[f]). The EIR must also identify the environmentally superior alternative other than the No Project Alternative. Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid any significant environmental effects (State CEQA Guidelines, Section 15126.6[c]).

2.4.2 Alternatives Evaluated in this Draft EIR

This document presents a reasonable range of alternatives pursuant to the requirements of CEQA. LAHD must define alternatives in light of the requirements of the Los Angeles City Charter, the Los Angeles Tidelands Trust Grant, the Public Trust Doctrine, and the California Coastal Act. These legal mandates demand that LAHD use the Port for the purposes of promoting and accommodating waterborne commerce, navigation, fishery, and related purposes. In developing alternatives, the starting point is the proposed Project's objectives.

Five alternatives, including the No Project Alternative, were considered and evaluated in regards to how well each met the objectives for the proposed Project. Three of these alternatives were eliminated from detailed consideration for various reasons. Two of the alternatives met most of the proposed Project's objectives and are presented in Chapter 5, "Project Alternatives," and summarized below. Chapter 5 provides the complete comparison between the proposed Project and the alternatives, and identifies the environmentally superior alternative.

The following alternatives are evaluated:

- Alternative 1—No Project
- Alternative 2—Reduced Project

2.4.2.1 Alternative 1—No Project

Under this alternative, the proposed Project would not be constructed. Berths 57–60 would continue to be used for SP Bait company operations; these berths would not be converted to a marine research center, and wharf repair and transit shed repairs would not occur. SCMI would continue to operate the 19,000-square-foot office building in Fish Harbor and continue to face the inadequate space and conditions required for their research. Berth 56 would continue with existing uses, which include the use of a small building by CDFG and surface parking.

As part of the SPWP action (and not part of the proposed Project), the Westway Terminal liquid bulk storage tanks would be removed and Berths 70–71 would subsequently be remediated. With the exception of the existing historic Westway/Pan-American Oil Company Pump House, which would remain, and the existing office building, Berths 70–71 would remain vacant indefinitely after remediation until new development plans could be established and evaluated.

2.4.2.2 Alternative 2—Reduced Project

Under this alternative, only Berths 57–60 would be developed into marine research space to be occupied by SCMI, and repairs, rehabilitation, and upgrades would be made to Berth 57 and Berth 58–60 transit sheds and wharves as specified under Section 2.3, above. SCMI would be relocated to Berth 57, and SCMI facilities at Berth 260 would be demolished as specified in Section 2.3, above.

Development of Berths 70–71, including the NOAA facilities, opportunity site, and installation of the wave tank, would not occur. Because it is proceeding under a separate permitting process (i.e., not part of the proposed Project), the Westway Terminal liquid bulk storage tanks would be removed, and Berths 70–71 would subsequently be remediated. With the exception of the existing historic Westway/Pan-American Oil Company Pump House, which would remain, and the existing office building, Berths 70–71 would remain vacant indefinitely after remediation until new development plans could be established and evaluated. This alternative would also not include the auditorium at Berth 56 or the additional 15 parking spaces proposed at Berth 56. The waterfront promenade would be constructed within City Dock No. 1 as part of implementation of the SPWP. Table 2-2 summarizes development under this alternative.

Table 2-2. Reduced Project Alternative Elements

Phase/Element	*Area*
PHASE I (2012–2016)	
Berth 57	
▪ Convert Berth 57 Transit Shed into SCMI Research Facility and Develop Marine Research- and Education-Related Facilities ▫ Office-Related Space (12,000 sf) o Faculty Office Space o Administrative Suite o Staff Support Facilities (toilets, showers, and lockers) ▫ Laboratory Related Space (34,500 sf) o Teaching Laboratories o Research Laboratories and Facilities o Lab Support Space o Building Support Facilities (machine shop, storeroom, chemical storage, hazardous	46,500 sf

Phase/Element	*Area*
waste, scuba gear, instrument support, etc.)	
▫ Outdoor Space (8,200 sf)[1] o Outdoor Teaching/Outreach Classroom o Outside Storage Space	
▪ Replace Berth 57 Entrance (3,640 sf) with New Addition (Public Interpretive Center)	3,600 sf
▪ Install Seawater Circulation and Life Support System including Exterior Storage Tanks for Berth 57 and Seawater Intake/Discharge Infrastructure to Serve City Dock No.1 Research Laboratory Buildout	New utility
▪ Construct Floating Docks Adjacent to Berth 57 (12 vessel slips)	18,500 sf
▪ Rehabilitate/Repair Berth 57 Wharf and Associated Ground Improvements	625 lf[1]
▫ Create Berthing for Research Vessels and Loading Space on the Wharf for Crane	--
▪ Construct Public Plaza at Berth 57	7,500 sf[1]
▪ Relocate SCMI from Berth 260 to new Berth 57 Facilities	--
Berth 260	
▪ Demolish Existing SCMI Facility (demolition of existing 19,000-sf building, 2,700-sf warehouse, and 2,400-sf shop storage)	(24,100 sf)
Total Structure Square Feet in Phase I	*80,100 sf*[2]
Signal Street Improvements/Parking Facilities	
▪ Repair/Repave/Restripe	625 lf[1]
▪ Add Surface Parking Adjacent to Berth 57	40 spaces
▪ Utilize Sampson Way and 22nd Street (existing parking lot)	409 spaces
Total Parking Added in Phase I	*40 spaces*
Total Available Parking in Phase I	*449 spaces*
Total Area Redeveloped and Enhanced in Phase I	*7.35 acres*[3]
PHASE II (2013–2024)	
Berths 58–60	
▪ Covert Transit Sheds into Marine Research Facility ▫ Office Related Space (50,000) o Office/Administrative Space o Staff Support Facilities (toilets, showers, and lockers) o Hallways, Walkways ▫ Laboratory Related Space (70,000) o Research Laboratories and Facilities o Lab Support Space o Storage Facilities (robotics, instruments, etc. deployed on marine research vessels) o Marine Research Vessel Support Facilities (crew quarters, showers, etc.)	120,000 sf

Phase/Element	*Area*
o Building Support Facilities (machine shop, storeroom, chemical storage, hazardous waste, scuba gear support, etc.) ▫ Outdoor Space (16,400 sf) o Outside Storage Space	
▪ Convert Transit Shed to Marine Business Incubator Space ▫ Office Related Space (20,000) o Office/Administrative Space o Staff Support Facilities (toilets, showers, and lockers) ▫ Laboratory Related Space (40,000) o Research Laboratories and Facilities o Lab Support Space o Storage Facilities (robotics, instruments, etc. deployed on marine research vessels)	60,000 sf
▪ Develop Waterfront Promenade including Public Plaza/Viewing Platform at Berth 60	6,000 lf[1]
▪ Construct Waterfront Café	1,000 sf
▪ Install Seawater Circulation System including Exterior Storage Tanks for Berths 58–60	New utility
▪ Relocate Items Stored by Water Taxi Service (to within the general vicinity)	--
▪ Rehabilitate/Repair Berth 58–60 Wharf and Associated Ground Improvements	1,875 lf[1]
▫ Create Berthing for Research Vessels and Loading Space on the Wharf	--
Signal Street Improvements/Parking Facilities	
▪ Implement Repaving and Restriping	1,875 lf[1]
▪ Install New Diagonal Parking	155 spaces
▪ Remove Existing Heavy Rail Line from Street	8,000 lf[1]
Total Parking Added in Phase II	*155 spaces*
Total Parking Available in Phase II	*604 spaces*[4]
Total Area Redeveloped and Enhanced in Phase II	*10.70 acres*[5]

Phase/Element	Area
PROPOSED PROJECT TOTALS	
Total Project Area Structures	249,600 sf
Total Parking Spaces Available for Proposed Project	604
Total Project Area Redeveloped and Enhanced	18.85 acres[5]

[1] Not a structure and is therefore not counted in total structure sf.

[2] Excludes demolition of existing SCMI Facility at Berth 260.

[3] Acreage was calculated by taking the 8.00 acres of Phase I minus the 0.65 acres at Berth 56 for the auditorium and parking.

[4] In addition to the 155 new parking spaces provided under Phase II, visitors and employees would have access to the 449 parking spaces identified under Phase I for a total of 604 spaces for the proposed Project.

[5] Acreage was calculated by taking the Phase II total of 25.00 acres from the proposed Project and subtracting 14.3 for Berths 70–71.

[6] Acreage was calculated by taking the total 33.8 acres from the proposed Project and subtracting 0.65 for Berth 56 and 14.3 for Berths 70–71.

sf=square feet; lf = linear feet

2.4.3 Alternatives Eliminated from Further Consideration

As discussed in Chapter 5, "Project Alternatives," CEQA requires an EIR to present a range of reasonable alternatives to a proposed project, or to the location of the project, that could feasibly attain a majority of the basic project objectives but would avoid or substantially lessen one or more significant environmental impacts of the project. CEQA also requires an evaluation of the comparative merits of the alternatives. An EIR is not required to consider alternatives that would be infeasible, would not reduce any identified significant impact, or would not meet a majority of the project objectives.

The following proposed project alternatives were considered in the selection process but were rejected due to one or more of the following:

- determined infeasible due to physical, legal, or technical factors;
- inability to meet a majority of the project objectives; or
- inability to reduce one or more identified significant impact(s).

The alternatives below were considered, but eliminated from further analysis:

- New Construction at Berths 57–60
- Alternative Site

Additional details regarding these alternatives and the reasons for rejecting them are included in Chapter 5, "Project Alternatives."

2.5 Proposed Project Baseline

CEQA's requirements for establishing a baseline are discussed in Chapter 1, "Introduction," Section 1.6.5, "CEQA Baseline." Section 15125 (a) of the State CEQA Guidelines provides the following:

> An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective. This environmental setting will *normally* constitute the baseline physical conditions by which a lead agency determines whether an impact is significant.

Section 15125 of the State CEQA Guidelines requires EIRs to include a description of the physical environmental conditions in the vicinity of a proposed project that exist at the time of the issuance of the NOP. For some resource areas, such as aesthetics or geology, the baseline conditions are defined by what was present at the time the NOP was circulated for review (December 2010). Assessment of other resource areas such as air quality, biology, or water quality may also include information from prior years up to December 2010 in order to provide the most accurate and representative characterization of baseline conditions by accounting for fluctuations at any point in time. When special circumstances are present, details are provided in the respective sections of Chapter 3, "Environmental Analysis," prior to the impact analysis. These environmental conditions constitute the baseline physical conditions by which the CEQA lead agency determines whether an impact would be significant.

The CEQA baseline represents the setting at a fixed point in time, with no project growth over time, and differs from the No Project Alternative in that the No Project Alternative addresses what is likely to happen at the site over time without discretionary approvals, starting from the existing conditions. The No Project Alternative allows for growth at the proposed project site that would occur without additional discretionary approvals.

2.6 Intended Uses of this Draft EIR

This Draft EIR has been prepared in accordance with applicable state environmental regulations, policies, and laws to inform federal, state, and local decision-makers regarding the potential environmental impacts of the proposed Project and its alternatives. As an informational document, an EIR does not recommend approval or denial of a project. This Draft EIR is being provided to the public for review, comment, and participation in the planning process. After public review and comment, a Final EIR will be prepared. The Final EIR will include responses to comments on the Draft EIR received from agencies, organizations, and individuals. It will be distributed to provide the basis for decision making by the lead agency, as described below, and other concerned agencies.

2.6.1 Lead Agency Use—LAHD

LAHD has jurisdictional authority over the proposed Project pursuant to the Port of Los Angeles Tidelands Trust, the California Coastal Act, and CEQA. This EIR will be used by LAHD, as the lead agency under CEQA, in making a decision with regard to the construction and operation of the proposed Project and to inform agencies considering permit applications and other actions required to construct, lease, and operate the proposed Project. LAHD's certification of the EIR, notice of completion, findings of fact, and statement of overriding considerations (if necessary) will document LAHD's decision as to the adequacy of the EIR and inform subsequent decisions by LAHD whether to approve and construct the proposed Project.

Actions that could be undertaken by LAHD following preparation of the Final EIR include the following:

- Certification of the EIR
- Project Approval
- Lease Approvals
- Issuance of Coastal Development Permits
- Completion of Final Design
- Approval of Engineering Permits
- Obtaining other Agency Permits and Approvals (e.g., dredge and fill, grading, construction, occupancy, and fire safety, etc.)
- Approval of Construction Contracts

2.6.2 Other Uses

Other agencies (federal, state, regional, and local) that have jurisdiction over some part of the proposed Project or a resource area affected by the proposed Project are expected to use this EIR as part of their approval or permit process as set forth in Table 2-3. Specific approvals that could be required for this proposed Project include but are not limited to:

- City of Los Angeles Building and Safety Permits
- USACE permit—pursuant to Section 404 of the CWA, and Section 10 of the RHA
- Water quality permits (CWA Section 401 water quality certification and NPDES permits)
- Construction contracts
- City of Los Angeles Bureau of Sanitation Industrial Waste Discharge Permit

2.7 Agencies Expected to Use this EIR

Table 2-3 lists responsible and trustee federal, state, and local agencies that may rely on this Draft EIR in a review capacity or as a basis for issuance of a permit for the proposed Project or for related actions.

Table 2-3. Agencies Expected to Use this EIR

Agency	*Responsibilities, Permits, and Approvals*
FEDERAL AGENCIES	
U.S. Army Corps of Engineers (USACE)	Responsible for navigational improvements in waters of the United States. Permitting authority for work and structures in navigable waters and the discharge of dredged or fill material in waters of the United States.
National Oceanographic and Atmospheric Association (NOAA) Fisheries/National Marine Fisheries Service (NMFS)	Reviews and submits recommendations to USACE related to federal construction actions and issuance of permits in accordance with the Fish and Wildlife Coordination Act. Also responsible for Essential Fish Habitat (EFH) under the Magnuson Stevens Act. Provides EFH information, reviews federal action potential effects on EFH, and provides conservation recommendations to USACE through consultation.
U.S. Coast Guard (USCG)	Has jurisdiction over marine facilities, bridges, and vessel transportation in harbor waters. Responsible for ensuring safe navigation and for preventing and responding to oil or hazardous materials releases in the marine environment. Responsible for enforcement of the MTSA and the ISPS Code standards for security at cruise terminals.
U.S. Environmental Protection Agency (EPA)	Reviews and submits recommendations to USACE related to federal construction actions and issuance of permits.
U.S. Fish and Wildlife Service (USFWS)	Reviews and submits recommendations to USACE related to federal construction actions and issuance of permits in accordance with the Fish and Wildlife Coordination Act and consultations pursuant to Section 7 of the ESA.
STATE AGENCIES	
California Coastal Commission (CCC)	Reviews environmental document to ensure compliance with the Coastal Zone Management Act and consistency with the California Coastal Act. Performs a federal consistency determination. Reviews and must approve CDP applications and Port Master Plan Amendments (PMPA).
California Department of Fish and Game (CDFG)	Reviews and submits recommendations in accordance with CEQA. Consultation in accordance with the Fish and Wildlife Coordination Act.
California Office of Historic Preservation	Consultation under Section 106 of the National Historic Preservation Act (NHPA) regarding impacts on cultural resources (i.e., demolition of buildings and structures) that are either listed or eligible for listing on the NRHP.
The California Waste Management Board	Statutory and regulatory authority to control the handling and disposal of solid nonhazardous waste in a manner that protects public safety, health, and the environment. State law assigns responsibility for solid waste management to local governments.

Agency	*Responsibilities, Permits, and Approvals*
California State Lands Commission (CSLC)	Has oversight responsibility for tidal and submerged lands legislatively granted in trust to local jurisdictions and has adopted regulations for the inspection and monitoring of marine terminals. The CSLC inspects and monitors all marine facilities for effects on public health, safety, and the environment.
California Department of Toxic Substance Control (DTSC)	Regulatory jurisdiction over underground tanks containing hazardous materials. Implements groundwater monitoring provision of the Resource Conservation and Recovery Act. Responsible for general site cleanup outside of underground storage tanks (state superfund sites, etc.).
REGIONAL AGENCIES	
Regional Water Quality Control Board (RWQCB), Los Angeles Region	Permitting authority for Clean Water Act (CWA) Section 401 water quality certifications subject to Section 404 of the CWA. Permitting authority for California waste discharge requirements pursuant to the state Porter-Cologne Water Quality Control Act. Responsible for issuance of both construction and industrial NPDES stormwater permits.
Los Angeles County Fire Department (LACFD)	Licensing and inspection authority for all hazardous waste generation in the City. Provides regulation and oversight of site remediation projects involving hazardous waste generators where surface and subsurface soils are contaminated with hazardous substances.
South Coast Air Quality Management District (SCAQMD)	Permitting authority for construction of landfill and operation of pump stations, storage tanks, and terminal facilities; activities involving hydrocarbon-containing soils (Rule 1166); and new or modified sources of air emissions (new source review).
Southern California Association of Government (SCAG)	Responsible for developing regional plans for transportation and federal conformity as well as developing the growth factors used in forecasting air emissions in the SCAB.
LOCAL AGENCIES	
City of Los Angeles City Council	City Council legislative body that would review any appeal to certification of the EIR by LAHD; reviews and approves leases, permits, and other approvals.
City of Los Angeles Harbor Department (LAHD)	Lead agency for CEQA and the California Coastal Act (via the certified PMP). Other City departments have various approval and permitting responsibilities, and are listed separately below for the sake of clarity. Pursuant to its authority, LAHD may approve permits and other approvals (e.g., coastal development permits; leases for occupancy; and approval of operating, joint venture, or other types of agreements for the operation of the facilities) for the projects evaluated in this EIR. Leasing authority for the Port's land. Permitting authority for engineering construction. Responsible for general regulatory compliance. Responsible for master plan amendment and map change and issuance of coastal development permits. Responsible for activities of other City departments for the proposed Project.
City of Los Angeles Building and Safety Department	Responsible agency with permitting authority for building and grading permits.
City of Los Angeles Bureau of Engineering	Responsible agency with permitting authority for storm drain connections and stormwater discharges, permits for water discharges to the wastewater collection system, and approval of street vacations.

Agency	*Responsibilities, Permits, and Approvals*
City of Los Angeles Bureau of Sanitation	Responsible agency with permitting authority for industrial waste permit for discharges of industrial wastewater to the City sewer system and sanitary sewer connections.
City of Los Angeles Fire Department (LAFD)	Responsible agency that reviews facilities’ Hazardous Materials Business Plan and Inventory and Risk Management and Prevention Programs. Reviews and submits recommendations regarding design for building permit.
City of Los Angeles Department of Transportation (LADOT)	Responsible agency that reviews and approves changes in City street design, construction, signalization, signage, traffic counts, as well as traffic impact analysis methodology and the study area.
City of Los Angeles Department of Water and Power (LADWP)	Responsible agency that provides a water supply assessment and approves the facilities’ new water service connection and meters.
City of Los Angeles Planning Department	Responsible agency that reviews zone changes or amendments, general plan amendments, variances for zoning or parking code requirements.

2.8 Relationship to Existing Plans

One of the primary objectives of the CEQA process is to ensure that the proposed Project is consistent with applicable statutes, plans, policies, and other regulatory requirements. Table 2-4 lists the statutes, plans, policies, and other regulatory requirements applicable to the proposed Project and its alternatives. Additional analysis of plan consistency is contained in individual resource sections of Chapter 3, “Environmental Analysis,” and, in particular, in Section 3.8, “Land Use and Planning.”

Table 2-4. Applicable Statutes, Plans, Policies, and Other Regulatory Requirements

Applicable Statutes, Plans, Policies, and Other Regulatory Requirements	*Description*
California Tidelands Trust Act, 1911	Submerged lands and tidelands within the Port, which are under the Common Law Public Trust, were legislatively granted to the City pursuant to Chapter 656, Statutes of 1911, as amended. Those properties are held in trust by the City and administered by LAHD to promote and develop commerce, navigation, and fisheries, and other uses of statewide interest and benefit, including commercial, industrial, and transportation uses; public buildings and public recreational facilities; wildlife habitat; and open space. LAHD would fund the proposed Project with trust revenues. All property and improvements included in the proposed Project would be dedicated to maritime-related uses and would, therefore, be consistent with the trust.
California Coastal Act of 1976	The California Coastal Act (20 PRC 30700 et seq.) identifies the Port and its facilities as “one of the state’s primary economic and coastal resources and…an essential element of the national maritime industry” (PRC Section 30701). LAHD is responsible for the modernizing and construction of necessary facilities to accommodate deep-draft vessels and to accommodate the demands of foreign and domestic waterborne commerce and other traditional and water-dependent and related facilities

Applicable Statutes, Plans, Policies, and Other Regulatory Requirements	*Description*
	in order to preclude the necessity for developing new ports elsewhere in the state (Sections 30007.5 and 30701(b)). The act also establishes that the highest priority for any water or land area use within LAHD's jurisdiction will be for developments that are completely dependent on such harbor water areas and/or harbor land areas for their operations (Sections 30001.5(d), 30255, and 31260). The act further provides that LAHD should "[g]ive highest priority to the use of existing land space within harbors for port purposes, including, but not limited to, navigational facilities, shipping industries, and necessary support and access facilities" (Section 30708 (c)). Under the California Coastal Act, water areas may be diked, filled, or dredged when consistent with a certified PMP only for specific purposes, including: (1) construction, deepening, widening, lengthening, or maintenance of ship channel approaches, ship channels, turning basins, berthing areas, and facilities that are required for the safety and the accommodation of commerce and vessels to be served by port facilities; and (2) new or expanded facilities or waterfront land for port-related facilities. In accordance with provisions of the California Coastal Act, LAHD has a certified master plan that provides LAHD with coastal development permit authority for actions/developments consistent with that master plan. Inconsistent items, such as new fills in water, would require a master plan amendment through the CCC. The proposed Project is consistent with the master plan's provisions, as amended under the San Pedro Waterfront Project.
Coastal Zone Management Act	Section 307 of the Coastal Zone Management Act requires that all federal agencies with activities directly affecting the coastal zone, or with development projects within that zone, comply with the state coastal acts (in this case, the California Coastal Act of 1976) to ensure that those activities or projects are consistent to the maximum extent practicable. The CCC will use this EIR when considering whether to find the proposed Project consistent with the California Coastal Act, and the USACE will use that approval as a demonstration that the proposed Project is in compliance with the Coastal Zone Management Act.
Port Master Plan with Amendments (2009)	The PMP (LAHD 1980) provides for the development, expansion, and alteration of the Port (both short-term and long-term) for commerce, navigation, fisheries, Port-dependent activities, and general public access. Those objectives are consistent with the provisions of the California Coastal Act (1976); the Charter of the City of Los Angeles; and applicable federal, state, and municipal laws and regulations. The proposed Project's proposed uses are consistent with the plan.
California Coastal Plan	Under provisions of the California Coastal Act, the PMP is incorporated into the City's Local Coastal Program. LAHD has coastal development permit authority for activities throughout the Port. Therefore, if the proposed Project would be consistent with the PMP, the proposed Project would also be considered consistent with the Local Coastal Program.
San Pedro Bay Clean Air Action Plan	LAHD, in conjunction with the Port of Long Beach and with guidance from SCAQMD, CARB, and EPA, has developed the CAAP, which was approved by the Los Angeles and Long Beach Boards of Harbor

Applicable Statutes, Plans, Policies, and Other Regulatory Requirements	*Description*
	Commissioners on November 20, 2006. The CAAP focuses on reducing diesel PM, NO_X, and SO_X, with two main goals: (1) to reduce Port-related air emissions in the interest of public health, and (2) to disconnect cargo growth from emissions increases. The CAAP includes near-term measures implemented largely through the CEQA/NEPA process and new leases at both ports. The proposed Project includes air quality control measures outlined in the CAAP, both as mitigation that would be imposed via permits and lease provisions and as standard measures that would be implemented through the lease, agreements with other agencies and business entities, and LAHD contracting policies. On April 7, 2010, the ports of Los Angeles and Long Beach released for public review a proposed, updated document, the 2010 San Pedro Bay Ports Clean Air Action Plan (CAAP Update) that includes new, far-reaching goals for curbing port-related air pollution over the next decade.
Port of Los Angeles Real Estate Leasing Policy	The purpose of the Port of Los Angeles Real Estate Leasing Policy is to provide a framework governing leasing and rental decisions as they relate to tenant retention, new tenant selection, development of new agreements, and, as appropriate, modifications to existing agreements by amendments. The proposed Project would be consistent with the leasing policy in that it would incorporate CAAP provisions that would be implemented through the leases with new and existing tenants.
Port of Los Angeles Strategic Plan	The Port of Los Angeles Strategic Plan (LAHD 2010) identifies LAHD's mission and provides 11 strategic objectives for the next 5 years. The mission includes promotion of "grow green" philosophy, combined with fiduciary responsibility and promotion of global trade. The 11 strategic objectives are to: (1) implement development strategies to ensure the Port maintains and efficiently manages a diversity of cargo and land uses while maximizing land use compatibility and minimizing land use conflicts; (2) deliver cost-effective facilities and infrastructure in a timely manner consistent with the land use plan; (3) promote, develop, and provide a safe and efficient transportation system for the movement of goods and people in the Port vicinity and throughout the region, state, and nation in a cost-effective and environmentally sensitive and sustainable manner; (4) maintain financial strength and flexibility to implement strategic and policy priorities; (5) be the greenest port in the world; (6) be the leading port for new, emerging, and environmentally-friendly cargo movement technology and energy sources; (7) maintain the Port as a world-class model for crime prevention, counter-terrorism detection, maritime security training, and emergency incident response and mitigation; (8) maintain the Port as a world-class model for efficient operations and outstanding customer service; (9) strengthen relations with all internal and external stakeholders through education, advocacy, meaningful interaction, and engaging events initiatives that benefit the community;

Applicable Statutes, Plans, Policies, and Other Regulatory Requirements	*Description*
	(10) realize the potential of the diversity of Los Angeles' population by expanding opportunity; retain and develop more high-quality jobs with an emphasis on green technology; and (11) ensure Port leadership, staff, and facilities are in place to meet current and future workforce needs. The proposed Project is consistent with the strategic plan because it would help to minimize land use conflicts, maximize the efficiency of existing facilities, strengthen local community relations, and develop more and higher quality jobs. The proposed Project would also raise environmental standards through the incorporation of Port environmental and alternative energy policies into lease agreements for existing and new tenants.
Port of Los Angeles Sustainability Program	On July 18, 2007, Mayor Villaraigosa issued Executive Directive No. 10, Sustainable Practices in the City of Los Angeles. This directive sets forth his vision to transform Los Angeles into the most sustainable large city in the country and includes goals in the areas of energy and water, procurement, contracting, waste diversion, non-toxic product selection, air quality, training, and public outreach. The Port of Los Angeles has evaluated its existing programs and policies against the eight goals identified in the executive directive. There are currently over 32 specific programs already in place that support each of the eight goals in varying degrees. Some highlights of existing programs as they relate to the proposed Project include: ▪ a Green Building Policy requiring LEED certification (minimum Silver) for new developments as part of the proposed waterfront redevelopment, including implementation of water conservation measures, such as the use of recycled water; ▪ integration of the San Pedro Bay CAAP elements for construction and operations to reduce air emissions; and ▪ implementation of a Climate Action Plan (CAP) for municipally controlled services with the goal of reducing GHG emissions to 35% below 1990 levels by 2030 and 80% below 1990 levels by 2050, including the following select accomplishments: ▪ purchase of 25% of the Port's power (approximately 20 million kilowatts) from renewable energy sources, ▪ construction of 1 MW of solar panels on the roof of the World Port's Cruise Terminal, and ▪ expansion of recycling services at LAHD and for tenants; and ▪ the WRAP, which was adopted in 2009, addresses both water and related sediment quality issues in Los Angeles and Long Beach Harbors and has resulted in the following accomplishments: □ compilation of existing water quality and sediment data and collection of additional information to fill data gaps in order to create water quality and sediment baseline databases for use in WRAP implementation, CEQA/NEPA document preparation, and the harbor-wide hydrodynamic and water quality models; □ completion and distribution of a vessel guidance manual outlining allowable and prohibited vessel maintenance activities and

Applicable Statutes, Plans, Policies, and Other Regulatory Requirements	*Description*
	discharges; ▫ development and evaluation of BMPs for piling use in the harbor; and ▫ ongoing participation in various watershed activities and supporting efforts to reduce upstream pollutant loadings into the harbor.
Port Risk Management Plan	The Port RMP, an amendment to the PMP, was adopted in 1983, in accordance with requirements of the CCC. The purpose of the Port RMP is to provide siting criteria relative to vulnerable resources and the handling and storage of potentially hazardous cargo such as crude oil, petroleum products, and chemicals. The plan provides guidance for future development of the Port to minimize or eliminate the hazards to vulnerable resources from accidental releases (LAHD 1983). The proposed Project is consistent with the Port RMP, and does not pose significant risks.
General Plan of the City of Los Angeles—Port of Los Angeles Plan	The Port of Los Angeles Plan is one of 35 community plans that make up the General Plan of the City of Los Angeles (City of Los Angeles 1982). This plan provides a 20-year official guide to the continued development and operation of the Port. It is designed to be consistent with the PMP discussed above. The proposed Project would be consistent with allowable land uses and the goals and policies of the General Plan—Port of Los Angeles Plan.
City of Los Angeles—San Pedro Community Plan	The San Pedro Community Plan (City of Los Angeles 19899) serves as a basis for future development of the community. It is also the land use plan portion of the City's Local Coastal Program for San Pedro. The Port is not part of the San Pedro Community Plan area. However, the San Pedro Community Plan does make recommendations regarding the Port, particularly for areas adjacent to commercial and residential areas of San Pedro. The proposed Project would be consistent with these recommendations, as LAHD has taken into consideration the residential and commercial communities of San Pedro during project development through the scoping process.
City of Los Angeles—Wilmington Harbor City District Plan	The Wilmington Harbor City District Plan is part of the General Plan of the City of Los Angeles (City of Los Angeles 1990). The proposed Project is not located near the Wilmington Harbor City District and would, therefore, not conflict with the recommendations in the Wilmington Harbor City District Plan.
River Basin	The Water Quality Control Plan for the Los Angeles River Basin (Region 4) (Basin Plan) was adopted by the Los Angeles RWQCB in 1978 and updated in 1994 (RWQCB 1994), with amendments through November 2007.
Water Quality Control Policy—Enclosed Bays and Estuaries of California	In 1974, the State Water Resources Control Board (SWRCB) adopted a water quality control policy that provides principles and guidelines to prevent degradation and to protect the beneficial uses of waters of enclosed bays and estuaries (SWRCB 1974). Los Angeles Harbor is considered to be an enclosed bay under this policy. The policy addresses activities such as the discharge of effluent, thermal wastes, radiological waste, dredge materials, and other materials that adversely affect

Applicable Statutes, Plans, Policies, and Other Regulatory Requirements	*Description*
	beneficial uses of the bay and estuarine waters. Among other requirements, waste discharge requirements developed by the RWQCB must be consistent with this policy. The proposed Project would be constructed and operated in conformance with objectives of the water quality control policy through controls on construction activities (e.g., dredging and fill, wharf construction) and on operations (stormwater and other discharges).
South Coast Air Basin Air Quality Management Plan	The CAA and its subsequent amendments establish the National Ambient Air Quality Standards (NAAQS) and delegate the enforcement of these standards to the states. In areas that exceed the NAAQS, the CAA requires states to prepare a State Implementation Plan that details how the NAAQS would be met within mandated timeframes. The CAA identifies emission reduction goals and compliance dates based on the severity of the ambient air quality standard violation within an area. The California Clean Air Act (CCAA) outlines a program to attain the more stringent California Ambient Air Quality Standards (CAAQS) for ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and carbon monoxide (CO) by the earliest practical date. The Lewis Air Quality Act of 1976 established the SCAQMD, created SCAQMD's jurisdiction over the four-county SCAB, and mandated a planning process requiring preparation of an air quality management plan (AQMP). The 2007 AQMP proposes emission reduction strategies that would enable the SCAB to achieve the national and most state ambient air quality standards within the mandated timeframes. Refer to Section 3.2, "Air Quality and Greenhouse Gases," for a consistency analysis.
Emission Reduction Plan for Ports and Goods Movements in California	CARB approved the Emission Reduction Plan for Ports and Goods Movement (CARB 2006) on April 20, 2006. All of the proposed air quality mitigation measures in this Draft EIR were developed as part of the CAAP (Port of Los Angeles and Port of Long Beach 2006; see Chapter 1, "Introduction," Section 1.7, "Port of Los Angeles Environmental Initiatives"). Therefore, LAHD's air quality plan complies with CARB's goals and meets and/or exceeds all reduction strategies
SCAG Regional Comprehensive Plan	SCAG's Regional Comprehensive Plan and Guide (RCPG) integrates SCAG's planning policy for land use and housing, solid waste, energy, air quality, open space and habitat, economy and education, water, transportation, security and emergency preparedness, and finance. The RCPG is built around the Compass Growth Vision and 2% Strategy adopted by the Regional Council in April 2004, which are based on four key principles: mobility—getting where we want to go; livability—creating positive communities; prosperity—long-term health for the region; and sustainability—preserving natural surroundings. The Draft 2008 Regional Comprehensive Plan (RCP) has been released for public review and has not yet been adopted. The 2008 RCP will present a vision of how Southern California can balance resource conservation, economic vitality, and quality of life. It will serve as a blueprint to approach growth and infrastructure challenges in an integrated and comprehensive way. Ultimately, the RCP will be an action plan that will spell out measurable objectives and targets to measure progress toward meeting ambitious goals for a sustainable region. The RCP Guiding Principles include:

Applicable Statutes, Plans, Policies, and Other Regulatory Requirements	*Description*
	▪ Improve mobility for all residents. Improve the efficiency of the transportation system by strategically adding new travel choices to enhance system connectivity in concert with land use decisions and environmental objectives. ▪ Foster livability in all communities. Foster safe, healthy, walkable communities with diverse services, strong civic participation, affordable housing, and equal distribution of environmental benefits. ▪ Enable prosperity for all people. Promote economic vitality and new economies by providing housing, education, and job training opportunities for all people. ▪ Promote sustainability for future generations. Promote a region where quality of life and economic prosperity for future generations are supported by the sustainable use of natural resources. The project would not conflict with the RCP.
SCAG Regional Transportation Plan	On May 8, 2008, SCAG adopted the 2008 Regional Transportation Plan (RTP): Making the Connections. The 2008 RTP is a $531.5 billion plan (nominal, or year-of-expenditure, dollars) that emphasizes the importance of system management, goods movement, and innovative transportation financing. It strives to provide a regional investment framework to address the region's transportation and related challenges, and looks to strategies that preserve and enhance the existing transportation system and integrate land use into transportation planning. The RTP does not apply to the proposed Project elements.
Congestion Management Program	The Congestion Management Program (CMP) is a state-mandated program intended as the analytical basis for transportation decisions made through the State Transportation Improvement Program process (Los Angeles County Metropolitan Transportation Authority 2004). The CMP was developed to: (1) link land use, transportation, and air quality decisions; (2) develop a partnership among transportation decision makers on devising appropriate transportation solutions that include all modes of travel; and (3) propose transportation projects that are eligible to compete for state gas tax funds. The CMP includes a Land Use Analysis Program, which requires local jurisdictions to analyze the impacts of land use decisions on the regional transportation system. For development projects, an EIR is required based on local determination and must incorporate a transportation impact analysis into the EIR. This Draft EIR does include a transportation impact analysis and thus is consistent with the CMP.
City of Los Angeles Integrated Resources Plan	The Integrated Resources Plan (IRP) incorporates the values of Los Angeles communities into infrastructure planning and integrates planning for the three interdependent water systems: wastewater, recycled water, and stormwater. Los Angeles is facing many challenges, including a growing population, an aging infrastructure for wastewater and stormwater, polluted waters at beaches and waterways, a shortage of parks and open space, a dependence on imported water, and a shortage of necessary funding. The IRP is the solution for these challenges that will meet 20% projected increase in wastewater flow over the next 20 years while maximizing the beneficial reuse of recycled water and urban runoff, optimizing the use of existing facilities and water resources, reducing

Applicable Statutes, Plans, Policies, and Other Regulatory Requirements	*Description*
	pollution, and reducing dependency on imported water. Greater Los Angeles County regions are also currently collaborating to develop an Integrated Regional Water Management Plan (IRWMP) that focuses on water resource management while creating a platform for future funding.

3.0

ENVIRONMENTAL ANALYSIS

3.0 ENVIRONMENTAL ANALYSIS

3.0.1 Introduction

This chapter defines the terminology used in this document and the CEQA requirements related to the alternatives analysis. The 13 sections contained within this chapter discuss the possible environmental effects of the proposed Project and alternatives identified by LAHD that would avoid or substantially lessen significant impacts for an environmental issue (or resource) area. Sections 3.1 through 3.13 discuss both environmental issues found to be potentially significant and those found not to be significant.

To assist the reader in comparing information about the various environmental issues, Sections 3.1 through 3.13 each present the following information for their specific resource area:

- Environmental Setting (the environmental setting or baseline for this Draft EIR is the physical condition that existed in December 2010 [when the review and comment period of the NOP began for this project])
- Significance Criteria (i.e., the criteria against which the significance of an impact is judged)
- Impact Assessment Methodology
- Impacts and Mitigation Measures of the proposed Project
- Mitigation and Monitoring
- Significant Unavoidable Impacts

Significant cumulative impacts for the proposed Project for each environmental resource area are summarized in Chapter 4.0 of this Draft EIR. The proposed Project alternatives are presented in Chapter 5.0. The CEQA Baseline and its application to the analysis of potential impacts from the proposed Project are explained in detail in Section 1.6.5 and Section 2.5 in this Draft EIR.

3.0.2 Terminology Used in this Environmental Analysis

In evaluating the potential impacts of the proposed Project and the project alternatives, the level of significance is determined by applying the threshold of significance (significance criteria) presented for each resource evaluation area. The following terms are used to describe each impact:

- *No Impact*: A designation of no impact is given when no adverse changes in the environment are expected.
- *Less-than-Significant Impact*: A less-than-significant impact would be identified when the proposed Project or alternatives would cause no substantial adverse change in the environment (i.e., the impact would not reach the threshold of significance).
- *Significant Impact*: A significant (but mitigable, or avoidable) impact would create a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the proposed Project or alternatives. Such an impact would exceed the applicable significance threshold established by CEQA but would be reduced to a less-than-significant level by the required application of a mitigation measure.
- *Significant Unavoidable Impact*: As required by Section 15126.2(b) of the CEQA Guidelines, this is used when a residual impact that would cause a substantial adverse effect on the environment—which may or may not be reduced somewhat—could not be reduced to a less-than-significant level through any feasible mitigation measure(s).
- *Mitigation*: Mitigation refers to measures that would be implemented to avoid or lessen potentially significant impacts. Mitigation includes:
  - avoiding the impact completely by not taking a certain action or parts of an action;
  - minimizing the impact by limiting the degree or magnitude of the action and its implementation;
  - rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
  - reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
  - compensating for the impact by replacing or providing substitute resources or environments.

  The mitigation measures would be proposed as a condition of project approval and would be monitored to ensure compliance and implementation.
- *Residual Impacts*: This is the level of impact after the implementation of mitigation measures.

3.0.3 Requirements to Evaluate Alternatives

CEQA Guidelines Section 15126.6 require that an EIR describe a range of reasonable alternatives to the project, or to the location of the project, that could feasibly attain most of the basic project objectives but would avoid or substantially lessen any significant environmental impacts. The EIR should compare merits of the alternatives and determine an environmentally superior alternative. Chapter 5.0 of this Draft EIR sets forth potential alternatives to the proposed Project and evaluates their suitability, as required by CEQA Guidelines (Section 15126.6).

3.1

AESTHETICS

3.1

AESTHETICS

3.1.1 Introduction

This section describes the affected visual environment of the proposed project area, including the applicable regulations and plans pertaining to aesthetics. This section also analyzes the potential impacts that would result from the proposed Project. Issues analyzed include the potential for the proposed Project to obstruct views from a scenic vista, damage scenic resources within a state scenic highway, degrade the existing visual character or quality of the site or its surroundings, result in adverse effects from shading, and create a new source of substantial light or glare.

The impact analysis determined that construction and operation of the proposed Project would result in less-than-significant impacts on scenic vistas, existing visual character and quality, and shading effects. The analysis also determined that there would be no impacts on state scenic highways during construction and operation of the proposed Project, no impacts related to light or glare during construction of the proposed Project, and less-than-significant impacts on light and glare during operation. No mitigation would be required for aesthetics-related changes that would occur as a result of the proposed Project.

3.1.1.1 Terminology

As used in this analysis, *views* refer to visual access and obstruction, or whether it is possible to see a focal point or panoramic scene from an area. *Focal views* provide focused visual access to a particular object, scene, setting, or feature of visual interest. *Panoramic views* provide unfocused visual access to a large geographic area for which the field of view can be quite wide and extends into the distance considerably. Panoramic views are usually associated with vantage points located on high ground and visual access to valued resources such as mountains, valleys, cityscapes, or bodies of water. They also can provide views not commonly available to the public or to private residents.

Views may be discussed in terms of *foreground*, *middleground*, and *background*. Foreground views are those immediately presented to the viewer and include objects at close range that may tend to dominate the view. Middleground views occupy the center of the viewshed and tend to include objects that are the center of attention if they are sufficiently large or visibly different from adjacent visual features. Background views include distant objects and other objects that make up the horizon. Objects in the background eventually fade to obscurity with increasing distance. In the context of background, the skyline or the ocean can be an important visual feature because objects above this point are highlighted against the background of the sky or water. These "skylined" elements are typically more evident to the viewer because of their inherent contrast.

Visual quality, also referred to as *scenic quality*, is evaluated based on the relative degree of vividness, intactness, and unity within a landscape, as modified by viewer preference and sensitivity. *Vividness* is the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns. *Intactness* is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes, and in natural settings. *Unity* is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the landscape. High-quality views are highly vivid, are relatively intact, and exhibit a high degree of visual unity. Low-quality views lack vividness, are not visually intact, and possess a low degree of visual unity. (FHWA n.d.)

The following additional definitions pertain to terminology used in this visual analysis:

- *aesthetics* generally refers to the identification of visual resources and the quality of what can be seen, or the overall visual perception of the environment;
- *nighttime illumination* is the effect of exterior lighting upon adjoining uses;
- *scenic views* or *vistas* are "the panoramic public view access to natural features, including views of the ocean, striking or unusual natural terrain, or unique urban or historic features" (City of Los Angeles 2001);
- *shading* is the effect of shadows cast by structures on adjacent land uses; and
- *viewshed* is all of the surface area visible from a particular location or sequence of locations (e.g., a roadway or trail).

Viewer sensitivity, or viewer concern about noticeable changes to views they could experience, is based on the visibility of a scenic resource, the proximity of viewers to the resource, the relative elevation of viewers to the resource, the frequency and duration of views, the number of viewers, and the types and expectations of the individuals and viewer groups. Generally, visual sensitivity increases as the total number of viewers, frequency, and duration of viewing activities increases.

The degree of visual sensitivity is treated as occurring at one of the following four levels:

- *High sensitivity* suggests that the majority of the public is likely to react strongly to a threat to visual quality. A highly concerned public is assumed to be more aware of any given level of adverse change and less tolerant than a public that has little concern. A small modification of the existing landscape may be visually distracting to a highly sensitive public and represent a substantial reduction in visual quality.

- *Moderate sensitivity* suggests that the public would probably voice concern over substantial visual impacts. Often, the affected views are secondary in importance or are similar to others commonly available to the public.
- *Low sensitivity* prevails where the public generally is expected to have little concern about adverse changes in the landscape, or only a small minority may be expected to voice such concern, even where the adverse change is substantial in intensity and duration.
- *No sensitivity* occurs when the views are not public, or there are no indications of public concern over, or interest in, scenic/visual resource impacts on the affected area.

3.1.2 Environmental Setting

The proposed Project would be located at Berths 56–60 and Berths 70–71 within a section of the Los Angeles Harbor and Port that is adjacent to the community of San Pedro, a highly urbanized area. Additionally, demolition of the existing SCMI facility at Berth 260 on Terminal Island would occur.

The visual character of the proposed project vicinity is defined by the Port's industrial facilities as well as privately owned industrial uses adjoining the Port. These include the following types of uses: canneries, boat repair yards, warehouses, liquid and dry bulk storage facilities for oil, railroad spurs, shipping container storage, and commercial shipping terminals, which are dominated by views of stories-tall steel cranes used for loading and unloading cargo. The appearance of many Port operations is utilitarian in nature, characterized by exposed infrastructure, open storage, the use of unfinished or unadorned building materials, and the use of safety-conscious, high-visibility colors such as orange, red, or bright green for mobile equipment such as cranes, containers, and railcars.

The visual environment within the Port also includes recreational boating facilities and marinas. A large number and variety of watercraft are present, ranging from small recreational and commercial fishing boats to large vessels such as container, crude oil carrier, and cruise ships. In addition, there are beaches and sport fishing areas, cruise line terminals, retail shops, restaurants, and museum/aquarium facilities catering to tourists.

The community of San Pedro is located to the west of the proposed project site, mostly on a seaside bluff known as the Palos Verdes Peninsula. Downtown San Pedro, located approximately 0.8 mile northwest of the site, contains medium-rise government office buildings serving the City of Los Angeles, and state and federal agencies. There are also large hotels, restaurants, and small-scale retail stores. The predominant land use in San Pedro, however, is residential. Multiple-family and single-family residences extend along Beacon Street at the eastern edge of the seaside bluff and southwest along Crescent Avenue. A residential high rise (San Pedro VUE Tower) is also located in downtown San Pedro between 5th and 6th Streets, one block north of Harbor Boulevard. Inland from the proposed project site, the bluff rises to elevations of approximately 300 feet above sea level, offering many residents spectacular sweeping views of the Port and the open sea beyond.

The following sections provide an overview of existing viewer groups, visual resources, and light and glare conditions within the proposed project area.

3.1.2.1 Existing Viewer Groups and Viewer Sensitivity

The principal viewer groups in the proposed project vicinity include the residents of San Pedro, commuting motorists, workers within the area, and recreationists, such as boaters in the harbor and at the Cabrillo Way Marina, as well as users of the 22nd Street Park. The term *recreationist* is used to distinguish the sub-group of viewers who are organizing their recreational activities around experiencing the visual environment from those viewers who are engaged in competitive sports activities. Viewers engaged in most active recreation, such as playing sports, tend to have only an average sensitivity to visual quality and visual change. Although they are aware of their surroundings, they are usually focused on the activity itself rather than surrounding views.

Boaters are considered the key recreationist group in San Pedro. The nearest sensitive viewing position to the west is at the Cabrillo Way Marina, approximately 0.3 mile from the proposed project site. People live on vessels docked at the marina, so it constitutes a type of residential area, and views from the marina are, therefore, highly sensitive. They are also highly sensitive because the marina is a recreational public use area. However, views from the marina are from a few feet above the water's surface, and Port and marina facilities intervene to substantially, if not entirely, block views of features of the proposed project site. Boats docked in the marina and existing warehouses and buildings on Berths 45–47 collectively intervene such that it would be somewhat difficult to discern the proposed project area from that location.

Tourists are very similar to recreational viewers. Depending on what brings them to a particular location, tourists tend to be more or less sensitive to visual quality. If the point of the visit is to enjoy scenery, then visual quality may be an important element in their trip (sightseeing tourists). However, if their travel is intended to take advantage of indoor activities, visual quality is of less importance. Moreover, sightseeing tourists visiting the area for the first time, or on an infrequent basis, would not be as familiar with the views, and thus would be less apt to notice incremental changes that have transformed the Port's visual environment over time. Consequently, their level of sensitivity would be considered low.

Because the residents of San Pedro would be exposed to views for a prolonged period of time and typically have higher expectations that their visual surrounding be maintained, they are generally considered to be a highly sensitive viewer group. This is because their familiarity with the view, their investment in the area (as, for example, homeowners or long-time residents), and their sense of ownership of the view tends to be stronger than that of other types of viewers. In a way, the view from residences and their yards represents a visual extension of residents' property, and changes in this view are noticeable and can result in strong positive or negative reactions. However, in this situation, the visual environment is already highly developed, has a highly industrial character, and does not contain a very strong natural element. Therefore, the visual sensitivity of residents is considered to be moderate.

Commuters and workers are also considered to have lower viewer sensitivity because their attention is focused on driving or work activities. As a consequence, they are exposed to fleeting views during travel and only occasional views from the work place.

Finally, it is important to note that this discussion addresses average viewer sensitivity. Some viewers are more or less sensitive than their activity or ownership would indicate. Individuals' reactions to views vary greatly depending upon a number of factors, including how much they know or care about the view, their personal tastes, and their opinions about the activity or location being viewed.

3.1.2.2 Existing Visual Resources

The visual setting surrounding the proposed project site varies with diverging intensity of development, topographic characteristics, landscape features, and the quality of views of the harbor and open sea afforded from specific locations. Perception of the proposed project site and its setting is also informed by the level of interest (sensitivity) different viewers have about the specific views available to them.

The description of existing views that follows includes an overall assessment of visual character prevailing in the views toward the proposed project site from potentially sensitive viewing areas. A variety of existing views were chosen to represent existing conditions based on field observations, photographs of the affected area, and an assessment of each one's visual quality. Scenic quality is determined based on professional judgment and experience that considers a broad array of factors, including:

- natural features, such as topography, water courses, rock outcrops, and natural vegetation;
- the positive and negative effects of human-made (anthropogenic) alterations and built structures on visual quality; and
- visual composition, including an assessment of the vividness, intactness, and unity of patterns in the landscape.

3.1.2.2.1 State Scenic Highways

The closest officially designated state scenic highway to the proposed project site is a segment of State Route (SR) 2, which is located approximately 33 miles to the north. The closest eligible state scenic highway is State Highway 1 from State Highway 19 near Long Beach to I-5 in San Juan Capistrano, which begins approximately 9 miles northeast of the proposed project site. As such, there are no designated or designation-eligible state scenic highways located within viewing distance of the proposed project site. Portions of Harbor Boulevard have been designated a local scenic highway by the City. See Section 3.1.3.1.4 below.

3.1.2.2.2 Existing Views of the Proposed Project Area

This section provides an overview of visual elements in the proposed project vicinity, focusing on views toward the proposed project site from sensitive viewing locations. This inventory of existing conditions describes prominent components in the visual setting that combine to form the area's overall visual character. Figure 3.1-1 provides the location of representative photo points utilized in the discussion of existing conditions.

The following viewshed locations occur at the proposed project site and as far as 1.3 miles from the proposed Project and are discussed below:

- 22nd Street Viewshed (Figure 3.1-2)
- 22nd Street Park Viewshed (Figure 3.1-2)
- Bloch Field Viewshed (Figure 3.1-3)
- Cabrillo Marina Viewshed (Figure 3.1-3)
- Federal Breakwater Viewshed (Figure 3.1-4)
- South Harbor Boulevard Viewshed (Figure 3.1-4)
- Inner Cabrillo Beach Viewshed (Figure 3.1-5)
- Lookout Point Park Viewshed (Figure 3.1-5)
- San Pedro Residential Community Viewshed (Figure 3.1-6)
- San Pedro Plaza Park Viewshed (Figure 3.1-6)

22nd Street Viewshed

22nd Street is an east–west trending roadway that is one of the main access routes to the proposed project site. A pedestrian sidewalk parallels 22nd Street to the north. Motorists, workers, recreationists, and tourists at this location would be considered sensitive viewers because of their exposure to proposed changes.

Figure 3.1-1
Photo Points Location Map
City Dock No. 1 Marine Research Center Project

Photo 1 - 22nd Street Viewshed (Northeast Corner)

Photo 2 - 22nd Street Park Viewshed (Northwest Corner)

Photo 3 - 22nd Street Park Viewshed

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Figure 3.1-2
Existing Visual Conditions
City Dock No. 1 Marine Research Center Project

Photo 1 - Bloch Field Viewshed

Photo 2 - Cabrillo Marina Viewshed

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Figure 3.1-3
Existing Visual Conditions
City Dock No. 1 Marine Research Center Project

Photo 1 - Federal Breakwater Viewshed

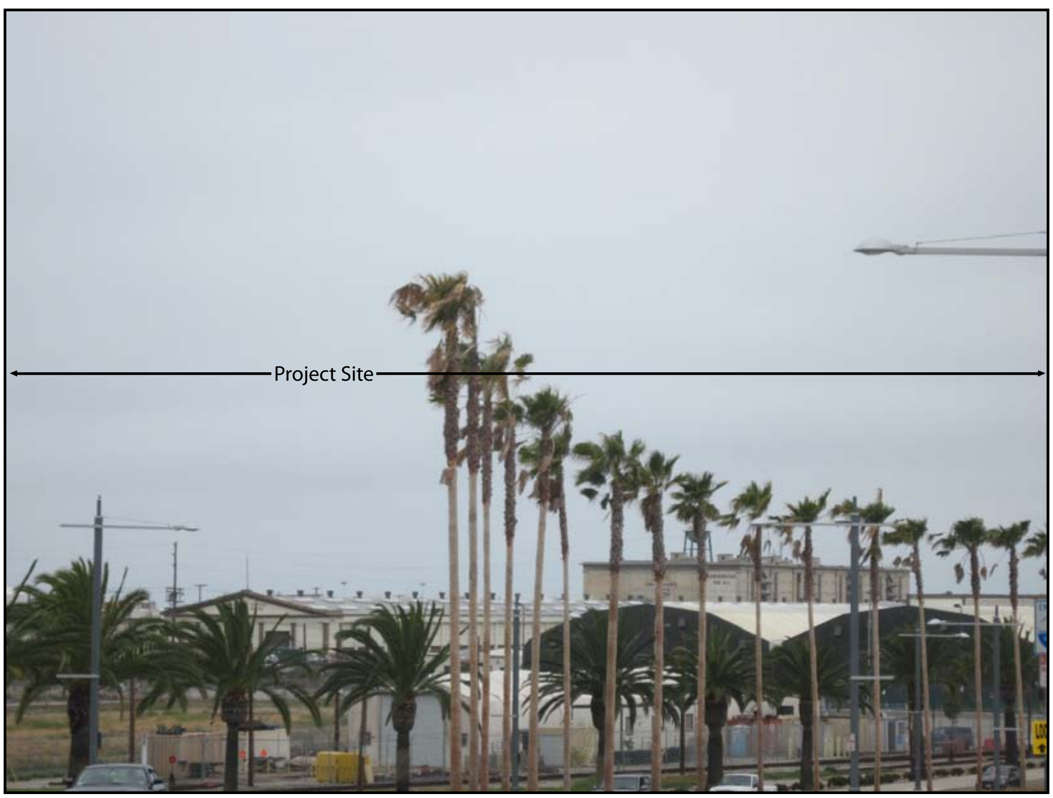

Photo 2 - Harbor Boulevard Viewshed

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Figure 3.1-4
Existing Visual Conditions
City Dock No. 1 Marine Research Center Project

Photo 1 - Inner Cabrillo Beach Viewshed

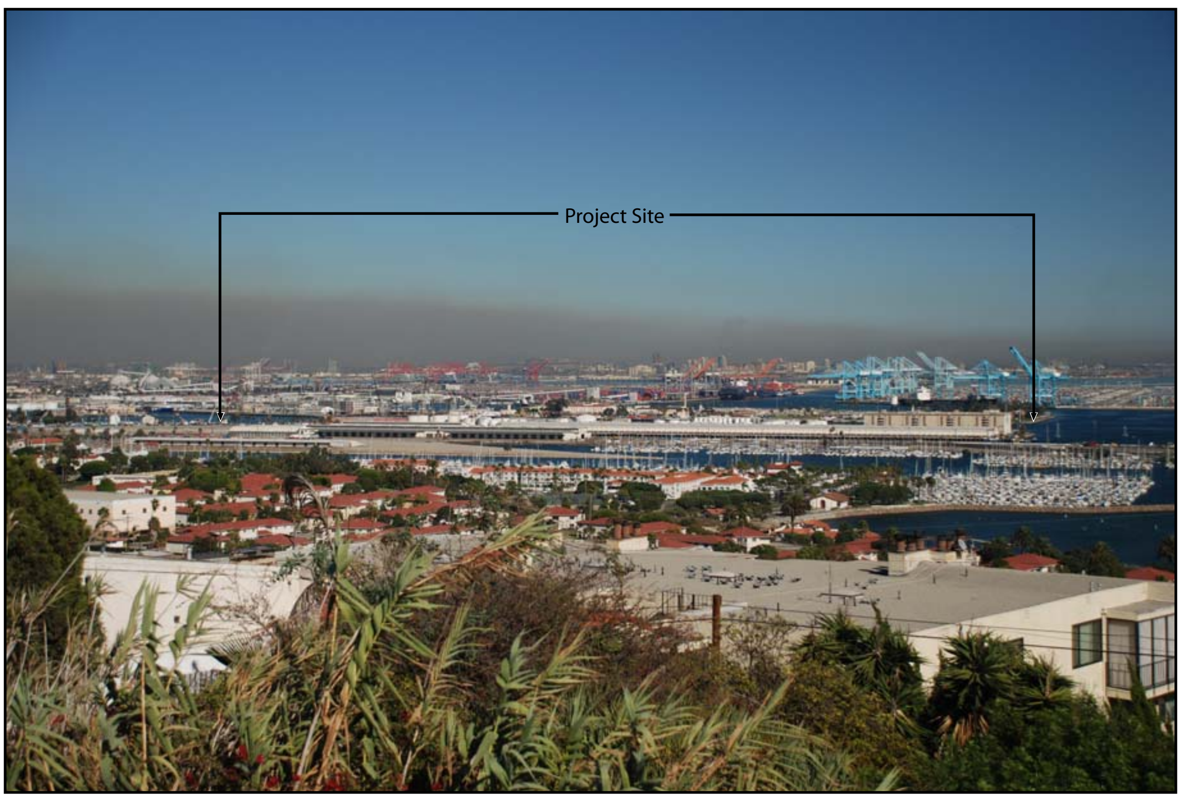

Photo 2 - Lookout Point Park Viewshed

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Figure 3.1-5
Existing Visual Conditions
City Dock No. 1 Marine Research Center Project

Photo 1 - San Pedro Residential Community Viewshed

Photo 2 - San Pedro Plaza Park Viewshed

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Figure 3.1-6
Existing Visual Conditions
City Dock No. 1 Marine Research Center Project

As shown in Photos 1 and 2 of Figure 3.1-2, foreground views looking southeast and south–southeast, respectively from the intersection of 22nd and Signal Streets consist entirely of the proposed project site. In the immediate foreground, Signal Street, the former Canetti's Seafood Grotto, transit sheds, and several liquid bulk storage tanks of varying heights and sizes associated with the former Westway Terminal can be seen. Foreground views also include utilitarian uses such as roadways, electrical distribution poles and lines, and security lighting poles and fixtures. Middleground and background views are completely blocked by the numerous structures, storage tanks, and transit sheds in the foreground views.

Industrial and commercial uses and development dominate the viewshed at this location and define the overall visual character of this view, which results in a generally congruent pattern of land uses. However, the highly developed nature of this landscape exhibits a moderate to low degree of intactness, and some of the buildings appear underutilized. The various elements in the view do not exhibit unity because the height and scale of the anthropogenic structures are not harmonious. Additionally, the numerous vertical elements in the foreground and middleground create visual distractions that detract from the viewshed integrity. There are no views of important or key visual features, the land form is flat and featureless, and views of vegetation and open water are unavailable due to obstruction by the existing structures, storage tanks, and transit sheds. For these reasons, viewer sensitivity within the 22nd Street viewshed is considered low to moderate.

22nd Street Park Viewshed

22nd Street Park is an 18-acre park that opened in January 2010 on the site of a former tank farm across from the 22nd Street Landing. The park is bounded by 22nd Street, Crescent Avenue, and Miner Street, and offers walking and biking trails, shade trees, a bocce ball court, restrooms, parking, and more than 4 acres of flat grassy area for recreation. The waterfront can be seen from the park. Recreationists and tourists would be considered sensitive viewers because of their exposure to changes at this location.

In the immediate foreground, a portion of the 22nd Street Park, 22nd Street, 22nd Street Landing, and several large warehouses are visible, with elements of the working Port, including numerous transit sheds and structures, comprising the remainder of the foreground views (see Photo 3 in Figure 3.1-2). In the right portion of the frame, the masts of numerous sail boats docked in the Cabrillo Marina are visible, breaking up views of the proposed project site. Middleground views also include elements associated with the working Port, such as transit sheds, liquid bulk storage tanks, and cranes. The upper floors of the historic Warehouse No. 1 and its iconic water tower are visible above the transit shed at Berths 5–9 and 60. Angel's Gate lighthouse is visible on the end of the Federal Breakwater in the right side of the view frame. The remainder of the middleground views, transitioning to background views, consists of the open waters of Los Angeles Harbor and the Pacific Ocean.

The overall visual character is defined by a mix of civic and utilitarian uses as well as commercial and industrial development that exhibit a somewhat unified quality.

Open water views of the harbor and Pacific Ocean are available from the 22nd Street Park viewshed; however, commercial and industrial developments, which are considered the most prevailing elements in the viewshed, partially obstruct views of the water and generally detract from the vividness of the open-water views. Recreationists and tourists would be considered sensitive viewers from this location and would have topographically superior views of the proposed project site as views are from an elevated position relative to the immediately surrounding areas and are unobstructed. For these reasons, viewer sensitivity within the 22nd Street Park viewshed is considered to be moderate-to-high depending upon the form of recreation in which the receptors are engaged.

Bloch Field Viewshed

Bloch Field, a public baseball field operated in partnership by the YMCA and LAHD, is located just northwest of the proposed project site at the intersection of South Crescent Avenue and Miner Street (see Photo 1 in Figure 3.1-3). Recreationists would be considered sensitive viewers because of their exposure to visual changes noticeable from this location. There are three distinct viewer groups at Bloch Field; active recreationists using the ball diamond, gardeners at the adjacent community garden area, and passive recreationists at the viewing area in the turf area to the south. The viewing area, with its benches, allows viewers to pause and enjoy the maritime activities at SP Slip and the transport of the variety of vessels plying the water of the Main Channel. This vantage point could be construed as a vista point. This type of viewer is considered the most visually sensitive because they are at leisure and not involved in an activity that requires their attention. Photo 1 in Figure 3.1-3 represents a portion of the panoramic viewshed visual receptors are afforded by this vantage point.

The Bloch Field viewshed offers low-lying views of the proposed project site with railroad tracks, the GATX Annex Terminal site, and a portion of the proposed project site in the foreground; the remainder of the proposed project site and additional Port elements in the middleground; and interrupted views of the ocean in the background partially blocked by intervening structures and mature trees. Immediate foreground views also include a landscaped parking area with Port warehouses just southeast. In addition, utilitarian uses such as fences, electrical distribution poles and lines, and security poles and lights are scattered throughout the foreground. Several transit sheds and liquid bulk storage tanks located on the proposed project site extend from the distant foreground into the middleground of the view. Intermittent views of the harbor are also available in the foreground and middleground. Distant background views are obscured by the built environment.

Industrial uses dominate the viewshed and define the overall visual character of this view, which results in a generally congruent pattern of land uses. However, the highly developed nature of this landscape exhibits a moderate to low degree of intactness. The various elements in the view do not exhibit unity because the height and scale of the structures are not harmonious. Additionally, the numerous vertical elements in the foreground and middleground create visual clutter. Although Los Angeles Harbor and the Pacific Ocean, two key visual resources, serve to improve and add interest to the view, these visual resources and focal points are somewhat compromised by several intervening elements. For these reasons, viewer sensitivity within the Bloch Field viewshed is considered moderate to low.

Cabrillo Marina Viewshed

Cabrillo Marina is located in the West Channel/Cabrillo Beach Recreational Complex, near the southern portion of the Port. The marina accommodates both large and small recreational vessels and is comprised of 885 permanent boat slips that range in length from 25 to 75 feet. Some of the vessels are live-a-boards that can be equated to residential viewers. Recreationists and tourists would be considered sensitive viewers because of their exposure to changes at this location.

From this vantage point, foreground views consist of the boats docked at the Cabrillo Marina, with Port-related uses of Watchorn Basin, the East Channel, the newly constructed Cabrillo Way Marina, and the proposed project site to the east. Elements of the Port and proposed project site in the distant foreground include several large warehouses, transit sheds, and structures as well as utilitarian uses such as fences, electrical distribution poles and lines, and security lighting. Middleground views also include elements associated with the working Port, such as transit sheds, storage tanks, and cranes (see Photo 2 in Figure 3.1-3). Intermittent views of the harbor are also available in the foreground and middleground. Although partially blocked by intervening structures, background views are comprised of the open waters of the Pacific Ocean.

Although oriented toward the harbor, quality views of the open water lack vividness and intactness because they are compromised by moored leisure vessels. Moreover, while the human-made features derive a sense of order from their functional characteristics, the highly developed nature of this landscape exhibits a low degree of intactness. The various elements in the view do not exhibit unity because the height and façades of the structures in the foreground and middleground are not harmonious. Additionally, the numerous vertical elements (e.g., boat masts and cranes) create disarray in the view. For these reasons, viewer sensitivity within the Cabrillo Marina viewshed is considered to be low to moderate.

Federal Breakwater Viewshed

The Federal Breakwater is located within Cabrillo Beach Park, which is generally accessible from Stephen White Drive, Bluff Place, and Shoshonean Road. Recreationists and tourists would be considered sensitive viewers because of their exposure to changes at this location.

Photo 1 in Figure 3.1-4 provides a representative view toward the proposed project site from the Cabrillo Fishing Pier located at the end of the paved road on the breakwater. The expansive open water occupies the foreground view with middleground components that include the Cabrillo Marinas, the Outer Harbor, and a cargo vessel at the Omni Terminal. The gantry cranes at the Evergreen Container

Terminal and the Vincent Thomas Bridge beyond can also be seen. Mountains define the skyline in the background. Views of the proposed project site from within the Federal Breakwater viewshed are typically over 1 mile distant. Photo1 in Figure 3.1-4 shows a large freighter berthed near Berth 50 at the Omni Terminal that blocks the southern portion of the proposed project site. The north end of Warehouse No. 1 is visible behind the ship's pilot house. Omni Terminal is used for bulk storage, and ships need to have off-loading capabilities on-board; consequently, this situation is not usual. Recreationists are the main viewer group on the Federal Breakwater and Cabrillo Fishing Pier, which creates an area that is visually sensitive. However, because of the distance, intervening anthropogenic modifications, and the panoramic nature of the view, viewer sensitivity is moderate.

South Harbor Boulevard Viewshed

South Harbor Boulevard aligns north–south along the west side of the Los Angeles Main Channel and offers obscured views of the majority of the proposed project site's channel-side area. This roadway is locally identified on the San Pedro Community Plan map as a major scenic highway. The viewers from this location are mostly motorists, residents (west of South Harbor Boulevard), and visitors and/or patrons (including tourists and commercial viewers) of adjoining land uses, which include mainly restaurants and commercial stores. Residents, motorists, recreationists, and tourists would be considered sensitive viewers because of their exposure to changes at this location.

Views of the proposed project site and surrounding area from the southern end of South Harbor Boulevard primarily consist of roads and landscaped parking areas, a grassy park area, Port structures (e.g., cranes, water tanks, and warehouses), and the harbor. Foreground views are of South Harbor Boulevard and a landscaped sidewalk as well as Bloch Field, the GATX Annex Terminal site, landscaped parking areas, and several structures. Also, utilitarian uses (i.e., fences, security poles and lighting, etc.) are scattered throughout the foreground view. A small portion of the proposed project site occupies the distant foreground views and consists of numerous liquid bulk storage tanks. Middleground views contain elements of the working port and intermittent views of the harbor. Although partially blocked by intervening structures and mature trees, background views are of the open waters of the Pacific Ocean. Views to the proposed project site from this segment of South Harbor Boulevard are partially screened by intervening structures and vegetation (see Photo 2 in Figure 3.1-4).

The overall visual character of this area is defined by the mix of industrial, commercial, and civic land uses, which results in an incongruent pattern of land uses as viewed from within the viewshed. The various elements do not exhibit unity because the height and scale of the anthropogenic structures are not harmonious. Additionally, the numerous vertical elements in the foreground and middleground create visual disarray. Although Los Angeles Harbor and the Pacific Ocean, two key visual resources, serve to improve and add interest to the view, they are compromised by several intervening elements. For these reasons, viewer sensitivity within the South Harbor Boulevard viewshed is also considered to be low to moderate.

Inner Cabrillo Beach Viewshed

Inner Cabrillo Beach is a historical and heavily used sheltered urban beach, aquarium, and park complex located inside the breakwater, along the San Pedro shore, in the western harbor and affords views similar to those from the Fishing Pier. Recreationists and tourists would be considered sensitive viewers because of their exposure to changes at this location.

Views of the proposed project site are illustrated in Photo 1 of Figure 3.1-5. Foreground views include the sandy beach area, breakwater, and open waters of the harbor. In addition, the Cabrillo Marina and Cabrillo Way Marina occupy a large portion of the distant foreground where numerous sail boats are visible with their masts disrupting views of the proposed project site. Middleground views include the proposed project site as well as elements of the working Port. These elements include numerous transit sheds, a multi-story building, liquid bulk storage tanks, and large cranes as well as boats and ships. Utilitarian uses (e.g., tall security poles/lighting) are also scattered throughout the middleground.

The overall visual character of the proposed project site and surrounding area is defined by the mix of harbor views, commercial uses (marina), and industrial land uses and development. Although there are several land use types within the view, they exhibit a generally unified and congruent pattern when seen from the viewshed. The open-water views of the harbor are a key visual feature that positively contributes to visual quality by increasing vividness. For these reasons, viewer sensitivity within the Inner Cabrillo Beach viewshed is considered to be moderate.

Lookout Point Park Viewshed

Lookout Point Park, located along Gaffey Street between 34th and 36th Streets, is an identified scenic vista in the San Pedro Community Plan, and is situated at a higher elevation relative to the proposed project site than the other viewsheds. The park offers panoramic views of the proposed project site to recreationists, tourists, and other visitors; and much of the San Pedro Waterfront is visible from this location. Recreationists, tourists, and residents would be considered sensitive viewers because of their exposure to changes at this location.

Views from the park include the tops of residential buildings that are upslope from Carolina Street and yet downslope from the park, associated trees and shrubbery that are below the horizon, and the existing background structures of the Port (e.g., cranes, water tanks, and warehouses). As shown in Photo 2 of Figure 3.1-5, visual elements in the immediate foreground include a fence and vegetative buffer as well as multi-family residential buildings. Middleground views are dominated by recreational and industrial Port uses with partial views of the open water. The landscape slopes down toward the proposed project site and consists primarily of paved areas with associated support structures, such as administrative buildings and storage facilities, working equipment, and vehicles. Along the horizon, views are dominated by the presence of towering gantry cranes and other large vertical elements arranged in a visually uniform and congruent pattern. Open water views of the harbor and Pacific Ocean are also visible to the east.

The overall visual character of the proposed project site and surrounding area is defined by the mix of residential development, harbor views, commercial uses (marina), and industrial land uses and development. Although there are several land use types within the view, they exhibit a generally unified and congruent pattern. There are some interesting views of the working Port, and the waterfront provides an aesthetically pleasing feature as well. The open-water views of the harbor and Pacific Ocean are a key visual feature that positively contributes to visual quality by increasing vividness. In addition, the mountainous features in the background of the view contribute positively to the overall visual quality. For these reasons, viewer sensitivity within the Lookout Point Park viewshed is considered to be moderate to high.

San Pedro Residential Community Viewshed

The San Pedro residential community is located generally west of the proposed project site, west of South Harbor Boulevard, and northwest of South Crescent Avenue. The topography is varied with level areas adjacent to the Port that rise to the rolling hillsides of the Palos Verdes Peninsula to the west, with dramatic sea cliffs and shorelines at the Pacific Ocean. This residential community is dominated by multi- and single-family residential units, with most of the housing being over 30 years old. Residents and commuters would be considered sensitive viewers because of their exposure to changes at this location.

Visibility of the proposed project site and surrounding area from within the San Pedro residential community viewshed is limited due to the flat terrain and the presence of large commercial buildings and industrial facilities in the foreground. From the inner residential areas, views of the site are blocked by intervening structures and vegetation, including single- and multi-story residential structures and large, mature trees in the foreground. However, views of the proposed project site and surrounding area are available along the outskirts of the residential area adjacent to South Crescent Avenue. In the immediate foreground, 22nd Street Park and large warehouses are visible, with elements of the working Port, such as numerous transit sheds, liquid bulk storage tanks, and cranes, comprising the remainder of the foreground views. Middleground views also include elements associated with the working Port, such as transit sheds, storage tanks, and cranes (see Photo 1 in Figure 3.1-6). The remainder of the middleground reveals the open waters of Los Angeles Harbor and the Pacific Ocean. Although partially blocked by intervening structures and mature vegetation and trees, background views also show the open waters of the Pacific Ocean.

The overall visual character of this area is defined by the mix of industrial, commercial, and residential land uses, which results in an incongruent pattern as viewed from within the San Pedro residential community viewshed. Also, the key visual features are the 22nd Street Park and the open-water of Los Angeles Harbor and the Pacific Ocean, which serve to enhance the vividness of the view; however, views of the harbor and ocean are compromised by industrial and marina development, which detracts from the vividness of the open water views. Residential viewers typically have the highest sensitivity to changes in the visual environment. For the reasons mentioned above, viewer sensitivity within the San Pedro residential community viewshed is considered to be moderate.

San Pedro Plaza Park Viewshed

San Pedro Plaza Park is a pocket park located on the bluff above South Harbor Boulevard between 7th and 13th Streets. It is elevated approximately 20 feet above South Harbor Boulevard and approximately 50 feet above water's edge. Multiple-story apartment buildings, single-family residences, and churches are located along the west side of Beacon Street, which parallels the park to the west. Views of the proposed project site are readily available along the 40-foot-wide San Pedro Plaza Park. Recreationists would be considered sensitive viewers because of their exposure to changes at this location.

Views of the proposed project site from the San Pedro Park Plaza are occupied by roads and landscaped parking areas, with Port structures (i.e., cranes, water tanks, and warehouses) and the harbor in the background (see Photo 2 in Figure 3.1-6). Although the park includes mature trees and shrubbery that partially constrain views to the proposed project site, foreground views from within the park are comprised of utilitarian uses such as South Harbor Boulevard, landscaped parking areas, and security poles and lighting features. In addition, Port uses such as structures, berths, and docked boats are visible from the viewshed and extend from the distant foreground into the middleground. The proposed project site occupies a portion of the middleground, with large storage tanks, numerous transit sheds, and paved roadways visible. In addition, views of large cranes, the Main Channel, and Los Angeles Harbor are available in the middleground. Scattered throughout the foreground and middleground are numerous utilitarian uses, such as fences and security lighting/poles, which contribute to the urbanized character of the area. Although partially obstructed by intervening structures and vegetation, the Pacific Ocean can be seen in the background.

The overall visual character of the viewshed is defined by the mix of transportation, parking, and other utilitarian uses, as well as commercial and industrial development, which results in a somewhat incongruent pattern of land uses. These land uses lack a sense of unity and visual coherence due to the varying heights, architectural finishes, and color schemes of their developed components. Also, the key visual features in this viewshed are the open-water of Los Angeles Harbor and the Pacific Ocean, which serve to enhance the vividness of the view; however, views of the open water are compromised by industrial and commercial development and mature trees, which detract from the vividness of the open water views. For reasons described above, viewer sensitivity within the San Pedro Park Plaza viewshed is also considered to be moderate to low.

3.1.2.3 Existing Light and Glare

The two major causes of light emissions are *glare* and *spill light*. Glare occurs when one sees a bright object against a darker background, such as when a person experiences oncoming headlights while driving at night. Spill light is caused by misdirected light that illuminates areas outside the area intended.

Nighttime lighting in the proposed project vicinity is produced from streetlights, vehicle headlights, and interior and exterior building lighting (residential, office, commercial), as well as significant amounts of light associated with the all-night Port operations at cargo and bulk terminals (see Photo 1 in Figure 3.1-7). High-intensity boom lights are located on top of shipping cranes along the edge of the many channels that feed into Los Angeles Harbor to the east of the proposed project site. The Vincent Thomas Bridge, northeast of the proposed project site, has streetlights and blue-colored lights along its outside.

Under nighttime conditions, the Port of Los Angeles and the Port of Long Beach to the east are part of the brightly illuminated landscape surrounding the proposed project site, which appears as a dimly lit area within this much larger landscape (see Photo 1 in Figure 3.1-7). The major sources of illumination on the proposed project site are security, street, and roadway lighting. Headlights from vehicles travelling along Signal Street and trucks delivering goods to the existing transit sheds are another source of transitory nighttime lighting.

Glare conditions on the proposed project site are low in relation to offsite conditions because of the highly developed nature of the surrounding area. Because the proposed project site does not contain structures with highly reflective architectural finishes, the overall daytime glare environment is considered low. Reflections in the water and array of lights in the opaque and softer sky at dusk are illustrated in Photo 2 of Figure 3.1-7.

3.1.3 Applicable Regulations and Policy Documents

Various plans and policy documents set forth regulations and guidelines for design quality, streetscape, and light and glare that relate to the development of the proposed project site. These include the General Plan of the City of Los Angeles, the Port of Los Angeles Plan, the San Pedro Community Plan, and local planning and zoning ordinances related to site lighting. Objectives, goals, and policies from these documents that are pertinent to the proposed Project are listed below. See Section 3.8, “Land Use and Planning,” for a consistency analysis of the relevant policies.

Photo 1 - Twilight View from Lookout Point Park

Photo 2 - Twilight View from Federal Breakwater

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INTERNATIONAL

Figure 3.1-7
Existing Light and Glare Conditions
City Dock No. 1 Marine Research Center Project

3.1.3.1 San Pedro Waterfront and Promenade Design Guidelines

The San Pedro Waterfront and Promenade Design Guidelines address the general character and vision of the San Pedro Waterfront and provide the guiding vision for future development in each of the waterfront districts. The Guidelines serve as a general guide to public and private development and recommends land and water uses, street layouts, building height limits; building setback requirements, and other development regulations that give prominence to the waterfront, activate the area, and provide continuous waterfront access. The Guidelines also provide general building design standards that apply throughout the San Pedro Waterfront area.

3.1.3.2 The General Plan of the City of Los Angeles

The General Plan is a legal mandate that governs both private and public actions within the City of Los Angeles. It contains 10 citywide elements plus the Land Use Element, which includes plans for each of the City's 35 Community Planning Areas (CPAs). It also includes counterpart plans for the Port and the Los Angeles International Airport.

3.1.3.2.1 Port of Los Angeles Plan (Land Use Element)

The Port Plan, which is part of the General Plan Land Use Element, was adopted in 1982, and was designed to provide a 20-year official guide to the continued development and operation of the Port (City of Los Angeles 1982). Separate from the PMP, the Port Plan addresses aesthetics and visual quality issues within the Port and for areas outside in nearby communities.

3.1.3.2.2 San Pedro Community Plan

The San Pedro Community Plan (CP) is intended to promote an arrangement of land uses, streets, and services that will encourage and contribute to the economic, social, and physical health, safety, welfare, and convenience of the people who live and work in the community. The plan is also intended to guide development in order to create a healthful and pleasant environment. Goals, objectives, policies, and programs are created to meet the existing and future needs and desires of the community through the year 2010. The last comprehensive review of the San Pedro CP was completed on September 30, 1980, and revised by the General Plan Zoning Consistency Program in 1987 and through ongoing periodic plan review and plan amendments. The San Pedro CP addresses aesthetics and visual quality issues for areas outside the community plan boundaries (such as the Port) in four sections, as described below. (City of Los Angeles 1999.)

3.1.3.3 Port of Los Angeles Leasing Policy

On February 1, 2006, the Los Angeles Board of Harbor Commissioners approved a comprehensive leasing policy for the Port that not only establishes a formalized, transparent process for tenant selection but also includes environmental requirements as a provision in Port leases. In January 2008, the Commissioners approved amendments to Section 3.3 and Directive No. 2 of the leasing policy. The leasing policy specifies that all tenants are required to adhere to the applicable Port environmental regulations as terms and conditions of their leases. With respect to aesthetics, these regulations include those related to lighting and facility appearance. All other applicable policies are those outlined in this section and those that would otherwise be required in the terms of the lease based on LAHD's sustainability goals.

3.1.4 Impact Analysis

3.1.4.1 Methodology

Aesthetic experiences can be highly subjective and vary from person to person; therefore, the evaluation of aesthetic resources requires the application of a process that objectively identifies the visual features of the area, their importance, and the sensitivity of receptors that view them. The proposed project–related changes to the aesthetic character of the site and surrounding area are identified and qualitatively evaluated based on the modification of physical conditions and viewer sensitivity. For a list of terminology used within the impact analysis, refer to Section 3.1.1.1, above.

An inspection of the proposed project site and the potentially affected environs, and a review of public scoping comments, served to identify indicators of public sensitivity. An analysis of the surrounding area was also conducted to identify areas where the proposed Project would be most visible and to assess the quality of views of the proposed project site. The range and quality of views to and from the proposed Project were determined by reviewing topographic and street maps, as well as photos of areas within or adjoining the proposed project site. The range of sensitive views was then considered, and representative views in which the proposed facilities would be most noticeable were selected for detailed analysis. This decision was based primarily on proximity and degree of proposed project exposure. Consideration was also given to how viewers within each setting would experience the proposed Project due to varying degrees of visibility and distance from the proposed Project; as well as the structures, vegetation, topographic features, or other intervening obstacles that were present. Because objects within the foreground have more detail, views from such locations would be more detailed compared to the objects that are less distinguishable in the distance. Hence, the potential sensitivity of close-in viewers was considered higher than those who have more distant views of the proposed project area.

3.1.4.1.1 Analytical Framework

The analytical framework to determine proposed project–related impacts on aesthetic resources in the vicinity of the proposed Project includes the following:

- identification of key visual elements in the proposed project area and characterization of overall visual quality,
- identification of user groups with sensitive views into the proposed project area and photographic documentation of representative views,
- qualitative analysis through the application of anticipated changes to views as a result of implementation of the proposed Project,
- evaluation of the significance of the impacts based upon the requirements of CEQA, and
- formulation of mitigation measures that would lessen the degree of significance, as needed.

3.1.4.2 Thresholds of Significance

The *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006) was developed as a supplement to the CEQA checklist. The guide divides visual resources into four elements in the visual environment: aesthetics (character and quality of the visual landscape), obstruction of views (visual access to focal points and panoramas), shading (the effect of shadows on adjacent land uses), and nighttime illumination (the effect of nighttime lighting on adjacent land uses). The guide suggests that each CEQA threshold be evaluated within the context of a visual element and that some thresholds address multiple elements. The guide provides 14 factors to help assess when an impact would trigger a threshold and be considered a potentially significant, adverse impact. The factors encourage a more detailed analysis of project components and their effects on visual resources than suggested by the CEQA threshold criteria alone. They are organized by visual element and are listed below.

Aesthetics

1. Would the removal, alteration, or demolition of existing features or elements that substantially contribute to the valued visual character or image of the project area be relatively noticeable?
2. Would the amount of natural open space to be graded or developed adversely affect the visual character of the area?
3. Would proposed structures in natural open space areas be effectively integrated into the aesthetics of the site through appropriate design?
4. Would there be a high degree of contrast between proposed features and existing features that represent the valued aesthetic image of an area? Contrast could be

represented as a beneficial or adverse image and would need to result in an adverse change to the image of the area to be considered a significant impact.

5. Would buildings detract from the existing style or image of the area due to density, height, bulk, setbacks, signage, or other physical elements?
6. Would project elements contribute negatively to the aesthetic value of an area by changing visual character through the introduction of obtrusive or inharmonious elements?
7. Would the project be inconsistent with applicable guidelines and regulations related to aesthetics and views?

Obstruction of Views

8. Would there be a substantial negative effect on the nature and quality of recognized or valued views such as natural topography, settings, man-made or natural features of visual interest, and resources such as mountains or the ocean?
9. Would there be a substantial negative effect on views from a designated scenic highway, corridor, or parkway?
10. Would there be substantial obstruction (total blockage, substantial interruption, or substantial diminishment) of recognized or valued views?
11. Would recognized views available from a length of public roadway, bike path, or trail (as opposed to a single, fixed vantage point) be adversely affected?

Shading

12. Would there be substantial shading of shadow-sensitive uses for more than three hours between the hours of 9:00 a.m. and 3:00 p.m. Pacific Standard Time (between late October and early April), or for more than four hours between the hours of 9:00 a.m. and 5:00 p.m. Pacific Daylight Time (between early April and late October)?

Nighttime Illumination

13. Would there be a substantial adverse change in ambient illumination levels as a result of project sources?
14. Would light spill off the project site and adversely affect adjacent light-sensitive areas?

Based upon proposed project elements and the visual landscape of the Port, the following thresholds are used for determining significance of the proposed Project's impacts on visual resources. These impacts encompass the CEQA Appendix G thresholds as well as the visual elements included in the *L.A. CEQA Thresholds Guide*.

AES-1: A project would have a significant impact if it would result in an adverse effect on a scenic vista from a designated scenic resource due to obstruction of views.

AES-2: A project would have a significant impact if it would substantially damage scenic resources (including, but not limited to, trees, rock outcroppings, and historic buildings) within a state scenic highway.

AES-3: A project would have a significant impact if it would substantially degrade the existing visual character or quality of the site or its surroundings.

AES-4: A project would have a significant impact if it would result in an adverse effect due to shading on the existing visual character or quality of the site or its surroundings.

AES-5: A project would have a significant impact if it would create a new source of substantial light or glare that would adversely affect day or nighttime views of the area.

3.1.4.3 Impacts and Mitigation

3.1.4.3.1 Construction Impacts

Impact AES-1a: Construction of the proposed Project would not result in an adverse effect on a scenic vista from a designated scenic resource due to obstruction of views.

Impact AES-1a evaluates the degree to which proposed project-related features would interfere with a scenic vista due to obstruction of views. The proposed Project would temporarily include construction activities that could be visible in public views from designated scenic roadways (South Harbor Boulevard) (factors 9 and 11) or within recognized valued views (Lookout Point Park) (factors 8 and 10).The effects of proposed project construction on a scenic vista due to obstruction of views are analyzed below.

Note that impacts related to adverse changes in visual quality within a view are addressed under Impact AES-3a.

South Harbor Boulevard Viewshed

Construction of the proposed Project, including demolition of the existing SCMI facilities at Berth 260, would require the use of heavy construction equipment, such as bulldozers, water trucks, excavators, graders, haul trucks, pavers, rollers, concrete trucks, trenchers, forklifts, and cranes. The various onsite construction equipment components and activities would be visible from the southern end of South Harbor Boulevard because of their size and configuration in the viewshed. Use of this construction equipment would likely add tall, vertical features into the view that may punctuate the horizon and somewhat obscure views of the Port, harbor, and Pacific Ocean. However, the construction equipment would be similar in appearance and smaller than existing Port cranes in the background of the view. In addition, onsite construction would only occupy a small portion of the overall viewshed available from South Harbor Boulevard and would be located within the viewshed for a temporary period during construction. Therefore, impacts would be less than significant.

Lookout Point Park

Heavy equipment required for demolition of the SCMI facilities and construction of the proposed Project would be visible from Lookout Point Park, which is located approximately 1.3 miles southwest of the proposed project site and 1.7 miles from Berth 260; Lookout Point Park is also situated 250 feet above the proposed project site and Berth 260. As stated above, the construction equipment and activities would likely add tall vertical features into the view that may punctuate the horizon and somewhat obscure views of the Port, harbor, and Pacific Ocean. However, construction activities would be similar in appearance and likely smaller than existing Port cranes and other Port-related features located in the background of the view. In addition, the proposed project construction area would only occupy a small portion of the overall viewshed and would be located within the viewshed for a temporary period during construction. As such, construction of the proposed Project would not adversely affect existing scenic vistas or obstruct views available from Lookout Point Park. Impacts would be less than significant.

Impact Determination

Construction activities associated with implementation of the proposed Project would not adversely obstruct views from South Harbor Boulevard and Lookout Point Park; therefore, the proposed Project's impacts on scenic vistas would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AES-2a: Construction of the proposed Project would not substantially damage scenic resources (including, but not limited to, trees, rock outcroppings, and historic buildings) within a state scenic highway.

Impact AES-2a evaluates the degree to which proposed project-related features would damage scenic resources within a state scenic highway (factor 9).The closest officially designated state scenic highway to the proposed project site is a segment of SR 2, which is located approximately 33miles to the north. As such, there are no designated state scenic highways located within viewing distance of the proposed project site; however, portions of Harbor Boulevard have been designated a local scenic highway by the City. Views from this roadway that could be affected by construction activities at the proposed project are identified in the Harbor Boulevard Viewshed and addressed under Impact AES-1a and 1b.

Impact Determination

There are no designated state scenic highways within the proposed project area. No impact would occur during construction of the proposed Project.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impact would occur.

Impact AES-3a: Construction of the proposed Project would not substantially degrade the existing visual character or quality of the site or its surroundings.

Impact AES-3a evaluates the degree to which proposed project-related features would degrade the existing visual character or quality of the area (factors 1-7). Site preparation and grading activities required for demolition of the existing SCMI facilities at Berth 260 and construction of the proposed Project would be visually apparent because of the removal of pavement as well as the creation of graded areas. Additionally, demolition and construction would require the use of heavy construction equipment, such as bulldozers, water trucks, excavators, graders, haul trucks, pavers, rollers, concrete trucks, trenchers, forklifts, and cranes. It is anticipated that construction of the proposed Project would be completed in two phases over an approximately 12-year time frame ending in 2024.

Because of their size and configuration in the viewsheds, the various construction equipment components and activities would be visible from several viewing locations throughout the viewsheds discussed above under Section 3.1.2.2.2, including 22nd Street, 22nd Street Park, Bloch Field, Cabrillo Marina, Federal Breakwater, Inner Cabrillo Beach, San Pedro Residential Community, and San Pedro Plaza Park. Temporary fencing would be installed around the proposed project site during construction, which would partially shield views of construction activities and equipment. Construction activities generally include both a disturbance of existing natural and human-made features and the development of structures, which temporarily lack architectural treatments designed to improve visual character and quality. These could cause noticeable changes in visual character if they occur close to vantage points and are uncharacteristic of the existing refined setting. Construction of the new buildings and structures would also include the use of temporary towers and cranes, which could interfere with existing views.

Construction activities from the proposed Project would be visible from those locations that currently have views of the proposed project site, as identified above, and would temporarily disrupt the existing visual character and quality of the proposed project site. However, such activities are not inconsistent with Port operations in that area. Also, construction equipment and activities would be largely contained on the proposed project site and would not affect surrounding views. Finally, individual construction activities, though long-term as a whole, would be temporary and intermittent. Overall, construction activities would add an industrial element to an area already characterized as industrial and commercial. Construction activities are likely to reduce the cohesiveness of the site and surrounding area, thereby reducing the overall visual quality; however, surrounding land uses include industrial uses, and construction is common in this area. he areas surrounding the proposed project site include commercial and industrial uses that exhibit a highly urbanized and functional character, including the permanent presence of cranes and other bulk loading and unloading associated with container ships. As such, construction activities associated with implementation of the proposed Project would not substantially degrade the existing visual character or quality of the site and its surroundings. Impacts would be less than significant.

Impact Determination

Because construction activities would be temporary and intermittent and would not be inconsistent with the existing visual character or quality of the site or its surroundings, impacts on the visual quality and character of the proposed project area during proposed project construction would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AES-4a: Construction of the proposed Project would not result in an adverse effect due to shading on the existing visual character or quality of the site or its surroundings.

Impact AES-4a evaluates the degree to which proposed project-related features would result in adverse effects from shading (factor 12). Construction of the proposed Project, including demolition of the existing SCMI facilities at Berth 260, would require the use of heavy equipment such as bulldozers, water trucks, excavators, graders, haul trucks, pavers, rollers, concrete trucks, trenchers, forklifts, and cranes. Use of this heavy equipment would not result in the generation of variable shading in the area immediately surrounding the proposed project site. Furthermore, because shadow-sensitive viewers (residents of the San Pedro community and users of 22nd Street Park, Bloch Field, and Cabrillo Way Marina) would be located a minimum of 0.3 mile from the proposed project site, they would be unaffected by any minor shading produced during proposed project construction. As such, construction of the proposed Project would not result in significant shading that would affect the existing visual character or quality of the site or its surroundings.

Impact Determination

The shading effects from construction would be limited to transient shading from equipment and the structure erection process. Therefore, the proposed project construction would not result in substantial shading of shadow-sensitive uses. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AES-5a: Construction of the proposed Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views of the area.

Impact AES-5a evaluates the degree to which construction of the proposed project would introduce substantial adverse change in nighttime lighting and/or generate spill light adversely affecting adjacent light-sensitive areas (factors 13 and 14). As explained under Section 3.1.2.3 above, the existing nighttime lighting environment of the proposed project vicinity is dominated by the lighting of the Port, which results in a high degree of ambient lighting.

Construction of the proposed Project would not occur during nighttime hours. Therefore, there would be no sources of construction-related light or glare.

Impact Determination

Construction would not result in any significant light or glare because construction of the proposed Project would only occur during daytime hours. Therefore, no impact would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impact would occur.

3.1.4.3.2 Operational Impacts

Impact AES-1b: Operation of the proposed Project would not result in an adverse effect on a scenic vista from a designated scenic resource due to obstruction of views.

Impact AES-1b evaluates the degree to which proposed project-related features would interfere with a scenic vista due to obstruction of views (factors 8 through 11). Additionally, impacts related to the introduction of the new buildings are discussed as they relate to compatibility with existing features of the site (factors 5 and 6). The proposed Project would rehabilitate the existing transit sheds on Berths 57–60. New construction would be limited to a new 2-story, 11,500-square-foot building at Berth 56, a new 1-story, 3,600-square-foot addition to Berth 57 transit shed, and two new structures at Berths 70–71: a 2-story, 50,000-square-foot government office building and a 5-story, 100,000-square-foot building designed to house an 80,000-square-foot wave tank. The new structures would be similar in height, scale, and profile to existing structures. No new multistory structures would be developed that would exceed the height of the largest building on the proposed project site: Municipal Warehouse No. 1. (See Section 3.4, "Cultural Resources," for an analysis of the 5-story wave tank in terms of the potential effects on the eligible historic district status and the adjacent historic 6-story Municipal Warehouse No. 1.) As such, although the proposed Project would increase the number of onsite buildings, the vertical profile of existing and new buildings would be similar to that which currently exists. Moreover, the existing block wall surrounding the former Westway Terminal site would be removed, and, as part of a separate process, the demolition and site remediation efforts at Berths 70–71 would be completed, further improving the visual conditions from the current baseline conditions. The 5-story wave tank would replace dozens of the multi-story liquid bulk storage tanks currently in existence at Berths 70–71.

Other proposed project features and site modifications would be low-scale and would not result in additional vertical features that would have the potential to obstruct existing views.

Harbor Boulevard Viewshed

Overall, as described under Section 3.1.2.2.2 above, scenic views of the working Port, harbor, and Pacific Ocean from the southern end of Harbor Boulevard are already partially obscured by existing structures and mature trees. The proposed Project would add a few new buildings as described above, and, with the exception of the 5-story wave tank building, the new buildings would not exceed 2 stories, which would be no taller than the many structures (including the liquid bulk storage tanks) already at the proposed project site. In addition, the 5-story wave tank building would be smaller than the existing Municipal Warehouse No. 1 building and would also replace a large number of multi-story liquid bulk storage tanks currently at Berths 70–71, though these storage tanks are not visible from Harbor Boulevard. However, with the proposed wave tank constructed, only a small portion of the open sky just above the existing transit shed at Berth 57 would be obstructed. Given the distance and the small amount of open sky obstructed, this change would not be substantial.

The docking of marine vessels at the proposed floating docks or at Berths 57–60 and 70–71 are consistent with the working Port and would enrich the views of the waterfront by adding marine activities; however, these activities would not be viewable from the Harbor Boulevard Viewshed, as demonstrated in Figure 3.1-4. Because the vessels that would dock at the proposed project site would not be located in the immediate foreground of the view available from Harbor Boulevard, and because the vessels would only occupy a small portion of the overall viewshed, existing views of the harbor and the Pacific Ocean would be maintained even while vessels are docked at Berths 57–60 and Berths 70 and 71. As such, a substantial view obstruction would not occur.

Therefore, proposed project impacts related to obstructing views from the City-designated view corridor of Harbor Boulevard would be less than significant.

Lookout Point Park Viewshed

The elevation of the park at approximately 250 feet above the proposed project site positions the proposed Project in the middleground of the view.

Overall, as described under Section 3.1.2.2.2 above, scenic views of the working Port, harbor, and Pacific Ocean from the Lookout Point Park include the presence of towering gantry cranes and other large vertical elements arranged in a visually uniform and congruent pattern. Open water views of the harbor and Pacific Ocean are also visible to the east. Middleground views are dominated by recreational and industrial Port uses with partial views of the open water. The landscape slopes down toward the proposed project site and consists primarily of paved areas with associated support structures, such as administrative buildings and storage facilities, working equipment, and vehicles.

Given the distance of the Lookout Point viewshed from the proposed project site, as shown in Figure 3.1-5, even the addition of a 5-story 100,000-square-foot building would not represent a substantial change in the existing viewshed condition. Therefore, the proposed Project would not develop structures or include features that would substantially obscure scenic views of the Port, harbor, or Pacific Ocean as viewed from the Lookout Point Park Viewshed.

The docking of vessels at the site would be temporary and variable, and would be a minimum of 1.4 miles away from Lookout Point Park. Because these vessels would not be located in the immediate foreground of the view available from Lookout Point Park, and because the vessels would only occupy a small portion of the overall viewshed, existing views of the harbor and the Pacific Ocean would be maintained even while vessels are docked at Berths 57-60, the floating docks at Berth 57, and Berths 70 and 71. As such, views across the harbor and of the working Port and Pacific Ocean would be maintained while vessels were docked, and substantial view obstruction would not occur.

No other proposed project features would have the potential to obstruct scenic views available from Lookout Point Park. Therefore, because the proposed project features would all be located in the middleground of the view, and because Lookout Point Park is located at a higher elevation in relation to the proposed Project, adverse effects on scenic vistas available from Lookout Point Park due to obstruction of views would not occur. Impacts would be less than significant.

Impact Determination

Operation of the proposed Project, including the construction of the 5-story wave tank, would have a less-than-significant impact on scenic vistas from Harbor Boulevard and Lookout Point Park in terms of obstructing of views. Furthermore, the views of and from the proposed project site would be improved and new viewing opportunities of the harbor and open waters would be created through completion of the waterfront promenade and public plaza. For these reasons, no significant adverse visual impacts would result from the proposed Project.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AES-2b: Operation of the proposed Project would not substantially damage scenic resources (including, but not limited to, trees, rock outcroppings, and historic buildings) within a state scenic highway.

Impact AES-2b evaluates the degree to which proposed project-related features would damage scenic resources within a state scenic highway (factor 9).The closest officially designated state scenic highway to the proposed project site is a segment of SR-2, which is located approximately 33 miles to the north. As such, there are no designated state scenic highways located within viewing distance of the proposed project site; however, portions of Harbor Boulevard have been designated a local scenic highway by the City. Views from this roadway that could be affected by proposed project elements are identified in the Harbor Boulevard Viewshed and addressed under Impact AES-1a and 1b.

Impact Determination

There are no designated state scenic highways within the proposed project area. No impact would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impact would occur.

Impact AES-3b: Operation of the proposed Project would not substantially degrade the existing visual character or quality of the site or its surroundings.

Impact AES-3b evaluates the degree to which proposed project-related features would degrade the existing visual character or quality of the area (factors 1 through 7). The proposed Project would adaptively reuse existing transit sheds and structures located on Berths 57–60 by constructing self-contained structures within the existing warehouse envelopes. Although the existing transit sheds and warehouses are vacant or underutilized and require rehabilitation to accommodate new uses, they are all considered to be eligible for historic designation; thus, the structures exhibit visually interesting and unique characteristics that contribute to the valued image and historic designation of City Dock No. 1. As detailed in Chapter 2, “Project Description,” several aesthetic improvements to the existing building façades would be implemented as part of the proposed Project; and renovation of the transit sheds would be completed in conformance with the Secretary of the Interior’s standards for buildings eligible or listed on the CRHR, NRHP, and/or City of Los Angeles Landmark. These improvements would aesthetically enhance the visual quality of the site, thereby increasing the overall vividness of the views available from surrounding viewpoints.

As also detailed in Chapter 2, the new structures would be similar in height, scale, and profile to existing structures. From an aesthetic perspective, no buildings are proposed that would be out of character with the existing onsite structures in terms of size or scale as even the 5-story, 100,000-square-foot wave tank building would be one story shorter than the existing Municipal Warehouse No. 1 building. In addition to the wave tank, between Berths 57 and 58 and at the end of Berth 60, the proposed Project may include two approximately 225-square-foot fenced outside areas with structures to support the marine research operations, such as filters, pipe works, protein skimmers, and ozone towers reaching up to 12 feet high. Such areas would be consistent with the current surrounding aesthetic with industrial warehouses and liquid bulk storage tanks, but would also be consistent with the proposed research activities that would occur at the proposed project site. Therefore, there would not be a high degree of contrast between the proposed and existing features, and new construction would exhibit an overall unified character with existing structures.

The proposed Project would also demolish the existing 1.32-acre SCMI facility on Terminal Island at Berth 260. As a non-descript office building with adjacent storage facilities built in the 1970s, this facility is not an element considered to have aesthetic value and does not contribute to the valued visual character of the proposed project site and surrounding area.

As mentioned above, the proposed Project would also allow for the docking of small vessels in the East Channel and the docking of up to three vessels reaching up to 250 feet in length in the East and Main Channels. The addition of docked boats in the viewshed would not represent a substantial change in the visual character or quality of the proposed project site or its surroundings because the docking of large and small vessels is a common occurrence in the immediate surrounding area. Cabrillo Way Marina, located adjacent to the proposed project site on the west, accommodates 885 permanent boat slips, ranging in length from 25 to 75 feet. Finally, large cargo and shipping vessels are occasionally accommodated by the Omni Terminal adjacent to the proposed project site on the southwest as well as at the larger Port facilities to the northeast; these vessels are much larger than those that would be docked at the proposed project site. As such, the introduction of additional small boats and large vessels into the East and Main Channels would not represent a significant change in the existing visual character or quality of the site and its surroundings.

The following discussion provides an analysis from each of the identified viewsheds from Section 3.1.2.2.2 above.

22nd Street Viewshed

The proposed 5-story wave tank would be approximately 500 feet distant from the camera location of Figure 3.1-2; therefore, its bulk and mass would be deeper into the foreground but would most likely still block views of Warehouse #1. The proposed Project would remove the tank farm thereby effectively opening the Signal Street view corridor and removing the visual disarray created by the random tank patterns and sizes. Also, the adaptive reuse and renovation of Berth 57 would improve the aesthetic appeal of the structure while maintaining the historical fabric of the working Port.

Implementation of the proposed Project would improve the aesthetic quality and create a more cohesive land use pattern for the 22nd Street Viewshed. This area will be the gateway to the proposed project site, and the Port would continue the architectural and landscape treatments used throughout the completed portions of the promenade, adding to the cohesiveness and vividness of the viewshed. The visual impacts on the 22nd Street Viewshed would be less than significant.

22nd Street Park Viewshed

The proposed Project would involve minor modifications to the 22nd Street Park Viewshed. From this vantage point and view direction a portion of the wave tank would be visible in the eastern (left) portion of the view frame. However, Municipal Warehouse No.1 would be taller, more prominent, and have a larger footprint. Moreover, the wave tank would generally only block a portion of the view to the gantry cranes in the background. Also, as stated earlier, the focal point from this vantage is further to the north (right) of the valuable open water views. This vantage point is also on a bike trail and near a popular walking trail. Recreationists engaged in fitness activities would generally be less aware of views than passive recreationists.

Overall, the changes to the 22nd Street Viewshed as a result of the proposed Project's implementation would not be substantial. The wave tank would have a smaller footprint and a shorter vertical presence than Warehouse No.1 and therefore would not appear incompatible with the proposed project area, if properly designed. Furthermore, it would not obscure any sensitive visual resources from the 22nd Street Park Viewshed. Therefore, the proposed project impacts on the 22nd Street Park Viewshed are considered to be less than significant.

Bloch Field Viewshed

The only proposed changes in the view would be the removal of the liquid bulk storage tanks at the Westways Terminal and installation of the new proposed wave tank. The removal of the bulk liquid storage tanks could be considered a positive visual affect. The upper portion of the wave tank would be visible above the transit sheds on the west side of the proposed project area. From this vantage point the wave tank would not act as a visual obstruction because blue water views currently are not available. The wave tank proposed would be of a slightly smaller mass than the existing Warehouse No. 1 and, consequently, while noticeable, would not be out of scale with its surroundings.

The Bloch Field Viewshed is a panoramic experience. Its focal point is the maritime activities at the SP slip and the ship traffic of the Main Channel. The view represented in Photo 1 of Figure 3.1-3 covers only a small portion of the viewshed. The proposed project features would not interrupt these viewing opportunities or create structures that are disharmonious with the landscape of the working Port. The removal of the structures in the Westways Terminal is an improvement to the existing conditions. For these reasons, the proposed project impact on the Bloch Field Viewshed is considered to be less than significant.

Cabrillo Marina Viewshed

The only visible proposed project element in this view would be the proposed wave tank, which would be north (left) of the 6-story Warehouse No.1. The wave tank would be smaller than Warehouse No.1 and would therefore be consistent in terms of height, bulk, and scale with the surrounding area. No other proposed project elements would be visible from this vantage point and view direction.

The visual receptors at the Cabrillo Marina are recreationists and, in some cases, live-aboard residents, both of which can be construed as sensitive visual receptors. However, the working Port predates the marina so it has become a visual variation in the waterfront landscape fabric. Focal points for the Cabrillo Marina are towards the harbor, Cabrillo Beach, and Angel's Gate. The wave tank would not obscure those valuable views as it would only obscure the gantry cranes from this perspective. Because the wave tank's bulk and scale would not be larger than the nearby Warehouse No.1 or detract from the area's scenic quality, the visual impacts of the proposed Project on the Cabrillo Marina Viewshed are considered less than significant.

Federal Breakwater Viewshed

The Federal Breakwater Viewshed is located southwest of the proposed project site near the Cabrillo Beach Fishing Pier at the eastern end of Inner Cabrillo Beach. The nearest proposed project component is over 1 mile from this vantage point. The only visible proposed project element would be the wave tank, which, from this perspective, may be partially obscured by the mass of Warehouse No. 1. Recreationists at this location may be engaged in either passive or active recreational pursuits.

Because the Federal Breakwater Viewshed is over 1 mile distant from the proposed project site, even a large structure like Warehouse No. 1 tends to recede into the background, taking up only a small portion of this compelling panoramic view. The built environment of the working port lies between the viewer and the proposed project site creating a visual distraction. The proposed Project also would not adversely disrupt views of the distant mountains or the Vincent Thomas Bridge; therefore, proposed project impacts on the Federal Breakwater Viewshed are considered less than significant.

South Harbor Boulevard Viewshed

The proposed wave tank would be the only proposed project element visible from this viewshed. The wave tank would be positioned north (left) of Warehouse No. 1 near the left edge of the presented view frame (Figure 3.1-4).

The Harbor Boulevard Viewshed is panoramic. The Westways Terminal storage tanks are clearly visible outside and to the left of the view frame. These tanks would be removed as part of the proposed Project. The wave tank would be partially obscured by the warehouses on Berth 57, and would be smaller and shorter than Warehouse No. 1 and would not appear to be out-of-scale or disharmonious. Valuable open water views to the west (right) would not be obscured nor would any scenic resources. For these reasons, the impacts on the Harbor Boulevard Viewshed are considered less than significant.

Inner Cabrillo Beach Viewshed

The only proposed project element visible from this observation point would be the wave tank, which would be north (left) of Warehouse No. 1. The wave tank would be more compact and lower than Warehouse No. 1. The majority of viewers at Cabrillo Beach would be involved in passive recreational activities and would be considered sensitive receptors.

The incremental addition to the built environment that the wave tank would contribute would represent only a small portion of this panoramic viewshed, and Warehouse No. 1 may even obscure a portion of the wave tank from this vantage point. Moreover, the intervening built environment blocks the lower portions of the proposed project site. The wave tank would not block or detract from the view of the distant mountains. Given its distance and the extent of the panoramic views from this locale the proposed project impacts on the Inner Cabrillo Beach Viewshed is considered less than significant

Lookout Point Park Viewshed

The proposed Project would introduce the proposed wave tank into the middleground of the view and would also remove the tank farm to the north (left) of Warehouse No. 1, which even at 6-stories appears small in this vast and complex landscape. The wave tank would be smaller than Warehouse No. 1 and would not be inconsistent with the surrounding landscape. Given the distance to the proposed project area and the vastness and complexity of the Lookout Point Park Viewshed, proposed project impacts would be less than significant.

San Pedro Residential Community Viewshed

The view direction presented in Figure 3.1-6 is not the focal point of the San Pedro Community Viewshed. The focal point may be construed as west (right) where views of the West Channel, Los Angeles Harbor, and Angel's Gate are readily available to residential receptors and pedestrians. The only proposed project element that would be visible is the wave tank building, which would have a smaller footprint and vertical presence than the existing Warehouse No. 1. The wave tank would be located north (left) of this 6-story historic warehouse. The wave tank would add a new element to this portion of this panoramic viewshed; however, its presence would be consistent with the landscape of the working Port. It would not cause view obstruction of valuable blue water views or other scenic resources. The removal of the aging tank farm would be a positive influence on the viewshed as well. For these reasons, the proposed Project's impacts on the San Pedro Residential Community Viewshed are considered to be a less than significant.

San Pedro Park Plaza Viewshed

The focal point of the San Pedro Park Plaza Viewshed is to the east towards maritime activities at the SP Slip and the Main Channel. The linear trees along the east edge of the park do not provide many clear viewing opportunities toward the proposed project site. The wave tank would be north (left) of Warehouse No. 1. Its vertical presence could obscure a portion of the blue water views; however, the wave tank would have a reduced bulk and scale when compared with Warehouse No. 1 and consequently would fit with the surrounding landscape.

Moreover, the removal of the tank farm would have two visual benefits: it would remove an adverse visual element and would open up additional blue water views that would provide more open views of the water than the wave tank would obscure. For these reasons, the proposed Project's impact on the San Pedro Park Plaza Viewshed is considered less than significant.

Impact Determination

Overall, the proposed Project would serve to improve the visual quality of the proposed project site and surrounding area by redeveloping an existing industrial and commercial area that is currently underutilized. In several cases, the proposed renovations would improve the vividness of views available from the 22nd Street, 22nd Street Park, Bloch Field, Cabrillo Marina, Federal Breakwater, Inner Cabrillo Beach, San Pedro residential community, and San Pedro Plaza Park viewsheds, thereby improving the overall visual quality of the proposed project site. The proposed project components would be consistent with the existing commercial and industrial developed character of the surrounding area and uses. In addition to its overall general consistency with the visual character of the surrounding area, the proposed Project would maintain the character of the proposed project site by adaptively reusing existing structures and only introducing compatible structures into an area that currently supports existing commercial and industrial development. As such, the visual character and quality of the proposed project site and surrounding area from 22nd Street, 22nd Street Park, Bloch Field, Cabrillo Marina, the Federal Breakwater, Inner Cabrillo Beach, the San Pedro residential community, and the San Pedro Plaza Park would not be degraded by the proposed Project. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AES-4b: Operation of the proposed Project would not result in an adverse effect due to shading on the existing visual character or quality of the site or its surroundings.

Impact AES-4b evaluates the degree to which proposed project-related features would result in adverse effects from shading (factor 12). Operation would have little effect on shade-sensitive viewers because, in addition to the rehabilitation of the transit sheds at Berths 57–60, the proposed Project would only construct three buildings/structures over one story. Two of the three would be two stories: the 11,500-square-foot Learning Center at Berth 56 and the 50,000-square-foot government office building at Berth 70. Both of these buildings are consistent with heights of nearby structures. The third building is the proposed 5-story wave tank. However, this building would be distant enough from existing structures to avoid prolonged shading of any existing structures and would not be close enough to the Main Channel to shade any water (see Figure 2-5). The nearest sensitive viewers (users of Cabrillo Way Marina) would be located a minimum of 0.3 mile from the nearest new structure and would not be affected by the minimal amounts of new shading that would occur as a result of the new structures. The proposed Project would also allow for the temporary docking of large vessels up to 250 feet in length at Berths 58–60 and 70–71 that would result in new intermittent shaded area immediately surrounding the docked vessels. However, the area immediately surrounding these Berths is dominated primarily by industrial uses that are not sensitive to and would not be affected by periodic shading. As such, the proposed Project's placement on existing developed berths a moderate distance from shade-sensitive uses (i.e., residents and recreationists) would ensure that any new shading would have a less-than-significant effect on the existing visual character or quality of the site or its surroundings.

Impact Determination

Shading effects from operations would be limited to shading from existing structures that have undergone adaptive reuse, a few new buildings that would be of similar height to the existing onsite structures, and the 5-story wave tank that would be positioned with some distance between the nearest existing buildings as well as the Main Channel. Therefore, proposed project operation would not result in substantial shading of shadow-sensitive uses. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AES-5b: Operation of the proposed Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views of the area.

Impact AES-5b evaluates the degree to which operation of the proposed Project would introduce substantial adverse change in nighttime lighting and/or generate spill light adversely affecting adjacent light-sensitive areas (factors 13 and 14). Current lighting levels at the site are relatively minor and offer security lighting on the existing structures without high levels of illumination or flood lighting to create near daytime conditions that are associated with cargo terminals. New glare-producing features associated with the proposed Project would be minimal because the proposed Project would introduce few new buildings and structures and adaptively reuse the existing transit sheds. These new buildings and structures would likely include both reflective (e.g., glass) and non-reflective building materials (e.g., stone), but the increase in glare from building materials would be minimal given the overall setting and the building profiles and limited use of reflective materials. The proposed Project is designed to comply with the policies outlined in Section 3.1.3, "Applicable Regulations and Policy Documents," including the San Pedro Waterfront and Promenade Design Guidelines. In addition, the proposed Project would allow for the docking of small boats near Berth 57 and large vessels near Berths 70 and 71 that could result in a minor increase in glare from light reflecting off boat and vessel windows. Overall, the proposed Project would contribute low amounts of glare to the existing daytime glare conditions, but this contribution would be negligible within the context of the glare produced by surrounding residential, commercial, and industrial Port uses. Therefore, impacts due to glare would be less than significant.

The proposed Project would include additional lighting, both at ground level and pole lighting, primarily for pedestrian safety and aesthetic enhancement. This lighting would be developed adjacent to the new buildings and structures, along walkways, and along the proposed pedestrian promenade. The additional nighttime and streetscape lighting would be consistent with the lighting used in surrounding commercial development and public spaces. The intent of the lighting scheme would be to improve safety considerations and security on the proposed project site. Furthermore, at night, the proposed lighting features would be balanced between providing adequate security lighting and minimizing spillover light.

The proposed Project would also allow for the temporary docking of large vessels at Berths 58–60 and 70–71; these vessels would contribute to existing ambient lighting conditions in the form of flood lighting. These flood lights would be noticeable from surrounding areas because they would be a new source of nighttime lighting. However, the nearest light sensitive receptors (i.e., users of Cabrillo Way Marina) would be located a minimum of 0.4 mile from the docked vessels. Also, given the small number of vessels able to dock at once, this lighting would not be significant enough to create a substantial adverse change in the ambient lighting conditions, which are created primarily by large-scale industrial Port uses and activities.

Nighttime lighting of Port operations to the northeast would remain a brightly lit backdrop for the proposed Project. Overall, the proposed project lighting would contribute low to moderate amounts of lighting to the existing ambient nighttime lighting conditions, but would be negligible within the context of the functional lighting of the Port.

Lighting associated with the proposed Project would comply with the San Pedro Waterfront and Promenade Design Guidelines, which include lighting recommendations to minimize light pollution, spill light, and glare while promoting goals to create an attractive and safe daytime and nighttime waterfront that supports local economic growth. Lighting would also comply with the PMP, which requires an analysis of design and operational effects on existing community areas. Per the Port's leasing policy, all tenants are required to complete a lighting study. The lighting study would be conducted in order to assess and mitigate any potentially significant adverse lighting impacts on sensitive uses. Finally, lighting design would comply with the policies outlined in Section 3.1.3, "Applicable Regulations and Policy Documents." Design consistency with these guidelines and regulations would ensure that views of the area would not be adversely affected. Therefore, impacts would be less than significant.

Impact Determination

Proposed project lighting would be minimal and would be designed to comply with the policies outlined in Section 3.1.3, "Applicable Regulations and Policy Documents," the San Pedro Waterfront and Promenade Design Guidelines, and the PMP; and would represent a minimal increase in light and glare sources compared to existing conditions. For these reasons, the proposed Project would not result in any significant impacts from spillover light or from an increase in ambient lighting or glare.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

3.1.4.3.3 Summary of Impact Determinations

Table 3.1-1 summarizes the impact determinations of the proposed Project related to aesthetics, as described in the detailed discussion in Sections 3.1.4.3.1 and 3.1.4.3.2 above. Identified potential impacts may be based on federal, state, and City of Los Angeles significance criteria, LAHD criteria, and the conclusions of the technical reports.

For each type of potential impact, the table describes the impact, notes the 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.

1 **Table 3.1-1.** Summary Matrix of Potential Impacts and Mitigation Measures for Aesthetics Associated
2 with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.1 AESTHETICS			
Construction			
AES-1a: Construction of the proposed Project would not result in an adverse effect on a scenic vista from a designated scenic resource due to obstruction of views.	Less than significant	No mitigation is required.	Less than significant
AES-2a: Construction of the proposed Project would not substantially damage scenic resources (including, but not limited to, trees, rock outcroppings, and historic buildings) within a state scenic highway.	No impact	No mitigation is required.	No impact
AES-3a: Construction of the proposed Project would not substantially degrade the existing visual character or quality of the site or its surroundings.	Less than significant	No mitigation is required.	Less than significant
AES-4a: Construction of the proposed Project would not result in an adverse effect due to shading on the existing visual character or quality of the site or its surroundings.	Less than significant	No mitigation is required.	Less than significant
AES-5a: Construction of the proposed Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views of the area.	No impact	No mitigation is required	No impact
Operations			
AES-1b: Operation of the proposed Project would not result in an adverse effect on a scenic vista from a designated scenic resource due to obstruction of views.	Less than significant	No mitigation is required.	Less than significant
AES-2b: Operation of the proposed Project would not substantially damage scenic	No impact	No mitigation is required.	No impact

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
resources (including, but not limited to, trees, rock outcroppings, and historic buildings) within a state scenic highway.			
AES-3b: Operation of the proposed Project would not substantially degrade the existing visual character or quality of the site or its surroundings.	Less than significant	No mitigation is required.	Less than significant
AES-4b: Operation of the proposed Project would not result in an adverse effect due to shading on the existing visual character or quality of the site or its surroundings.	Less than significant	No mitigation is required.	Less than significant
AES-5b: Operation of the proposed Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views of the area.	Less than significant	No mitigation is required.	Less than significant

3.1.4.4 Mitigation Monitoring

After the implementation of existing design and lighting guidelines by LAHD, no significant adverse impacts from aesthetics would occur as a result of the proposed Project; therefore, no mitigation is required.

3.1.4.5 Significant Unavoidable Impacts

Based on the design considerations including the San Pedro Waterfront and Promenade Design Guidelines, and adherence to applicable aesthetic and lighting policies, the proposed Project would not result in any significant unavoidable impacts.

3.2

AIR QUALITY

3.2

AIR QUALITY AND GREENHOUSE GASES

3.2.1 Introduction

Emissions from construction and operation of the proposed Project would affect air quality in the immediate proposed project area and the surrounding region. This section provides a description of affected air quality and applicable regulations and plans pertaining to air quality and greenhouse gases (GHGs), discusses the potential impacts of the proposed Project, and presents mitigation measures that would reduce significant impacts. However, even with all feasible mitigation incorporated, there would still be significant and unavoidable impacts related to air quality and GHGs.

The following list summarizes the significant and unavoidable air quality and GHG impacts that would result from construction and operation of the proposed Project:

- The proposed Project would produce peak daily construction emissions that would exceed significance thresholds and result in significant and unavoidable impacts for VOC and NO_X. The proposed Project would also produce overlapping construction and operational emissions during the construction period that would exceed significance thresholds and result in significant and unavoidable impacts for VOC, CO and NO_X.
- The proposed Project would produce overlapping construction and operational emissions during the construction period that would exceed localized significance thresholds for NO_X and result in significant and unavoidable impacts.
- The proposed Project would produce peak daily operational emissions that would exceed significance thresholds and result in significant and unavoidable impacts for VOC, CO and NO_X.
- The proposed Project would produce operational emissions that would exceed localized significance thresholds for NO_X, PM10, and PM2.5 and result in significant and unavoidable impacts.
- The proposed Project would expose sensitive receptors to significant levels of toxic air contaminants (TACs). This impact is an indirect impact associated with emissions from emission sources outside the control of the proposed Project.

- The proposed Project would produce GHG emissions that would exceed SCAQMD CEQA significance thresholds, resulting in a significant and unavoidable impact.

3.2.2 Environmental Setting

The proposed project site is in the Harbor District of the City of Los Angeles in the southwest coastal area of the SCAB. The SCAB consists of the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties and all of Orange County; covering an area of approximately 6,000 square miles, bounded on the west by the Pacific Ocean, on the north and east by the San Gabriel, San Bernardino, and San Jacinto Mountains, and on the south by the San Diego County line.

3.2.2.1 Regional Climate and Meteorology

The climate of the proposed project region is classified as Mediterranean, characterized by warm, rainless summers and mild, wet winters. The major influence on the regional climate is the Eastern Pacific High (the High; a strong persistent area of high atmospheric pressure over the Pacific Ocean), topography, and the moderating effects of the Pacific Ocean. Seasonal variations in the position and strength of the High are a key factor in the area’s weather patterns.

The Eastern Pacific High attains its greatest strength and most northerly position during the summer, when it is centered west of northern California. In this location, the High effectively shelters Southern California from the effects of polar storm systems. Large-scale atmospheric subsidence associated with the High produces an elevated temperature inversion along the West Coast. The base of this subsidence inversion is generally from 1,000 to 2,500 feet above mean sea level (MSL) during the summer. Vertical mixing is often limited to the base of the inversion, and air pollutants are trapped in the lower atmosphere. The mountain ranges that surround the Los Angeles Basin constrain the horizontal movement of air and also inhibit the dispersion of air pollutants out of the region. These two factors, combined with the air pollution sources of over 15 million people, are responsible for the high pollutant concentrations that can occur in the SCAB. In addition, the warm temperatures and high solar radiation during the summer months promote the formation of O_3, which reaches its highest levels during the summer.

The proximity of the Eastern Pacific High and a thermal low pressure system in the desert interior to the east produce a sea breeze regime that prevails within the proposed project region for most of the year, particularly during the spring and summer months. Sea breezes at the Port typically increase during the morning hours from the southerly direction and reach a peak in the afternoon as they blow from the southwest. These winds generally subside after sundown. During the warmest months of the year, however, sea breezes could persist well into the nighttime hours. Conversely, during the colder months of the year, northerly land breezes increase by sunset and into the evening hours. Sea breezes transport air pollutants away from the coast and towards the interior regions in the afternoon hours for most of the year.

During the fall and winter months, the Eastern Pacific High can combine with high pressure over the continent to produce light winds and extended inversion conditions in the region. These stagnant atmospheric conditions often result in elevated pollutant concentrations in the SCAB. Excessive buildup of high pressure in the Great Basin region can produce a "Santa Ana" condition, characterized by warm, dry, northeast winds in the basin and offshore regions. Santa Ana winds often ventilate the SCAB of air pollutants.

The Palos Verdes Hills have a major influence on wind flow in the Port. For example, during afternoon southwest sea breeze conditions, the Palos Verdes Hills often block this flow and create a zone of lighter winds in the Inner Harbor area of the Port. During strong sea breezes, this flow can bend around the north side of the Hills and end up as a northwest breeze in the Inner Harbor area. This topographic feature also deflects northeasterly land breezes that flow from the coastal plains to a more northerly direction through the Port.

3.2.2.2 Criteria Pollutants and Air Monitoring

3.2.2.2.1 Criteria Pollutants

Air quality at a given location can be characterized by the concentration of various pollutants in the air. Units of concentration are generally expressed as parts per million by volume (ppmv) or micrograms per cubic meter ($\mu g/m^3$) of air. The significance of a pollutant concentration is determined by comparing the concentration to an appropriate national or state ambient air quality standard. These standards represent the allowable atmospheric concentrations at which the public health and welfare are protected. They include a reasonable margin of safety to protect the more sensitive individuals in the population.

EPA establishes the NAAQS. For most pollutants, maximum concentrations cannot exceed an NAAQS more than once per year; and they cannot exceed the annual standards. CARB establishes the CAAQS, which are generally more stringent and include more pollutants than the NAAQS. California standards for O_3, carbon monoxide (CO), NO_2, particulate matter less than 10 microns (μm) in diameter (PM10), and particulate matter less than 2.5 μm in diameter (PM2.5) are values not to be exceeded. All other standards are not to be equaled or exceeded.

Pollutants that have corresponding national or state ambient air quality standards are known as criteria pollutants. These pollutants can harm human health and the environment, and cause property damage. They are called "criteria" air pollutants because they are regulated by developing human health–based and/or environmentally based criteria (science-based guidelines) for setting permissible levels. "Primary standards" are the set of limits based on human health; "secondary standards" are those intended to prevent environmental and property damage. The criteria pollutants of greatest concern for the proposed Project are O_3, CO, NO_2, SO_2, PM10, and PM2.5. NO_X and SO_X are the generic terms for NO_2 and SO_2, respectively, because NO_2 and SO_2 are naturally highly reactive and may change composition when exposed to oxygen, other pollutants, and/or sunlight in the atmosphere. These oxides are produced during combustion. One of the main concerns with criteria pollutants is that they contribute directly to regional human health problems. The known adverse effects associated with these criteria pollutants are shown in Table 3.2-1.

Table 3.2-1. Adverse Effects Associated with Criteria Pollutants

Pollutant	*Adverse Effects*
O_3	(1) Short-term exposures: (a) pulmonary function decrements and localized lung edema in humans and animals and (b) risk to public health implied by alterations in pulmonary morphology and host defense in animals; (2) long-term exposures: risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (3) vegetation damage; and (4) property damage.
CO	(1) Aggravation of angina pectoris and other aspects of coronary heart disease, (2) decreased exercise tolerance in persons with peripheral vascular disease and lung disease, (3) impairment of central nervous system functions, and (4) possible increased risk to fetuses.
NO_2	(1) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups, (2) risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes, and (3) contribution to atmospheric discoloration.
SO_2	(1) Bronchoconstriction accompanied by symptoms that may include wheezing, shortness of breath, and chest tightness during exercise or physical activity in persons with asthma.
PM10	(1) Excess deaths from short-term and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease (including asthma).[a]
PM2.5	(1) Excess deaths from short- and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes, including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children, such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease, including asthma.[a]
Sulfates[b]	(1) Decrease in ventilatory function, (2) aggravation of asthmatic symptoms, (3) aggravation of cardiopulmonary disease, (4) vegetation damage, (5) degradation of visibility, and (6) property damage
Lead[c]	(1) Increased body burden, and (2) impairment of blood formation and nerve conduction, and neurotoxin.

[a] More detailed discussions on the health effects associated with exposure to suspended particulate matter can be found in the following documents: Office of Environmental Health Hazard Assessment, *Particulate Matter Health Effects and Standard Recommendations,* www.oehha.ca.gov/air/toxic_contaminants/PM10notice.html#may, May 9, 2002; and EPA, *Air Quality Criteria for Particulate Matter*, October 2004.

[b] SCAQMD has not established an emissions threshold for sulfates, nor does it require dispersion modeling against the localized significance thresholds.

[c] CAAQS have been established for lead, hydrogen sulfide, vinyl chloride, and visibility reducing particles. They are not shown in this table because they are not pollutants of concern for the proposed Project.

Source: SCAQMD 2007b.

Of the criteria pollutants of concern, O_3 is unique because it is not directly emitted from sources related to the proposed Project. Rather, O_3 is a secondary pollutant, formed from the precursor pollutants volatile organic compounds (VOC) and NO_X. VOC and NO_X react to form O_3 in the presence of sunlight through a complex series of photochemical reactions. As a result, unlike inert pollutants, O_3 levels usually peak several hours after the precursors are emitted and many miles downwind of the source. Because of the complexity and uncertainty in predicting photochemical pollutant concentrations, O_3 impacts are indirectly addressed in this study by comparing emissions of VOC and NO_X generated by the proposed Project to daily emission thresholds set by the SCAQMD. These emission thresholds are discussed in Section 3.2.4.2, “Thresholds of Significance.”

Generally, concentrations of photochemical pollutants, such as O_3, are highest during the summer months and coincide with the season of maximum solar insolation[1]. Concentrations of inert pollutants, such as CO, tend to be the greatest during the winter months and are a product of light wind conditions and surface-based temperature inversions that are frequent during that time of year. These conditions limit atmospheric dispersion. However, in the case of PM10 impacts from fugitive dust sources, maximum concentrations may occur during high wind events or near human-made ground-disturbing activities, such as vehicular activities on roads and earth moving during construction activities.

Because most of the proposed project–related emission sources would be diesel-powered, DPM is a key pollutant evaluated in this analysis. DPM is one of the components of ambient PM10 and PM2.5. DPM is also classified as a TAC by CARB. As a result, DPM is evaluated in this study both as a criteria pollutant (as a component of PM10 and PM2.5) and as a TAC.

3.2.2.2.2 Local Air Monitoring Levels

EPA designates all areas of the U.S. according to whether they meet the NAAQS. A nonattainment designation means that a primary NAAQS has been exceeded more than the number of times allowed by the standard in a given area. EPA currently designates the SCAB as an extreme nonattainment area for 8-hour O_3, a serious nonattainment area for PM10, and a nonattainment area for PM2.5. SCAB is considered a maintenance area for CO and NO_2 and is unclassified for SO_2 and lead (EPA 2011). States with nonattainment areas must prepare a State Implementation Plan (SIP) that demonstrates how those areas will come into attainment.

CARB also designates areas of the state according to whether they meet the CAAQS. A nonattainment designation means that a CAAQS has been exceeded more than once in three years. CARB currently designates the SCAB as an “extreme” nonattainment area for 1-hour O_3, and as a nonattainment area for 8-hour O_3, PM10, PM2.5, NO_2, and lead. The air basin is in attainment of the CAAQS for CO, SO_2, and sulfates; and is unclassified for hydrogen sulfide and visibility-reducing particles.

LAHD has been conducting its own air quality monitoring program since February 2005. The main objective of the program is to estimate ambient levels of DPM near

[1] Solar insolation: the rate of exposure to solar radiation.

the Port. The secondary objective of the program is to estimate ambient particulate matter levels within adjacent communities due to Port emissions. To achieve these objectives, the program measures ambient concentrations of PM10, PM2.5, and elemental carbon PM2.5, which indicates fossil fuel combustion sources, at four locations in the Port vicinity (POLA 2011a). In 2008, the Port also began measuring ambient concentrations of O_3, SO_2, NO_2 and CO. The station locations are described below.

Wilmington Station—Saints Peter and Paul School. This station measures aged urban emissions during offshore flows and a combination of marine aerosols, aged urban emissions, and fresh emissions from Port operations during onshore flows. It also provides information on the relative strengths of these source combinations.

Coastal Boundary Station—Berth 47 in the Outer Harbor. This station measures aged urban and Port emissions and marine aerosols during onshore flows, and aged urban emissions and fresh Port emissions during offshore flows.

Source-Dominated Station—Terminal Island Treatment Plant. This station is surrounded by three terminals and has the potential to receive emissions from off-road equipment, on-road trucks, and rail. During onshore flows, this station measures marine aerosols and fresh emissions from several nearby diesel-fired sources (trucks, trains, and ships). During offshore flows, it measures aged urban emissions and Port emissions.

San Pedro Station—the Liberty Hill Plaza Building, adjacent to the Port Administrative Property on Palos Verdes Street. This location is near the western edge of Port operational emission sources and adjacent to residential areas in San Pedro. During onshore flows, aged urban emissions, marine aerosols, and fresh Port emissions have the potential to affect this site. During nighttime offshore flows, the station measures aged urban emissions and Port emissions.

The Port has collected PM10 data for six years at its Wilmington Station; PM2.5 data at all four of its stations for six years; and O_3, SO_2, NO_2 and CO from all four of its stations for three years. However, to show trends in criteria pollutant concentrations other than PM10 and PM2.5 over the past three years, it was necessary to use data from the network of monitoring stations operated by SCAQMD.

In addition, Table 3.2-2 shows the highest pollutant concentrations recorded at the North Long Beach station for 2008 to 2010, the most recent complete three-year period of quality assured data available. As shown in the table, the following standards were exceeded at the North Long Beach Station over the three-year period: O_3 (state 1-hour and 8-hour standards in 2008 and 2010), PM10 (state 24- hour and annual standards), and PM2.5 (24-hour standard, and national and state annual standards). No standards were exceeded for CO, NO_2, SO_2, lead, and sulfates, although some data were not available for SO_2 and lead sulfates between 2007 and 2009.

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ICF INTERNATIONAL

Figure 3.2-1
Sensitive Air Quality Receptors
City Dock No. 1 Marine Research Center Project

Table 3.2-2. Maximum Pollutant Concentrations Measured at the North Long Beach Monitoring Station

Pollutant	Averaging Period	National Standard	State Standard	Highest Monitored Concentration		
				2008	2009	2010
O_3 (ppm)	1 hour	N/A	0.09	**0.093**	0.089	**0.101**
	8 hours	0.075	0.070	**0.074**	0.068	**0.084**
CO (ppm)	1 hour	35	20	3	3	3
	8 hours	9	9.0	2.6	2.2	2.1
NO_2 (ppm)	1 hour	N/A	0.18	0.13	0.011	0.093
	Annual	0.053	0.030	0.0208	0.0212	0.0198
	1 hour (98^{th} percentile)	0.100	N/A	0.09	0.07	0.07
SO_2 (ppm)	1 hour	N/A	0.25	0.09	0.02	0.04
	24 hours	0.14	0.04	0.012	0.005	0.006
	Annual	0.030	N/A	0.0022	Not available	Not available
PM10 (µg/m^3)	24 hours	150	50	**62**	**62**	**44**
	Annual	N/A	20	**29.1**	**30.5**	**22.0**
PM2.5 (µg/m^3)[c]	24 hours	35	N/A	**57.2**	**63.0**	**35.0**
	24 hour (98^{th} percentile)	35	N/A	**38.9**	**34.2**	28.3
	Annual	15	12	**14.2**	**13.0**	10.5
Lead (µg/m^3)	30 days	1.5	N/A	0.01	0.01	0.01
	Calendar quarter	N/A	1.5	0.01	0.01	0.01
Sulfates (µg/m^3)	24 hours	N/A	25	11.0	13.6	11.8

Notes:

Exceedances of the standards are highlighted in **bold**. Although the NAAQS were not exceeded at the North Long Beach Monitoring Station for CO during 2008 to 2010, the SCAB is classified by EPA as nonattainment for this pollutant because violations have occurred at other monitoring stations in the Basin.

µg/m^3 = micrograms per cubic meter
ppm = parts per million
N/A = Not applicable

Source: SCAQMD 2012: http://www.aqmd.gov/smog/historicaldata.htm.

Pollutant sampling data for the most recent three years (2008 through 2010) from the Port monitoring program are available. The data are summarized in Table 3.2-3. Data collected concurrently at the SCAQMD North Long Beach monitoring station are also presented for comparison.

Table 3.2-3. Maximum Pollutant Concentrations Measured for the Port Air Quality Monitoring Program 2008–2010

		Port of Los Angeles Monitoring Stations[a]				*SCAQMD Monitoring Station*
Pollutant	*Averaging Period*	*Wilmington Community*	*Coastal Boundary*	*San Pedro*	*Source-Dominated*	*North Long Beach*
O_3 (ppm)[b]	1 hour	0.110	0.130	0.081	0.140	0.101
	8 hours	0.087	0.076	0.064	0.062	0.084
CO (ppm)[c]	1 hour	4.6	2.2	2.7	4.9	3
	8 hours	2.8	2.1	1.4	1.6	2.6
NO_2 (ppm)[d]	1 hour	0.098	0.093	0.200	0.099	0.13
	1 hour (98th percentile)	0.079	0.066	0.089	0.088	0.07
	Annual	0.023	0.011	0.020	0.022	0.0212
SO_2 (ppm)[e]	1 hour	0.029	0.080	0.031	0.048	0.09
	1 hour (99th percentile)	0.030	0.027	0.030	0.059	na
	Annual	0.0025	0.0009	0.0022	0.0065	na
	24 hours	na	na	na	na	0.012
PM10 (μg/m^3) [f,g]	24 hours	46.6	48.9	na	na	62
	Annual	25.9	24.0	na	na	30.5
PM2.5 (μg/m^3) [h]	24 hours (98th percentile)	21.9	22.8	21.6	25.4	38.9
	Annual	9.3	8.9	11.4	11.4	14.2
Lead (μg/m^3)	30 days	na	na	na	na	0.01
	Calendar Quarter	na	na	na	na	0.01
	Rolling 3-month average	na	na	na	na	na
	Annual	na	na	na	na	na
Sulfates (μg/m^3)	24 hours	na	na	na	na	13.6

Notes:

[a] The Port data were collected between May 2007 and April 2010, with the exception of PM10 measurements at the Coastal Boundary site, which began in September 2008 (POLA 2010, POLA 2011a). Data from the SCAQMD North Long Beach monitoring site were collected between January 2008 and December 2010 (SCAQMD 2012).

[b] Port O_3 data was collected over the period May 2009 through April 2011.

[c] Port CO data was collected over the period May 2009 through April 2011.

[d] Port NO_2 data was collected over the period May 2009 through April 2011.

Pollutant	Averaging Period	Port of Los Angeles Monitoring Stations[a]				SCAQMD Monitoring Station
		Wilmington Community	Coastal Boundary	San Pedro	Source-Dominated	North Long Beach

[e] Port SO_2 data was collected over the period May 2009 through April 2011.

[f] PM10 is not measured at the San Pedro Community site or Source-Dominated site.

[g] Port PM10 24-hour data is presented for the available period May 2010 through April 2011; PM10 annual data is presented for the period May 2008 through April 2011.

[h] Port PM2.5 24-hour and annual data is presented for the period May 2008 through April 2011.

$\mu g/m^3$ = micrograms per cubic meter
ppm = parts per million
na = not available

Source: POLA 2010, 2011; SCAQMD 2012.

Air quality within the SCAB has generally improved since the inception of air pollutant monitoring in 1976. This improvement is mainly due to lower-polluting on-road motor vehicles, more stringent regulation of industrial sources, and SCAQMD's implementation of emission reduction strategies. This trend towards cleaner air has occurred in spite of continued population growth.

3.2.2.2.3 Toxic Air Contaminants

TACs are identified and their toxicity is studied by the California Office of Environmental Health Hazard Assessment (OEHHA). TACs include air pollutants that can produce adverse human health effects, including carcinogenic effects, after short-term (acute) or long-term (chronic) exposure. Examples of TAC sources within the SCAB include industrial processes, dry cleaners, gasoline stations, paint and solvent operations, and fossil fuel combustion sources.

The SCAQMD determined in the Multiple Air Toxics Exposure Study II (MATES II) that about 70% of the background airborne cancer risk in the SCAB is due to particulate emissions from diesel-powered on- and off-road motor vehicles (SCAQMD 2000). The higher risk levels were found in the urban core areas in south central Los Angeles County, in Wilmington adjacent to the Port, and near freeways.

In January 2008, the SCAQMD released the draft MATES III study (SCAQMD 2008b). Mates III determined that diesel exhaust remains the major contributor to air toxics risk, accounting for approximately 84% of the total risk. Compared to the MATES II study, the MATES III study found a decreasing risk for air toxics exposure, with the population-weighted risk down by 17% from the analysis in MATES II.

Furthermore, CARB released a report titled Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach (CARB 2006) that indicates that the two ports contributed approximately 21% of the total diesel PM emissions in the air basin during 2002. These emissions are reported to result in elevated cancer risk levels over the entire 20- by 20-mile study area.

As discussed in Section 3.2.3.3, "Regional and Local Regulations," the Port of Los Angeles, in conjunction with the Port of Long Beach, has developed the San Pedro Bay's CAAP that targets all emissions, but is focused primarily on TACs. The Port of Los Angeles has also developed the Sustainable Construction Guidelines as discussed in Section 3.2.3.3 to reduce emissions, including TAC's, from construction. Additionally, all major development projects will include a health risk assessment to further assess TAC emissions and to target mitigation to reduce the impact on public health.

3.2.2.2.4 Secondary PM2.5 Formation

Within the SCAB, PM2.5 particles are both directly emitted into the atmosphere (e.g., primary particles) and formed through atmospheric chemical reactions from precursor gases (e.g., secondary particles). Primary PM2.5 includes diesel soot, combustion products, road dust, and other fine particles. Secondary PM2.5, which includes products such as sulfates, nitrates, and complex carbon compounds, are formed from reactions with directly emitted NO_X, SO_X, VOCs, and ammonia.

Proposed project–generated emissions of NO_X, SO_X, and VOCs would contribute toward secondary PM2.5 formation some distance downwind of the emission sources. However, the air quality analysis in this Draft EIR focuses on the effects of direct PM2.5 emissions generated by the proposed Project and their ambient impacts. This approach is consistent with the recommendations of SCAQMD (SCAQMD 2006).

3.2.2.2.5 Ultrafine Particles

Although EPA and the State of California currently monitor and regulate PM10 and PM2.5, new research is being done on ultrafine particles (UFPs), particles classified as less than 0.1 micron in diameter. UFPs are formed usually by a combustion cycle, independent of fuel type. With diesel fuel, UFPs can be formed directly from the fuel during combustion. With gasoline and natural gas (liquefied or compressed), the UFPs are derived mostly from the lubricant oil. UFPs are emitted directly from the tailpipe as solid particles (soot—elemental carbon and metal oxides) and semi-volatile particles (sulfates and hydrocarbons) that coagulate to form particles.

The research regarding UFPs is in its infancy but suggests the UFPs might be more dangerous to human health than the larger PM10 and PM2.5 particles (termed fine particles) due to size and shape. Because of their smaller size, UFPs are able to travel more deeply into the lung (the alveoli) and are deposited in the deep lung regions more efficiently than fine particles. UFPs are inert; therefore, normal bodily defense does not recognize them. UFPs might have the ability to travel across cell layers and enter into the bloodstream and/or into individual cells. Because UFPs have a large surface area–to–volume ratio, chemicals can adsorb onto the UFP and travel into the cell as a kind of "hitchhiker."

Current UFP research primarily involves roadway exposure. Preliminary studies suggest that over 50% of an individual's daily exposure is from driving on highways. Levels appear to drop off rapidly as one moves away from major roadways. Little research has been done directly on ships and off-road vehicles. CARB is currently measuring and studying UFPs at the San Pedro Bay Ports. Work is being done on filter technology, including filters for ships, which appears promising. LAHD began collecting UFP data at its four air quality monitoring stations in late 2007 and early 2008; actively participates in CARB testing at the Port; and will comply with all future regulations regarding UFPs. Additionally, measures included in the CAAP aim to reduce all emissions throughout the Port.

3.2.2.2.6 Atmospheric Deposition

The fallout of air pollutants to the surface of the earth is known as atmospheric deposition. This phenomenon occurs in both a wet and dry form. Wet deposition occurs in the form of precipitation or cloud water and is associated with the conversion in the atmosphere of directly emitted pollutants into secondary pollutants such as acids. Dry deposition occurs in the form of directly emitted pollutants or the conversion of gaseous pollutants into secondary PM. Atmospheric deposition can produce watershed acidification, aquatic toxic pollutant loading, deforestation, damage to building materials, and respiratory problems.

CARB and the California Water Resources Control Board are in the process of examining the need to regulate atmospheric deposition for the purpose of protecting both fresh and salt water bodies from pollution. Port emissions deposit into both local waterways and regional land areas. Construction emission sources from the proposed Project would produce DPM, which contains trace amounts of toxic chemicals. Through its CAAP, the Port will reduce air pollutants from its future operations, which will work towards the goal of reducing atmospheric deposition for purposes of water quality protection. The CAAP will reduce air pollutants that generate both acidic and toxic compounds, including emissions of NO_X, SO_X, and DPM.

3.2.2.2.7 Greenhouse Gases and Climate Change

Gases that trap heat in the atmosphere are called greenhouse gases (GHGs). GHGs are emitted by natural processes and human activities. Examples of GHGs that are produced both by natural processes and industry include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Examples of GHGs created and emitted primarily though human activities include fluorinated gases (hydrofluorocarbons [HFCs] and perfluorocarbons [PFCs]) and sulfur hexafluoride (SF_6).

Different GHGs have varying global warming potential (GWP). The GWP is the ability of a gas or aerosol to trap heat in the atmosphere. By convention, CO_2 is assigned a GWP of 1. By comparison, CH_4 has a GWP of 21, which means that it has a global warming effect 21 times greater than CO_2 on an equal-mass basis. N_2O has a GWP of 310, which means that it has a global warming effect 310 times greater than CO_2 on an equal-mass basis. To account for their GWPs, GHG emissions are often reported as a CO_2 equivalent (CO_2e). The CO_2e is calculated by multiplying the emission of each GHG by its GWP, and adding the results together to produce a single, combined emission rate representing all GHGs.

The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without these natural GHGs, the earth's surface would be approximately 61 degrees (°) Fahrenheit (F) cooler (AEP 2007). However, emissions from fossil fuel combustion for activities such as electricity production and vehicular transportation have elevated the concentration of GHGs in the atmosphere above natural levels. According to the Intergovernmental Panel on Climate Change (IPCC), the atmospheric concentration of CO_2 in 2005 was 379 parts per million (ppm) compared to the pre-industrial levels of 280 ppm (IPCC 2007). In addition, the Fifth U.S. Climate Action Report concluded, in assessing current trends, that CO_2 emissions increase by 20% from 1990 to 2007, while methane and nitrous oxide emission decreased 5% and 1%, respectively (U.S. Department of State 2010).

GHGs differ from criteria pollutants in that GHG emissions do not cause direct adverse human health effects. Rather, the direct environmental effect of GHG emissions is the increase in global temperatures, which in turn has numerous indirect effects on the environment and humans. For example, some observed changes include shrinking glaciers, thawing permafrost, later freezing and earlier break-up of ice on rivers and lakes, a lengthened growing season, shifts in plant and animal ranges, and earlier flowering of trees. Other, longer-term environmental impacts of global warming may include sea level rise, changing weather patterns with increases in the severity of storms and droughts, changes to local and regional ecosystems including the potential loss of species, and a significant reduction in winter snow pack. Data suggest that in the next 25 years, California could experience longer, more frequent and more extreme heat waves, longer dry periods, an increase in wildfires, and sea level rise.

The 2009 California Climate Adaptation Strategy is a multi-sector strategy with the objective to guide California's efforts in adapting to climate change impacts. The Adaptation Strategy summarizes the science on climate change impacts in seven specific sectors and provides recommendations on how to manage against those threats. As part of the Adaptation Strategy mandate, the California Natural Resources Agency and the California Energy Commission developed Cal-Adapt, a web-based climate change adaptation tool. The Cal-Adapt tool enables users to identify potential climate change risks in specific areas throughout California. It is important to note that climate change models are intentionally conservative and may overestimate atmospheric heat retention and climate change impacts. Cal-Adapt projects the following in the areas surrounding the proposed project vicinity:

- temperature rise of approximately 1–6ºF by the end of the century, and
- decrease of approximately 3–5 inches in annual precipitation by the end of the century. (Cal-Adapt 2011.)

Cal-Adapt has not assigned wildfire risk, snow pack change, or sea level rise to the area. However, global models indicate that California may see up to a 55-inch rise in sea level, during a 100-year flood event, within this century given the expected rise in temperatures around the world. The global models used in Cal-Adapt do not currently take into account protective structures, such as levees.

The potential effects from climate change described above are not expected to affect construction or operation of the proposed Project.

The proposed Project air quality analysis includes estimates of GHG emissions generated by the proposed Project for existing and future conditions. In keeping with international convention, the GHG emissions in this report are expressed in metric units (metric tons per year [mty], in this case).

3.2.2.3 CEQA Baseline

Section 15125 of the State CEQA Guidelines requires EIRs to include a description of the physical environmental conditions in the vicinity of the project that exists at the time the NOP is published. These environmental conditions would normally constitute the baseline physical conditions by which the CEQA lead agency determines whether an impact is significant. For purposes of this EIR, the CEQA baseline for determining the significance of potential proposed project impacts is 2011.

CEQA baseline emissions include emissions from the following activities that operated in the baseline year. Table 3.2-4 presents peak daily existing 2011 emissions associated with these sources.

a. Berth 56, located along the southern edge of 22nd Street in the northwestern portion of the proposed project site, contains the Pan-Am Terminal Facility Building and a small parking lot.

b. The transit shed at Berth 57 was recently used to store hay for the Crescent Warehouse Company, Ltd. The transit shed includes a loading dock that spans the full horizontal length of the north side of the building.

c. The transit shed at Berths 58–60 is currently vacant and includes a loading dock that spans the full horizontal length of the building.

d. A water taxi service is located at the southwestern corner of Berth 60 and maintains an office, a small maintenance shed, some storage areas for supplies, and a fleet of approximately five vessels. This service transports supplies and materials to ships anchored outside the breakwater.

e. The San Pedro Bait Company is located at Berth 56. Its two bait vessels will move to Fish Harbor during project construction.

f. Berth 260 is located less than one mile northeast of the City Dock No. 1 site on Terminal Island, and contains SCMI's existing facilities, which are proposed to be relocated to the City Dock No. 1 site. SCMI occupies a 1.32-acre site at 820 South Seaside Avenue, and consists of two noncontiguous parcels separated by a building operated by the Los Angeles Port Police. The northern side of the site includes a 19,000-square-foot building that contains offices, laboratories, classrooms, a circulating seawater system, storage, an inside water tank, meeting space, and warehouse space. The site also includes a small parking lot and dock space at which several research vessels are docked. The southern side of the site is occupied by a machine shop, warehouse space, and an open storage yard. The current SCMI facility accommodates approximately 25 researchers and staff, and operates as the shore-side support facility for the University of Southern California's Wrigley Marine Science Center on Catalina Island.

g. Emission sources associated with the above activities included marine vessels such as research vessels and water taxis; land-side sources such as forklifts, generators, and cranes; vehicle sources such as delivery trucks, worker vehicles, and visitor vehicles; and fugitive sources such as road dust. Any architectural coating applications, which may have occurred during the baseline year, were conservatively excluded from the baseline.

h. Boundary conditions for marine vessels were assumed to be the SCAB for criteria pollutants and the California border for GHG emissions.2 Vehicular sources primarily consist of local trips; the boundary condition for these sources was assumed to be a 35-mile radius for both criteria pollutants and GHG emissions.

Table 3.2-4. 2011 CEQA Baseline Emissions

	Peak Day Emissions (lb/day)						*Average Annual Emissions (mty)*
Source	*VOC*	*CO*	*NO_X*	*SO_X*	*PM10*	*PM2.5*	*CO_2e*
Marine Vessels[a]	12	156	267	0	10	9	970
Land-Side Sources[b]	1	23	8	0	1	0	85
Vehicle Sources[c]	3	18	20	0	1	1	488
Fugitive Sources[d]	0	0	0	0	1	0	0
Utility Sources[e]	0	1	1	0	0	0	245
Total	**16**	**198**	**295**	**0**	**12**	**11**	**1,789**

[a] Marine vessels are SCMI, NOAA, and UNOLS, water taxis, and San Pedro Company bait fishing boats.

[b] Land-side sources are mobile, portable, and stationary equipment operating on land, such as forklifts, generators, cranes, etc.

[c] Vehicle sources are delivery trucks and visitor/worker vehicles.

[d] Fugitive sources are roadway dust.

[e] Utility sources are for the most part sources of offsite emissions associated with energy use, electricity use, water use, wastewater, and solid waste generation. The use of natural gas is an onsite source of combustion emissions.

Numbers may not add precisely due to rounding.

lb/day = pounds per day
mty = metric tons per year

3.2.2.4 Sensitive Receptors

The impact of air emissions on sensitive members of the population is a special concern. Sensitive receptor groups include children and infants, pregnant women,

[2] Although boundary conditions were set at the SCAB and California border for criteria pollutants and GHGs, respectively, marine sources primarily remained within the Port harbor during the baseline year.

the elderly, and the acutely and chronically ill. The locations of these groups include residences, schools, playgrounds, daycare centers, and hospitals. The nearest sensitive receptors to the proposed project area are residents in San Pedro to the northwest of the proposed Project, residents at the Federal Correctional Institution (FCI) on Terminal Island, and residents in the Cabrillo Way Marina. Additionally, the 15th Street Elementary School is located approximately one mile from the proposed project site. World Tots and Merry Go-Round nursery schools as well as several churches with preschool and day care programs are also located in the San Pedro community, within one mile of the proposed project site. The nearest convalescent home, the Harbor View House, is less than one mile north of the proposed project site. The Harbor Community Clinic is located approximately one mile northwest, and the nearest hospital is the Little Company of Mary San Pedro Hospital, approximately two miles northwest of the proposed project site. Figure 3.2-1 shows the location of these sensitive receptors.

The proposed Project also proposes to construct a new sensitive land use near existing industrial uses. As such, patrons of the new facilities would represent new sensitive receptors and may be affected by the existing surrounding land uses found at the Port.

3.2.3 Applicable Regulations

The CAA and its subsequent amendments established air quality regulations and the NAAQS, and delegated enforcement of these standards to the states. In California, CARB is responsible for enforcing air pollution regulations. CARB has, in turn, delegated the responsibility of regulating stationary emission sources to the local air agencies. In the SCAB, the local air agency is the SCAQMD.

The following is a summary of the key federal, state, and local air quality rules, policies, and agreements that apply to the proposed Project and its related activities.

3.2.3.1 Federal Regulations

3.2.3.1.1 State Implementation Plan

In federal nonattainment areas, the CAA requires preparation of a SIP that details how the state will attain the NAAQS within mandated timeframes. In response to this requirement, the SCAQMD and SCAG have jointly developed the 2007 AQMP, which addresses several federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The 2007 AQMP builds upon the approaches taken in the 2003 AQMP for the SCAB for the attainment of federal air quality standards. The SCAQMD and SCAG, in cooperation with the CARB and EPA, have developed the 2007 AQMP for purposes of demonstrating compliance with the new NAAQS for PM2.5 and 8-hour O_3 and other planning requirements, including compliance with the NAAQS for PM10 (SCAQMD 2007b). Additionally, the plan highlights the significant amount of reductions necessary and the urgent need to identify additional strategies, especially in the area of mobile sources, to meet federal criteria pollutant standards within the timeframes allowed under the federal CAA (SCAQMD 2007b). The 2007 AQMP has been submitted as part of the SIP to EPA for approval. Since it will be more difficult to achieve the 8-hour O_3 NAAQS compared to the 1-hour NAAQS, the 2007 AQMP contains substantially more emission reduction measures compared to the 2003 AQMP. SCAQMD released the Draft Program Environmental Impact Report for the 2007 AQMP in March 2007 (SCAQMD 2007b). The 2007 AQMP was submitted to CARB, and CARB submitted the state-wide and South Coast SIP to EPA for approval in September 2007.

On November 22, 2010, the EPA proposed a partial approval and partial disapproval of the 2007 SCAQMD SIP for 1997 Fine Particulate Matter Standards as part of the South Coast 2007 AQMP. Specifically, EPA proposed to approve the emission inventories and commitments by the SCAQMD and CARB as well as the air quality modeling demonstration as meeting the requirements of the CAA and EPA guidance. However, EPA proposed to disapprove the attainment demonstration because it does not provide sufficient emissions reductions from adopted and EPA-approved measures to provide for attainment of the NAAQS. As a result, EPA also proposed to disapprove the reasonably available control measures/technology and Reasonable Further Progress demonstrations and proposed not to grant California's request to extend the April 5, 2015 deadline for the South Coast nonattainment area to attain the 1997 $PM_{2.5}$ NAAQS. Finally, EPA proposed to disapprove the assignment of 10 tons per day of NO_X to the federal government, $PM_{2.5}$ contingency measures, and the motor vehicle emissions budgets for the area's Reasonable Further Progress years and attainment year. To the extent that the State can remedy the shortfall in emissions reductions for the attainment demonstration, which is the basis for the proposed disapproval, EPA believes that many of the noted deficiencies could be addressed.

On April 28, 2011 CARB approved a progress report and proposed revisions to the SIP for submittal to EPA. CARB's proposed $PM_{2.5}$ SIP revisions are limited to an updated calendar of CARB rulemaking, adjustments to transportation conformity budgets, and revisions to Reasonable Further Progress tables and associated reductions for contingency purposes for the South Coast and the San Joaquin Valley. The proposal also includes approval for EPA revisions to the $PM_{2.5}$ and ozone SIP for the SCAB.

3.2.3.1.2 Emission Standards for Non-Road Diesel Engines

To reduce emissions from non-road diesel equipment, EPA established a series of emission standards for new non-road diesel engines. Tier 1 standards were phased in between 1996 and 2000 (year of manufacture), depending on the engine horsepower category. Tier 2 standards were phased in between 2001 and 2006. Tier 3 standards were phased in between 2006 and 2008. Tier 4 standards, which often require add-on emission control equipment to reach attainment, are being phased in from 2008 to 2015. These standards apply to construction equipment (DieselNet 2011).

3.2.3.1.3 Emission Standards for Marine Engines

To reduce emissions from marine engines, EPA established a series of emission standards for new marine diesel engines.

The Tier 1 NO_X standard, equivalent to MARPOL Annex VI, was made mandatory for Category 1 and 2 engines in 2004. Tier 2 standards were phased in between 2004 and 2007 (year of manufacture), depending on the engine horsepower category. Tier 3 standards are being phased in between 2009 and 2014. Tier 4 standards will be phased in between 2014 and 2017. These standards apply to research vessels, tugboats and water taxi crew and supply boats (DieselNet 2011).

3.2.3.1.4 Emission Standards for On-road Trucks

To reduce emissions from on-road, heavy-duty diesel trucks, EPA established a series of increasingly strict emission standards for new engines, starting in 1988. EPA promulgated the final and cleanest standards with the *Regulations for Heavy-Duty Diesel Engines* (EPA 2006). The PM emission standard of 0.01 g/hp-hr is required for new vehicles beginning with model year 2007. Also, the NO_X and nonmethane hydrocarbon (NMHC) standards of 0.20 and 0.14 g/hp-hr, respectively, would be phased in together between 2007 and 2010 on a percent of sales basis: 50% from 2007 to 2009 and 100% in 2010. For the proposed Project, this rule affects haul trucks and delivery trucks.

3.2.3.1.5 Highway Diesel Fuel Rule

With the Highway Diesel Fuel Rule, EPA set sulfur limitations for on-road diesel fuel to 15 ppm starting June 1, 2006 (EPA 2000).

3.2.3.1.6 Non-Road Diesel Fuel Rule

With this rule, EPA set sulfur limitations for non-road diesel fuel, including locomotives and marine vessels (though not for the marine residual fuel used by very large engines on oceangoing vessels) and construction equipment to 15 ppm in October 2006. For the proposed Project, this rule affects marine research vessels; the California Diesel Fuel Regulations (described below) generally preempt this rule for other sources such as marine engines and construction equipment.

3.2.3.1.7 Mandatory Reporting of GHG Rule

In response to the 2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110–161), EPA issued the Mandatory Reporting of GHG Rule. Signed on September 22, 2009, the rule required that suppliers of fossil fuels and industrial GHGs, manufacturers of vehicles and engines outside of the light duty sector, and facilities that emit 25,000 mty or more of GHGs to submit annual reports to EPA. The rule was intended to collect emissions data to guide future policy decisions on climate change. This rule, although not directly relevant to proposed project activities, serves to highlight the developing GHG regulatory framework.

3.2.3.1.8 EPA Tailoring Rule for GHG Emissions

On May 13, 2010, the EPA issued the “tailoring” rule for GHG emissions, which targets the largest GHG emitters. Starting January 2, 2011, the largest GHG emitters are subject to the CAA construction and operating permit requirements. Facilities already subject to New Source Review permits for other pollutants are required to include GHGs in their permits if they increase their emissions by 75,000 tons of CO_2e per year. On July 1, 2011, the EPA planned to extend the requirements to new construction projects that emit at least 100,000 tons of GHGs and existing facilities that increase their emissions by 75,000 tons per year, even if they do not exceed thresholds for pollutants. GHG emissions will be accounted for in Title V operating permits if the source emits 100,000 tons of CO_2e per year or more.

The EPA GHG guidance for this rule explains that new and modified facilities will be required to implement Best Available Control Technology (BACT) to control GHGs. There is still considerable uncertainty as to what controls must be installed. A BACT is a case-by-case analysis that considers technological feasibility, environmental effectiveness, and cost effectiveness of the control technology at the particular facility. This rule, although not directly relevant to proposed project activities, serves to highlight the developing GHG regulatory framework.

3.2.3.1.9 GHG Endangerment and Cause or Contribute Findings for GHGs under the Clean Air Act

On December 7, 2009, two findings were signed by EPA regarding GHGs under Section 202(a) of the Clean Air Act:

- Endangerment Finding: The EPA found that the current and projected concentrations of the six key GHGs in the atmosphere threaten the public health and welfare of current and future generations.
- Cause or Contribute Finding: The EPA also found that the combined emissions of these GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG gas pollution that threatens public health and welfare.

Although these findings do not themselves impose any requirements on industry or other entities, this action is a prerequisite to finalizing the EPA's proposed GHG emission standards for light-duty vehicles, which EPA proposed in a joint proposal including the Department of Transportation's proposed Corporate Average Fuel Economy (CAFE) standards on September 15, 2009. The final rule became effective in January 2010.

3.2.3.1.10 EPA and National Highway Traffic Safety Administration National Program to Cut GHG Emissions and Improve Fuel Economy for Cars and Trucks.

In 2010, the EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a national program to reduce GHG emissions and improve fuel economy for new cars and trucks sold in the United States. The EPA and NHTSA finalized a joint rule that established a national program consisting of new standards for new passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model year 2012 through 2016 light-duty vehicles that would reduce GHG emissions and improve fuel economy. In July 2011, EPA and NHTSA issued a Supplemental Notice of Intent announcing plans to propose federal GHG and fuel economy standards for light-duty vehicles, covering model years 2017–2025. The EPA finalized the national GHG emissions standards under the CAA, and the NHTSA finalized CAFE standards under the Energy Policy and Conservation Act.

The complementary EPA and NHTSA standards that make up the heavy-duty national program were promulgated in August 2011. The standards apply to combination tractors (semi-trucks), heavy-duty pickup trucks and vans, and vocational vehicles (including buses and refuse or utility trucks). This rule, although not directly relevant to proposed project activities, serves to highlight the developing GHG regulatory framework.

3.2.3.1.11 Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 was signed into law on December 19, 2007, and includes provisions covering:

- Renewable Fuel Standard (Section 202);
- Appliance and Lighting Efficiency Standards (Sections 301–325);
- Building Energy Efficiency (Sections 411–441).

Additional provisions of the Energy Independence and Security Act address energy savings in government and public institutions, promoting research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green jobs."

The Renewable Fuel Standard is of some relevance to the proposed Project because the regulations require annual increases in biofuels sold—both biodiesel and bioethanol—from 2010 to 2022. By 2022, the Renewable Fuel Standard will require at least 74 billion gallons of biofuel to be sold in the U.S., as compared to the 2010 level of approximately 14.5 billion gallons. This act, although not directly relevant to proposed project activities, serves to highlight the developing GHG regulatory framework.

3.2.3.2 State Regulations

3.2.3.2.1 California Clean Air Act

The CCAA of 1988, as amended in 1992, outlines a program to attain the CAAQS by the earliest practical date. Because the CAAQS are more stringent than the NAAQS, attainment of the CAAQS will require more emissions reductions than what would be required to show attainment of the NAAQS. Consequently, the main focus of attainment planning in California has shifted from the federal to state requirements. Similar to the federal system, the state requirements and compliance dates are based on the severity of the ambient air quality standard violation within a region.

3.2.3.2.2 Heavy-Duty Vehicle Idling Emission Reduction Program

This CARB rule affected heavy-duty diesel trucks in California starting February 1, 2005. The rule requires that heavy-duty trucks not idle for longer than five minutes at a time. However, truck idling for longer than five minutes while queuing is allowed if the queue is located more than 100 feet from any homes or schools.

3.2.3.2.3 California Diesel Fuel Regulations

With this rule, CARB set sulfur limitations for diesel fuel sold in California for use in on- and non-road motor vehicles (CARB 2004). Harbor craft were originally excluded from the rule but were later added by a 2004 rule amendment, and again updated in 2008 (CARB 2008). Under this rule, diesel fuel used in motor vehicles except harbor craft has been limited to 500 ppm sulfur since 1993. The sulfur limit was reduced to 15 ppm on September 1, 2006. The phase-in period was from June 1, 2006, to September 1, 2006 (a federal diesel rule similarly limited sulfur content nationwide to 15 ppm by October 15, 2006). Diesel fuel used in harbor craft in the SCAQMD was limited to 500 ppm sulfur on January 1, 2006, and 15 ppm sulfur on September 1, 2006.

3.2.3.2.4 Airborne Toxic Control Measure for Commercial Harbor Craft

With this rule, CARB set low sulfur fuel use requirements, set forth requirements for newly acquired harbor craft, and set compliance dates by which owners and operators of commercial harbor craft are required to replace or otherwise bring into compliance with the specified engine standards all in-use pre-Tier 1 and Tier 1-certified engines by the dates shown in specified compliance schedules. The compliance dates are designed to clean up the fleet’s oldest and dirtiest engines first, while giving more time for relatively newer, Tier 1 engines to be upgraded or replaced

3.2.3.2.5 Statewide Portable Equipment Registration Program

The Statewide Portable Equipment Registration Program (PERP) establishes a uniform program to regulate portable engines and portable engine-driven equipment units (CARB 2012). Once registered in this program, engines and equipment units may operate throughout California without the need to obtain individual permits from local air districts. The PERP generally may apply to some of the proposed construction equipment.

3.2.3.2.6 CARB Portable Diesel-Fueled Engines Air Toxic Control Measure

Effective September 12, 2007, all portable engines having a maximum rated horsepower of 50 brake horsepower (bhp) and greater and fueled with diesel must comply with this regulation and meet weighted fleet average PM emission standards. The first fleet standard compliance date is in 2013. This regulation may apply to some of the proposed construction equipment.

3.2.3.2.7 CARB In-Use Off-Road Diesel Vehicle Rule

In late July 2007 CARB adopted a rule that requires owners of off-road mobile equipment powered by diesel engines 25 horsepower (hp) or larger to meet the fleet average or BACT requirements for NO_X and PM emissions by March 1 of each year (CARB 2010). The rule is structured by fleet size: large, medium and small. Medium sized fleets receive deferred compliance, and small fleets are exempt from NO_X requirements and also get deferred compliance.

The original Regulation for In-Use Off-Road Diesel Vehicles was adopted in April 2008. In 2011, CARB amended the regulation to delay the turnover of Tier 1 equipment for meeting the NO_X performance requirements of the regulation, and then to delay overall implementation of the equipment turnover compliance schedule in response to the economic downturn in 2008 and 2009. The regulation also limits idling to 5 minutes.

3.2.3.2.8 CARB Statewide Bus and Truck Regulation

In December 2008, CARB adopted the Statewide Bus and Truck Regulation requiring installation of PM retrofits on all heavy duty trucks beginning January 1, 2012, and replacement of older trucks starting January 1, 2015. By January 1, 2023, all vehicles need to have 2010 model year engines or equivalent.

3.2.3.2.9 AB 2588 "Hot Spots" Program

The California Legislature established the AB 2588 air toxics "Hot Spots" program in September 1987. The program requires facilities to report their air toxics emissions, ascertain health risks, and to notify nearby residents of significant risks. In September 1992, the "Hot Spots" Act was amended by Senate Bill 1731 which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

3.2.3.2.10 AB 1493—Vehicular Emissions of Greenhouse Gases

AB 1493 (Pavley), enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Regulations adopted by CARB apply to 2009 and later model year vehicles. CARB estimates that the regulation will reduce climate change emissions from light duty passenger vehicle fleet by 18% in 2020 and 27% in 2030 (CARB 2009).

3.2.3.2.11 Executive Order S-3-05

California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, state-wide GHG emission reduction targets as follows: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80% below 1990 levels.

3.2.3.2.12 AB 32—California Global Warming Solutions Act of 2006

The purpose of AB 32 is to reduce statewide GHG emissions to 1990 levels by 2020. This enactment instructs CARB to adopt regulations that reduce emissions from significant sources of GHGs and establish a mandatory GHG reporting and verification program by January 1, 2008. AB 32 requires CARB to adopt GHG emission limits and emission reduction measures by January 1, 2011, both of which were to become effective on January 1, 2012. CARB must also evaluate whether to establish a market-based cap and trade system. AB 32 does not identify a significance level of GHG for CEQA purposes.

3.2.3.2.13 California Climate Change Scoping Plan

The Climate Change Scoping Plan is the state's roadmap to reach the GHG reduction goals required in the Global Warming Solutions Act of 2006, or AB 32. This plan calls for reductions in California's carbon footprint to 1990 levels. The Scoping Plan calls for cuts of approximately 30% from business-as-usual emissions levels projected for 2020, or about 15% from today's levels. The Scoping Plan includes strategies such as the cap-and-trade program, improved appliance efficiency standards and other energy efficiency measures, capture of high GWP gases, more efficient agricultural equipment and uses, reduction of 30% in vehicle GHG emissions by 2016 (known as the "Pavley standards") followed by further reductions from 2017, better land-use planning, regulations on largest emission sources, forestry measures, waste facility emission reduction measures, and improved recycling measures.

In March 2011, a San Francisco Superior Court enjoined the implementation of CARB's Scoping Plan, finding the alternatives analysis and public review process violated both CEQA and CARB's certified regulatory program (Association of

Irritated Residents, et al v. California Air Resources Board, Case No. CPF-09-509562, March 18, 2011). In response to this litigation, the CARB adopted the new CEQA document (*Final Supplement to the AB32 Scoping Plan Functional Equivalent Document*) on August 24, 2011. CARB staff re-evaluated the baseline in light of the economic downturn and updated the projected 2020 emissions to 545 $MMTCO_2e$. Two reduction measures (Pavley I and the Renewables Portfolio Standard [12% - 20%]) not previously included in the 2008 Scoping Plan baseline were incorporated into the updated baseline, further reducing the 2020 statewide emissions projection to 507 $MMTCO_2e$. The updated forecast of 507 MMTCO2e is referred to as the AB 32 2020 baseline. Reduction of an estimated 80 MMTCO2e are necessary to reduce statewide emissions to the AB 32 Target of 427 MMTCO2e by 2020 (CARB 2011c).

3.2.3.2.14 Senate Bill 97 Chapter 185, Statutes of 2007

Senate Bill (SB) 97 required the Office of Planning and Research (OPR) to prepare guidelines to submit to the California Resources Agency regarding feasible mitigation of GHG emissions or the effects of GHG emissions as required by CEQA. The California Resources Agency was required to certify and adopt these revisions to the State CEQA Guidelines by January 1, 2010. The amendments became effective on March 18, 2010.

3.2.3.2.15 Executive Order S-01-07

Executive Order S-01-07 was enacted by Governor Schwarzenegger on January 18, 2007. The order mandates the following: (1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020, and (2) that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established for California.

3.2.3.2.16 January 2010 Attorney General GHG CEQA Guidance Memo

Although not considered a regulation, the California State Attorney General's Office released a CEQA guidance memo related to GHG analysis and mitigation measures (AG 2010). The memo provides examples of mitigation measures that could be used in a diverse range of projects. Measures identified in the memo have been incorporated as GHG mitigation measures in this analysis to the extent feasible.

3.2.3.2.17 Office of Planning and Research's CEQA Guidelines on GHGs

The OPR developed amendments to the State CEQA Guidelines for addressing GHG emissions. These amendments became effective on March 18, 2010, when the Office of Administrative Law approved them. OPR did not define or set a CEQA threshold in which GHG emissions would be considered significant. Instead the lead agency would assess the significance of impacts from GHG emissions on the environment by considering a threshold that applies to the project and evaluate feasible mitigation measures.

3.2.3.2.18 The Climate Registry

The Climate Registry (TCR) is a nonprofit collaboration among North American states, provinces, territories, and Native Sovereign Nations that sets standards to calculate, verify, and publicly report GHG emissions into a single registry. The Climate Registry represents a linking of several state-sponsored GHG emissions reporting efforts, including the California Climate Action Registry, which officially closed in December 2010. LAHD was a voluntary member of the California Climate Action Registry since March 2006 and has been a voluntary member of TCR since March 2008. LAHD has made the following commitments:

- Identify sources of GHG emissions including direct emissions from vehicles, onsite combustion, fugitive and process emissions; and indirect emissions from electricity, steam and co-generation;
- Calculate GHG emissions using TCR reporting protocols; and
- Report final GHG emissions estimates on TCR website.

3.2.3.2.19 CARB Interim GHG Thresholds

In October 2008, CARB released its preliminary draft staff proposal recommending approaches for setting interim significance thresholds for GHGs under CEQA. The CARB thresholds apply to industrial projects and set a quantitative standard of 7,000 mty of CO_2e for operational emissions. The proposal did not set quantitative standards for construction emissions but instead referred to a future development of performance standards for transport and construction activities (CARB 2008).

3.2.3.3 Regional and Local Regulations

3.2.3.3.1 South Coast Air Quality Management District Rules and Regulations

Through the attainment planning process, SCAQMD develops the SCAQMD Rules and Regulations to regulate sources of air pollution in the SCAB. The SCAQMD rules most pertinent to the proposed Project are listed below. With the possible exception of dredging equipment during construction, the emission sources associated with the proposed Project are considered mobile sources. Therefore, they are not subject to the SCAQMD rules that apply to stationary sources, such as Regulation XIII (New Source Review), Rule 1401 (New Source Review of TAC), or Rule 431.2 (Sulfur Content of Liquid Fuels).

Rule 402—Nuisance

This rule prohibits discharge of air contaminants or other materials that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any such persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property.

Rule 403—Fugitive Dust

This rule prohibits emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area that remains visible beyond the emission source property line. During proposed project construction, best available control measures identified in the rule would be required to minimize fugitive dust emissions from proposed earth-moving and grading activities. These measures would include site prewatering and rewatering as necessary to maintain sufficient soil moisture content. Additional requirements apply to construction projects on property with 50 or more acres of disturbed surface area, or for any earth-moving operation with a daily earth-moving or throughput volume of 5,000 cubic yards or more three times during the most recent 365-day period. These requirements include submittal of a dust control plan, maintaining dust control records, and designating a SCAQMD-certified dust control supervisor.

Rule 1113—Architectural Coatings

This rule limits the VOC content of architectural coatings used within the SCAQMD.

Rule 1121—Control of NO_X from Residential Type, Natural Gas-Fired Water Heaters.

This rule limits the NO_X content from gas-fired water heaters with input rates less than 75,000 Btu per hour.

Regulation XIII

This regulation sets forth pre-construction review requirements for new, modified, or relocated facilities, to ensure that the operation of such facilities does not interfere with progress in attainment of the NAAQS, and that future economic growth within the SCAQMD is not unnecessarily restricted. The specific air quality goal of this regulation is to achieve no net increases from new or modified permitted sources of nonattainment air contaminants or their precursors.

In addition to nonattainment air contaminants, this regulation will also limit emission increases of ammonia and Ozone Depleting Compounds (ODCs) from new, modified or relocated facilities by requiring the use of BACT.

Regulation XIV

This rule specifies limits for maximum individual cancer risk (MICR), cancer burden, and non-cancer acute and chronic hazard index (HI) from new permit units, relocations, or modifications to existing permit units which emit TACs. The rule establishes allowable risks for permit units requiring new permits.

Rule 1403—Asbestos Emissions from Demolition/ Renovation Activities

The purpose of this rule is to limit emissions of asbestos, a TAC, from structural demolition/renovation activities. The rule requires people to notify SCAQMD of proposed demolition/renovation activities and to survey these structures for the presence of asbestos-containing materials (ACMs). The rule also includes notification requirements for any intent to disturb ACM; emission control measures; and ACM removal, handling, and disposal techniques. All proposed structural demolition activities associated with proposed project construction would need to comply with the requirements of Rule 1403.

3.2.3.3.2 San Pedro Bay Ports Clean Air Action Plan

LAHD, in conjunction with the Port of Long Beach and with cooperation of the staff of the EPA, CARB, and SCAQMD, has adopted the CAAP, a planning and policy document that sets goals and implementation strategies to reduce air emissions and health risks associated with Port operations while allowing Port development to continue. In addition, the CAAP sought the reduction of criteria pollutant emissions to the levels that assure Port-related sources decrease their "fair share" of regional emissions to enable the SCAB to attain state and federal ambient air quality standards. Each individual CAAP measure there is a proposed strategy for achieving these emissions reduction goals. The ports approved the first CAAP in November, 2006. Specific strategies to significantly reduce the health risks posed by air pollution from port-related sources include:

- aggressive milestones with measurable goals for air quality improvements;
- specific goals set forth as standards for individual source categories to act as a guide for decision making;
- recommendations to eliminate emissions of ultrafine particulates;
- technology advancement programs to reduce GHGs; and
- public participation processes with environmental organizations and the business communities.

The CAAP focuses primarily on reducing DPM, along with NO_X and SO_X. This reduces emissions and health risk and thereby allows for future Port growth while progressively controlling the impacts associated with growth. The CAAP includes emission control measures as proposed strategies that are designed to further these goals expressed as Source-Specific Performance Standards, which may be implemented through the environmental review process, or could be included in new leases or Port-wide tariffs, Memoranda of Understanding (MOU), voluntary action, grants, or incentive programs.

The CAAP Update, adopted in November 2010 includes updated and new emission control measures as proposed strategies that support the goals expressed as Source-Specific Performance Standards and the Project-Specific Standard. In addition, the CAAP Update includes the recently developed San Pedro Bay Standards, which establish emission and health risk reduction goals to assist the ports in their planning for adopting and implementing strategies to significantly reduce the effects of cumulative port-related operations.

The goals set forth as the San Pedro Bay Standards are the most significant addition to the CAAP and include both a Bay-wide health risk reduction standard and a Bay-wide mass emission reduction standard. Ongoing Port-wide CAAP progress and effectiveness will be measured against these Bay-wide Standards which consist of the following reductions as compared to 2005 emissions levels:

- Health Risk Reduction Standard: 85% reduction in DPM by 2020;
- Emission Reduction Standards;
- by 2014, emissions reduced by 72% for DPM, 22% for NO_X, and 93% for SO_X; and
- by 2023, emissions reduced by 77% for DPM, 59% for NO_X, and 92% for SO_X.

The Project-Specific Standard remains as adopted in the original CAAP in 2006—that new projects meet the 10 in 1,000,000 excess residential cancer risk threshold, as determined by health risk assessments conducted subject to CEQA statutes, regulations, and guidelines, and implemented through required CEQA mitigations and/or lease negotiations. Although each port has adopted the Project-Specific Standard as a policy, the Board of Harbor Commissioners retain the discretion to consider and approve projects that exceed this threshold if the Board deems it necessary by adoption of a statement of overriding considerations at the time of project approval.

The goals set forth as the Source-Specific Performance Standards of the CAAP address a variety of port-related emission sources—ships, trucks, trains, cargo-handling equipment, and harbor craft—and outline specific strategies to reduce emissions from each source category.

Although the Port has adopted a general policy that its leases must be compliant with the goals of the CAAP, the Board of Harbor Commissioners has discretion regarding the form of all lease provisions and CAAP measures at the time of lease approval. In addition, tenants must comply with all applicable federal, state, and local air quality regulations.

Because the CAAP is a planning document that sets goals and implementation strategies to guide future actions, it does not constrain the discretion of the ports' Board of Harbor Commissioners as to any specific future action. Each individual CAAP measure is a proposed strategy for achieving necessary emission reductions.

The Board of Harbor Commissioners uses its discretion in its approvals of projects, leases, tariffs, contracts, or other implementing activities in order to appropriately apply the CAAP to the particular situation, and may make adjustments if any proposed measure proves infeasible or if better alternatives for a measure emerge. This EIR analysis assumes proposed project compliance with the CAAP. Proposed project features or mitigation measures applied to reduce air emissions and public health impacts are largely consistent with, and in some cases exceed, the emission-reduction strategies of the CAAP. Proposed project features and mitigation measures also would extend beyond the five-year CAAP time-frame to the end of the lease period.

3.2.3.3.3 POLA/POLB Clean Truck Program

The Port Clean Truck Program (CTP) is a central element of the CAAP. The CTP establishes a progressive ban on polluting trucks. As of October 1, 2008, all pre-1989 trucks were banned from the Port. As of January 1, 2010, all 1989–1993 trucks were banned in addition to 1994–2003 trucks that had not been retrofitted. As of January 1, 2012, all trucks that did not meet the 2007 Federal Clean Truck Emission Standards were also banned from the Port.

3.2.3.3.4 Port of Los Angeles Sustainable Construction Guidelines

In February 2008, the Port's Board of Harbor Commissioners adopted the Los Angeles Harbor Department Sustainable Construction Guidelines for Reducing Air Emissions (Port Construction Guidelines). These guidelines, updated in November 2009, will be used to establish air emission criteria for inclusion in construction bid specifications. The Port Construction Guidelines will reinforce and require sustainability measures during performance of the contracts, balancing the need to protect the environment, be socially responsible, and provide for the economic development of the Port. Future Board resolutions will expand the Port Construction Guidelines to cover other aspects of construction, as well as planning and design. These guidelines support the forthcoming Port Sustainability Program.

The intent of the Port Construction Guidelines is to facilitate the integration of sustainable concepts and practices into all capital projects at the Port and to phase in the implementation of these procedures in a practical yet aggressive manner. Significant features of the Port Construction Guidelines include, but are not limited to, the following:

- All dredging equipment shall be electric.
- All ships & barges used primarily to deliver construction related materials for LAHD construction contracts shall comply with the expanded Vessel Speed Reduction Program (12 knots from 40 nautical miles).
- Harbor craft shall meet EPA Tier 2 engine emission standards.
- All on-road heavy-duty trucks must meet the requirements of the CTP.

- Off-road construction equipment must meet Tier 2 standards in the period prior to 12/31/2011, Tier 3 standards in the period between 1/1/2012 to 12/31/2014, and shall meet Tier 4 standards after 1/1/2015.
- As applicable, off-road construction equipment shall be equipped with an ARB-verified Level 3 diesel emission control system.
- Construction equipment idling is limited to five minutes when not in use.
- Full compliance with SCAQMD Rule 403, Fugitive Dust, including an approved Control Plan is required.

This EIR analysis requires that the proposed Project would adopt all applicable Sustainable Construction Guidelines as mitigations. These measures are incorporated into the emission calculations for the mitigated proposed Project and alternatives scenarios. Section 3.2.4.3, "Impacts and Mitigation," identifies the mitigation and monitoring requirements for these measures.

3.2.3.3.5 Port of Los Angeles Green Building Policy

In 2007 LAHD adopted a Green Building Policy. The policy stipulated the following for all buildings of new construction 7,500 square feet or greater:

- Buildings meeting the intention set forth by LEED New Construction (LEED NC) (i.e., office buildings) will be designed to a minimum standard of LEED NC Gold (U.S. Green Building Council 2009).
- Buildings of the typology that was not the primary focus for LEED NC (i.e., marine utilitarian buildings) will be designed to a minimum standard of LEED NC Silver (U.S. Green Building Council 2009).

All LAHD-owned existing buildings 7,500 square feet or greater will be inventoried and evaluated for their applicability to LEED Existing Building (LEED EB) standards. The operation and maintenance procedures of the building will then be used to determine the priority for certification to LEED EB standards (U.S. Green Building Council 2008).

All other buildings not encompassed in the above criteria will be designed and construction to comply or be consistent with the highest practical and applicable LEED standards or their equivalent to the extent feasible for the building's purpose.

In addition to meeting LEED standards, all new Port buildings will incorporate solar power to the maximum feasible extent as well as incorporate the best available technology for energy and water efficiency.

LAHD will also:

- participate in the Los Angeles Department of Water and Power's New Construction Incentive Program utilizing the Performance Method or Prescriptive Method;

- maintain a staff dedicated to the advancement of sustainable practices, with that staff developing green guidelines and sustainable strategies for Port developments, maintenance, and operations; and
- continuously evaluate their sustainable practices and maintain contact with existing City department organizations for the advancement of those practices.

3.2.3.3.6 City of Los Angeles Policies - Green LA Action Plan

The City released its climate action plan, “Green LA: An Action Plan to Lead the Nation in Fighting Global Warming,” in May 2007 (City of Los Angeles 2007). The Green LA plan is a voluntary program that sets a goal of reducing the City’s greenhouse gas emissions to 35% below 1990 levels by 2030. Climate LA is the implementation framework that contains the details of the more than 50 action items that are included in Green LA. The majority of the actions described in the LA Green Plan are not project-specific and include City-wide actions. Some of the measures the City will take to achieve the 35% reduction goal include the following:

- increasing the amount of renewable energy provided by LADWP;
- improving the energy efficiency of all City departments and City-owned buildings;
- converting City fleet vehicles, refuse collection trucks, street sweepers and buses to alternative fuel vehicles;
- providing incentives and assistance to existing LADWP customers in becoming more energy efficient;
- changing transportation and land use patterns to reduce dependence on automobiles;
- decreasing per capita water use;
- “greening” the Port and the four airports operated by the City (including Los Angeles International Airport and LA/Ontario International Airport); and
- promoting expansion of the “green economy” throughout the City.

The LA Green Plan calls for the following Port-specific actions:

- Heavy-duty vehicles: By the end of 2011, all trucks calling at the ports will meet or exceed the EPA’s 2007 heavy-duty vehicle on-road emissions standards for particulate matter.
- Cargo-handling equipment: All yard tractors will meet at a minimum EPA’s 2007 on-road or Tier IV engine emission standards.
- Railroad locomotives: For Pacific Harbor Line switch engines, use Tier II engines and emulsified or other equivalently clean alternative diesel fuels available. Diesel-powered Class 1 locomotives entering port facilities will be 90% controlled for particulate matter and NO_X.
- Complete a strategic plan for the Port, including sustainable and green growth options.

- Complete an economic development plan for the Port, identifying opportunities to link the Port's investment in green growth to new economic opportunities in the green sector.

3.2.3.3.7 Sustainability and Port Action Climate Plan

In May 2007, the City of Los Angeles Mayor's Office released the Green LA initiative, which is an action plan to lead the nation in fighting global warming (City of Los Angeles 2007). The Green LA Plan presents a citywide framework for confronting global climate change to create a cleaner, greener, sustainable Los Angeles. The Green LA Plan directs the Port to develop an individual Climate Action Plan, consistent with the goals of Green LA, to examine opportunities to reduce GHG emissions from operations.

In accordance with this directive, the Port's Climate Action Plan developed in December of 2007 covers currently listed GHG emissions related to the Port's activities (such as Port buildings and Port workforce operations) (LAHD 2007). The Climate Action Plan outlines specific steps that LAHD has taken and will take on global climate change. These steps include specific actions that will be taken for energy audits, green building policies, onsite photovoltaic (PV) solar energy, green energy procurement, tree planting, water conservation, alternative fuel vehicles, increased recycling, and green procurement.

The Port of Los Angeles 2011 Sustainability Report provides an assessment of existing programs and policies that address the Port's material issues related to sustainability: green growth, health risk reduction, air quality, energy and climate change, water quality, habitat protection, open space and greening, land use, local economic development, and environmental justice (POLA 2011b).

LAHD also completes annual GHG inventories of the Port and reports these to the appropriate climate registry. The 2006–2009 data were reported to the California Climate Action Registry, and subsequent data has been reported to TCR.

LAHD, as a Department of the City of Los Angeles and as a port associated with a major city, is a participant in the Clinton Climate Initiative as a C40 City. LAHD is also signatory to the California Sustainable Goods Movement Program.

3.2.4 Impact Analysis

This section presents a discussion of the potential air quality and GHG impacts associated with the construction and operation of the proposed Project. Mitigation measures are provided where feasible for impacts found to be significant.

3.2.4.1 Methodology

3.2.4.1.1 Methodology for Determining Construction Emissions

Proposed project construction activities would involve the use of off-road construction equipment, on-road haul and delivery trucks, tugboats, and worker vehicles. Because these sources would primarily use diesel fuel, they would generate emissions of diesel exhaust in the form of VOC, CO, NO_X, SO_X, PM10, PM2.5, and GHGs. Since most construction equipment would be diesel-fueled, no indirect GHG emissions (i.e., electricity use) would be associated with construction activities. In addition, off-road construction equipment traveling over unpaved surfaces and performing earthmoving activities such as site clearing or grading would generate fugitive dust emissions in the form of PM10 and PM2.5. Worker commute vehicles and haul trucks would generate vehicle exhaust and paved road dust emissions. Additional VOCs would be generated from paving activities and architectural coating activities.

Construction schedule, equipment utilization, and equipment power ratings (cranes and pumps) used to calculate construction emissions, were provided by the LAHD's engineering staff. Power ratings for other equipment were obtained from SCAQMD's California Emission Estimator Model (CalEEMod) default tables (SCAQMD 2011c). Emission factors and load factors from CARB's OFFROAD2011 and EMFAC2011 were used to quantify emissions from off-road equipment and on-road vehicles, respectively. Marine engine characteristics, emission factors, and load factors from the Port of Los Angeles Inventory of Air Emissions (POLA 2011a) were used to quantify emissions from marine vessels.

This analysis considered all construction activity associated with the proposed Project site during the years of construction, organized into the following major elements:

- Phase I Construction (2014–2016)
  - Berth 56 new building construction;
  - Berth 57 wharf retrofit/repair, ground improvements, transit shed rehabilitation/conversion, floating dock construction, public plaza construction, and Signal Street improvements; and
  - Berth 57 SCMI interior building construction.
- Phase II Construction (2014–2023)
  - Berth 260 demolition of old SCMI building;
  - Berths 58–60 wharf retrofit/repair, ground improvements, transit shed rehabilitation/conversion, pump station construction, and promenade construction;
  - Berths 58–60 temporary NOAA facility construction;

- Berths 70–71 permanent NOAA facility and wave tank construction.

To estimate peak daily construction emissions for comparison to SCAQMD emission thresholds, emissions were first calculated for the individual construction elements and then summed for overlapping construction elements per the proposed construction schedule (available in Appendix B). The combination of construction activities producing the highest daily emissions was then selected as the peak day and compared to the SCAQMD emission thresholds, which are presented in Section 3.2.4.2, "Thresholds of Significance."

Furthermore, the start year of each construction element was conservatively used to quantify emission factors for that construction element. In other words, for a construction element that begins in 2014 and continues through 2015, emission factors corresponding to 2014 were used throughout the life of that construction element. This represents a conservative assumption because emission factors, in general, decline in future years as older equipment is replaced with newer, cleaner equipment that meets the already adopted future state and federal off-road engine emission standards.

In addition, for years during which construction and operation would overlap, emissions were calculated for individual construction and operation elements and then summed for overlapping elements per the proposed schedule. The combination of construction and operational activities producing the highest daily emissions was then selected as the peak day during each construction year and compared to SCAQMD thresholds for construction, presented in Section 3.2.4.2, "Thresholds of Significance."

The specific approaches to calculating emissions for the various emission sources during construction of the proposed Project are discussed below. Table 3.2-5 includes a synopsis of the regulations and agreements that were assumed as part of the proposed Project in the construction calculations. The construction emission calculations are presented in Appendix B.

Table 3.2-5. Regulations and Agreements Assumed in the Unmitigated Construction Emissions

Off-road Construction Equipment	*On-road Trucks*	*Tugboats*	*Fugitive Sources*
Emission Standards for Non-road Diesel Engines—Emission standards for new engines, gradually phased in due to normal construction equipment fleet turnover. **California Diesel Fuel Regulations**—15 ppm sulfur fuel content. **CARB In-Use Off-Road Diesel Vehicle Rule—**	**Emission Standards for On-road Trucks—**Tiered standards for new engines gradually phased in due to normal truck fleet turnover. **California Diesel Fuel Regulations**—15 ppm sulfur fuel content. **Heavy-Duty Vehicle Idling Emission Reduction Program—**Diesel trucks subject to	**Emission Standards for Marine Engines –** Emission standards for new marine engines gradually phased due to normal turnover. **California Diesel Fuel Regulations**—15 ppm sulfur fuel content. **Airborne Toxic Control Measure for Commercial Harbor Craft**—With this rule,	**SCAQMD Rule 403 Compliance—**61% reduction in fugitive dust. Rule 403 activities include, but are not limited to, watering three times per day, covering stockpiled materials, stabilizing transport material, and covering haul vehicles prior to exiting the site. **SCAQMD Rule 1113,**

Off-road Construction Equipment	*On-road Trucks*	*Tugboats*	*Fugitive Sources*
Off-road mobile equipment powered by diesel engines 25 hp or larger must meet the fleet average or BACT requirements for NO_X and PM emissions by March 1 of each year. The regulation also limits idling to 5 minutes. **CARB Portable Diesel-Fueled Engines Air Toxic Control Measure (ATCM)—**Effective September 12, 2007, all portable engines having a maximum rated horsepower of 50 bhp and greater and fueled with diesel must meet weighted fleet average PM emission standards.	idling limits. **CARB Statewide Bus and Truck Regulation—** Installation of PM retrofits on all heavy duty trucks beginning January 1, 2012, and replacement of older trucks starting January 1, 2015. By January 1, 2023, all vehicles need to have 2010 model year engines or equivalent.	CARB set low sulfur fuel use requirements, and set forth requirements for newly acquired and in-use harbor craft.	**Architectural Coatings** – This rule limits the VOC content of architectural coatings used within the SCAQMD.
Note: This table is not a comprehensive list of all applicable regulations; rather, the table lists key regulations and agreements that substantially affect the emission calculations for the proposed Project. A description of each regulation or agreement is provided in Section 3.2.3, “Applicable Regulations.”			

Off-Road Construction Equipment

Emissions of VOC, NO_X, PM10, and PM2.5 from diesel-powered construction equipment were calculated using emission factors derived from the CARB OFFROAD2011 Emissions Model (CARB 2011a). The OFFROAD2011 model does not calculate CO or SO_X emissions. Per CARB guidance, OFFROAD2007 was used to calculate CO and SO_X emissions. Using the SCAB fleet information, the OFFROAD models were run for each construction year 2014 through 2024. Emission factors were calculated based on each type of equipment, horsepower rating of the equipment, and the corresponding peak daily and annual equipment activity levels, provided by LAHD.

The OFFROAD model output shows that, on a per-horsepower-hour basis, emission factors will steadily decline in future years as older equipment is replaced with newer, cleaner equipment that meets the already adopted future state and federal off-road engine emission standards.

On-Road Vehicles Used during Construction

Emissions from on-road, heavy-duty diesel trucks and worker vehicles used during construction were calculated using emission factors generated by the EMFAC2011 on-road mobile source emission factor model for a truck fleet and passenger vehicle fleet representative of the County of Los Angeles (CARB 2011a). The EMFAC2011 model output shows that, on a per-mile basis, emission factors will steadily decline in future years, as older vehicles are replaced with newer, cleaner vehicles that meet the required state and federal on-road engine emission standards.

Other assumptions regarding on-road trucks used during construction are as follows:

- Trucks used to deliver equipment/materials to the construction site were assumed to make 4 trips per day for the number of days listed allocated to the specific construction element (LAHD 2011).
- Activity for trucks used to haul jet grouting waste from the construction site was calculated based on the projected amount of jet grouting waste and a truck capacity of 20 cubic yards.
- Peak daily and annual activity for trucks used to haul construction/demolition waste was provided by LAHD engineering staff.
- All trucks were assumed to travel within a 35-mile radius.
- All trucks used during construction were assumed to idle on site for 5 minutes per trip.
- Truck activity assumptions are documented in Appendix B.

Assumptions regarding worker vehicles are as follows:

- The number of workers was calculated per CalEEMOD’s default of 1.25 workers per each piece of construction equipment and rounded up to the nearest whole integer. Worker vehicles were assumed to travel 30 miles per round trip.
- The number of workers during each construction element was estimated by applying a factor of 1.25 to the total number of construction equipment used during that construction element and rounded up to the nearest whole integer (SCAQMD 2011c).

Tugboats Used during Construction

During construction, tugboats would be used to mobilize and position any floating equipment, such as derrick barges or flat barges. Emissions from tugboat main and auxiliary engines were calculated using emission factors from the 2010 Port Emissions Inventory (Starcrest 2011).

Other assumptions regarding tugboats during construction are as follows:

- Although many tugboats at the Port have been repowered with Tier 2 marine engines as part of the ongoing Tugboat Retrofit Project, the emission calculations conservatively used Tier 1 emission factors for all construction phases without mitigation.

- The diesel fuel used in tugboats is assumed to have an average sulfur content of 15 ppm, which is the sulfur content limit for California harbor craft, in accordance with California Diesel Fuel Regulations (CARB 2004).
- Up to two tugboats would each operate 2 hours per day, for the duration of each construction element that requires the use of tugboats (i.e., Phase I construction of floating dock at Berth 57 and demolition of SCMI facilities at Berth 260), per LAHD engineering staff.

Fugitive Emissions during Construction

Fugitive emissions during construction include fugitive dust from demolition, grading, earth moving/handling activities, and road dust as well as fugitive VOC emissions from asphalt paving and architectural coating activities. Assumptions regarding fugitive emissions during construction are as follows:

- CalEEMOD equations and factors were used to determine the fugitive dust generated by construction equipment, trucks, and automobiles travelling both on and off site (Appendix B).
- Onsite dust emissions were reduced by 61% from uncontrolled levels to reflect required compliance with SCAQMD Rule 403 for onsite activities. According to SCAQMD guidance, watering the site three times per day pursuant to Rule 403 would reduce fugitive dust emissions by 61% (SCAQMD 2005).
- The dust-control methods for the proposed Project would be specified in the dust-control plan that must be submitted to the SCAQMD per Rule 403.
- CalEEMOD equations and factors were used to determine VOC emissions from asphalt paving and architectural coating activities.
- Asphalt paving emissions were based on site acreage provided by LAHD engineering staff. It was assumed that on a peak day 25% of the site could be paved (URBEMIS 2007).
- Architectural coating emissions were based on the usable square footage of each proposed building. A factor of 2 was used to convert the usable square footage to building surface area (SCAQMD 2011c).
- The VOC content of architectural coatings was assumed to be 250 grams per liter in accordance with SCAQMD Rule 1113.

3.2.4.1.2 Methods for Determining Operational Emissions

Operational emissions in the form of VOC, CO, NO_X, SO_X, PM10, PM2.5, and GHGs would be generated from diesel fuel combustion in research vessel engines, water taxis, and land-side equipment such as cranes and generators; natural gas combustion in space heating and water heaters; combustion of diesel fuel and gasoline in on-road vehicles; PM10, and PM2.5 road dust as well as tire wear and brake wear from on-road vehicles; and VOC emissions from reapplication of architectural coatings. In addition, indirect GHGs from the use of electricity for onsite lighting and shore-side auxiliary power for research vessels would be generated.

Operational equipment and source information, equipment utilization, equipment power ratings, and other relevant information were provided by LAHD staff. Information regarding research vessels was provided by SCMI staff (SCMI 2012), while information regarding NOAA vessels was projected by Starcrest (Starcrest 2010). Vehicle trips associated with the proposed Project were taken from the Traffic Study (Appendix C), conducted as part of this Draft EIR.

Furthermore, the start year of each operational element was conservatively used to quantify emission factors for the duration of that element. In other words, for an operational element that begins in 2016 and continues through 2042, emission factors corresponding to 2016 or earlier were used throughout the life of that element. For example, SCMI research vessels which are proposed to relocate to Berths 56–57 in 2016 were assumed to retrofit their engines to higher engine tier engines in 2016, upon their relocation. In actuality it is likely that as the vessel engines reach the end of their useful life, the vessel operators would retrofit many of the engines earlier than 2016. However, this analysis conservatively assumes that the retrofits would take place upon relocation of the vessels and that the vessels would not be retrofitted again for the duration of the lease. This represents a conservative assumption because emission factors generally decline in future years as older equipment is replaced with newer, cleaner equipment that meets the already adopted future state and federal off-road engine emission standards.

This analysis considers operations associated with the proposed Project during the 2016, 2021, 2024, and 2042 analysis years and is organized into the following major elements:

- Berths 56–57: Learning center and SCMI research facility operation would begin operation in 2016.
- Berths 58–60: SCMI research facility, marine business park, NOAA temporary berths, water taxi, café, and public plaza would begin operation in 2021.
- Berths 70–71 (2024): NOAA permanent facility and wave tank operation would begin in 2024.

The proposed Project would be fully built out in 2024 and emissions associated with onsite sources would not change after 2024. However, vehicular traffic would change as reported in the Traffic Study due to regional growth (Appendix C). Analysis year 2042 is the final analysis year represented in the Traffic Study and is included in the air quality analysis for consistency.

In addition to activities described above, it is anticipated that the San Pedro Bait Company, which currently operates at Berth 57, would be relocated either across the East Channel or to Fish Harbor.

Table 3.2-6 presents a synopsis of regulations that were assumed in the unmitigated emissions calculations. Current regulations and agreements were assumed as part of the unmitigated proposed project emissions for the various analysis years. CAAP measures planned for future implementation at a project level are treated as mitigation in this study. Therefore, the unmitigated emissions of the proposed Project assume no future CAAP measure implementation.

The specific approaches to calculating emissions for the various emission sources during operation of the proposed Project are discussed below. The operational emission calculations are presented in Appendix B.

Table 3.2-6. Regulations and Agreements Assumed in the Unmitigated Project Operations

Marine Vessels	*Land-Side Equipment*	*Vehicle Sources*	*Fugitive Sources*
California Diesel Fuel Regulations—15 ppm sulfur fuel content. **Emission Standards for Marine Diesel Engines—**Emission standards for new marine engines gradually phased due to normal turnover. **Airborne Toxic Control Measure for Commercial Harbor Craft—**With this rule, CARB set low sulfur fuel use requirements, and set forth requirements for newly acquired and in-use harbor craft.	**Emission Standards for Non-road Diesel Engines—**Emission standards for new engines, gradually phased in due to normal construction equipment fleet turnover. **California Diesel Fuel Regulations—**15-ppm sulfur fuel content. **CARB In-Use Off-Road Diesel Vehicle Rule—**Off-road mobile equipment powered by diesel engines 25 hp or larger must meet the fleet average or BACT requirements for NO_X and PM emissions by March 1 of each year. The regulation also limits idling to 5 minutes. **CARB Portable Diesel-Fueled Engines Air Toxic Control Measure—**Effective September 12, 2007, all portable engines having a maximum rated horsepower of 50 bhp and greater and fueled with diesel must meet weighted fleet average PM emission standards. **SCAQMD Rule 1121, Control of NO_X from Residential Type, Natural Gas-Fired**	**Emission Standards for On-road Trucks**—Tiered standards for new engines gradually phased in due to normal truck fleet turnover. **California Diesel Fuel Regulations**—15 ppm sulfur fuel content. **Heavy-Duty Vehicle Idling Emission Reduction Program**—Diesel trucks subject to idling limits. **CARB Statewide Bus and Truck Regulation—**Installation of PM retrofits on all heavy duty trucks beginning January 1, 2012, and replacement of older trucks starting January 1, 2015. By January 1, 2023, all vehicles need to have 2010 model year engines or equivalent.	**SCAQMD Rule 1113 – Architectural Coatings—**The rule limits the VOC content of architectural coatings. **SCAQMD Rule 1113, Architectural Coatings** – This rule limits the VOC content of architectural coatings used within the SCAQMD.

Marine Vessels	*Land-Side Equipment*	*Vehicle Sources*	*Fugitive Sources*
	Water Heaters—This rule limits the NO_X content from gas-fired water heaters with input rates less than 75,000 Btu per hour.		
Note: This table is not a comprehensive list of all applicable regulations; rather, the table lists key regulations and agreements that substantially affect the emission calculations for the proposed Project. A description of each regulation or agreement is provided in Section 3.2.3, "Applicable Regulations."			

Marine Research Vessels

Emissions from SCMI, the University of Southern California facility, and associated marine research vessels, as well as NOAA and University-National Oceanographic Laboratory System (UNOLS) research vessels were calculated using emission factors, engine power requirements, and vessel activity levels. Emission factors for criteria pollutants associated with fuel combustion were based on EPA's engine tier standards for marine engines (DieselNet 2011), whereas emission factors for GHGs associated with fuel combustion were based on TCR's U.S. default factors (TCR 2012). GHG emissions associated with electricity use while at berth were quantified using TCR's U.S. Emission Factors by eGRID Subregion, for California (TCR 2012).

CARB defines work boats as self-propelled vessels used to perform duties such as fire/rescue, law enforcement, hydrographic surveys, spill/response, research, and training.

SCMI, associated vessels, and NOAA/UNOLS research vessels would be considered work boats under this definition and as such are not subject to CARB's compliance schedule requirements (CARB 2011b). However, as the vessels' engines reach the end of their useful life and are replaced, the regulation requires that the most recent model year marine or off-road emission standard engine available at the time of replacement be installed. Water taxis are categorized as crew boats by CARB and as such are subject to CARB's compliance schedule requirements.

The following assumptions regarding marine vessels were made.

SCMI Research Vessel Fleet Assumptions (SCMI 2012):

- The proposed Project would provide floating dock space for a total of 12 SCMI research vessels. The analysis assumed that in addition to the 9 existing SCMI vessels, 3 more vessels would operate at the new Berths 56–57 facility, for a total of 5 large vessels (>25 feet) and 7 small vessels (<25 feet) on a peak day.
- The baseline peak day was based on 4 large and 5 small vessels operating in the water for 6 hours per day, whereas the proposed project peak day assumed that 5 large and 7 small vessels would operate in the water for 6 hours per day.

- Average baseline and proposed project operation were based on 2 large vessels operating for 6 hours per day, 4 days per week, and 52 weeks per year; and 2 small vessels operating for 6 hours per day, 3 days per week, and 52 weeks per year.
- It was assumed that large SCMI and associated vessels would turn off main engines at berth and connect auxiliary engines to the electric grid, whereas small SCMI and associated vessels would turn off both main and auxiliary engines while at berth. Ten minutes of incidental start-up/stop idling at berth was assumed for the large vessels and five minutes was assumed for the small vessels.
- It was assumed that, on average, both large and small vessels would spend 35% of their annual working time within the Port harbor.
- Power requirements for main and auxiliary engines, average engine age, and average operating hours were based on information provided by SCMI based on their existing and projected fleet.
- Research vessels are exempt from CARB's retrofit compliance schedule requirements. Engine retrofits would therefore occur at the end of the engine's useful life. Based on the average age of the SCMI and associated vessel fleet, and useful life of 17 and 23 years, respectively, for workboat main and auxiliary engines (CARB 2011a), it was assumed that main engines would have been replaced with Tier 3 engines and auxiliary engines would have been replaced with Tier 2 engines by the time the SCMI facility is built in 2016 and that no additional retrofits past 2016 would occur through the end of the lease. In reality, it is likely that many of the engines would be replaced before SCMI's relocation in 2016 and again during the course of the lease.
- For the purpose of quantifying regional emissions, it was assumed that vessels would conservatively operate in the harbor for the entire peak day. Localized ambient impacts were quantified using onsite emissions, which reflect incidental idling emissions at berth; the use of onsite emissions to quantify localized ambient impacts is consistent with SCAQMD's localized significance thresholds (LST) methodology. Health impacts were quantified based on vessel emissions in the harbor; emissions outside of the harbor would not be close enough to result in impacts to on-land human receptors. For the purposes of quantifying GHG emissions, it was assumed that all emissions from SCMI and associated vessels would occur within the 24-mile state water boundary, as defined by CARB. Annual GHG emissions were therefore quantified based in the operating schedule as defined above.

NOAA/UNOLS Research Vessel Fleet Assumptions (Starcrest 2010):

- The proposed Project would provide new space for up to three large research vessels. The peak day scenario assumed three NOAA/UNOLS vessels and the average scenario assumed two NOAA/UNOLS vessels transiting the harbor.
- These research vessels would do no work in the harbor, but would transit the harbor on their way to various ocean locations. It would take each vessel a total of 0.4 hours to transit the harbor and 2.4 hours to transit to the 24 nautical mile California waters boundary, as defined by CARB. The transit time was

quantified on a speed of 5 knots within the harbor and 12 knots outside of the harbor.

- It was assumed that NOAA/UNOLS vessels would use shore electrical power while berthed. Ten minutes of incidental idling during start-up/stop at berth.
- Power requirements for main and auxiliary engines, average engine age, and average operating hours were based on the average age of NOAA's and UNOLS' Pacific vessel fleet.
- Research vessels are exempt from CARB's retrofit compliance schedule requirements. Engine retrofits would therefore occur at the end of the engine's useful life. Based on engine information for NOAA/UNOL's Pacific vessel fleet and useful life of 17 years and 23 years for vessel main and auxiliary engines, respectively (CARB 2011a), it was assumed that main engines would meet Tier 4 standards and auxiliary engines would meet Tier 2 standards by the time the vessels locate to the temporary berth in 2021. It was conservatively assumed that no additional retrofits past 2021 would occur through the end of the lease. This is a conservative assumption as it is likely that many of the engines would be replaced before relocation in 2021 and again during the course of the lease.
- For the purpose of quantifying regional emissions, it was assumed that vessels would transit the harbor and the 24 nautical miles to the state water boundary once in a peak day. Localized ambient impacts were quantified using onsite emissions, which reflect incidental idling emissions at berth; the use of onsite emissions to quantify localized ambient impacts is consistent with SCAQMD's LST methodology. Health impacts were quantified based on vessel emissions during transit in the harbor; emissions outside of the harbor would not be close enough to result in impacts to on-land human receptors. GHG emissions were quantified within the 24-mile state water boundary, as defined by CARB. It was also assumed that vessels would make 6 annual trips, would be at berth 60 days out of the year, and would spend the rest of their working time in the ocean.

Water Taxi Vessel Fleet Assumptions:

- The water taxi service operates five water taxis at Berth 60. This activity would not change due to the proposed Project, but the storage areas at the end of Berth 60 used by the water taxi service would be relocated within the general vicinity of Berth 60 to better accommodate the proposed Project.
- Water taxis were assumed to operate 4 hours per day, 365 days per year during peak and average operations.
- It was assumed that vessels would turn off both their main and auxiliary engines while at berth and that 10 minutes of incidental idling during start-up/stop would occur.
- It was conservatively assumed that water taxis would spend all their working time within the Port harbor.
- Power requirements for main and auxiliary engines, average engine age, and average operating hours were based on the 2010 Port Inventory.
- Water taxis are considered as crew boats, which are subject to CARB's engine retrofit schedule requirements. Per CARB's compliance schedule requirements,

the water taxis would require retrofit to Tier 3 engines in 2016, several years prior to their relocation to Berths 58-60.

- For the purpose of quantifying regional emissions, it was assumed that vessels would conservatively operate in the harbor for the entire peak day. Localized ambient impacts were quantified using onsite emissions, which reflect incidental idling emissions at berth; the use of onsite emissions to quantify localized ambient impacts is consistent with SCAQMD's LST methodology. Health impacts were quantified based on vessel emissions in the harbor. Annual GHG emissions were quantified based in the operating schedule as defined above.

San Pedro Bait Company Fleet Assumptions:

- It is anticipated that the San Pedro Bait Company operations, which currently operate at Berth 57, would be relocated either across the East Channel or to Fish Harbor. However, the barge would remain in its current location as permitted under the current lease. The more distant Fish Harbor location is conservatively assumed in the analyses.
- Other than its berthing location, San Pedro Bait Company's fishing vessel operations would remain unchanged. Based on the distance from Berth 57 to Angels Gate, it takes the vessels approximately 0.8 hour per day roundtrip to transit the harbor. Once relocated to Fish Harbor, it would take the vessels approximately 1 hour to travel to and from Angels Gate.
- It was assumed that vessels operate a total of 4 hours per day during both a peak and average day and that 50% of their average working time would be spent within the 24-nautical-mile state water boundary.
- It was assumed that vessels would turn off both of their engines while at berth. Also, 10 minutes of incidental idling was assumed during startup/stop at berth.
- Power requirements for vessel engines were provided by the vessel operator. Average engine age and average annual operating hours were based on the 2010 Port of Long Beach Emissions Inventory.
- Fishing vessels are exempt from CARB's engine retrofit schedule requirements. The San Pedro Bait Company reported that vessel engines were recently retrofitted to Tier 2. Based on information provided by San Pedro Bait Company regarding engine retrofits, the average age of fishing vessels in the Port, and useful life of 21 years for vessel main engines (CARB 2011a), it was conservatively assumed that engines would remain Tier 2 for the duration of the project.
- For the purpose of quantifying regional emissions, it was assumed that vessels would cross the harbor and the 24 nautical miles to the state water boundary twice (making a single roundtrip) in a peak day. Localized ambient impacts were quantified using onsite emissions, which reflect incidental idling emissions at berth; the use of onsite emissions to quantify localized ambient impacts is consistent with SCAQMD's LST methodology. Health impacts were quantified based on vessel emissions during transit in the harbor; emissions outside of the harbor would not be close enough to result in impacts to on-land human receptors. GHG emissions were quantified within the 24-mile state water boundary, as defined by CARB. It was also assumed that vessels would make

237 annual trips. The annual trips were based on the average annual value of 948 hr/yr for fishing vessels from the 2010 POLA Inventory and a typical 4-hour workday.

Land-Side Source Emissions

Emissions of VOC, NO_X, PM10, PM2.5, and GHGs from land-side equipment (e.g., forklifts, land-side portable cranes, and generators) were calculated using emission factors derived from the CARB OFFROAD2011 Emissions Model (CARB 2011a) and TCR General Protocol (TCR 2012). The OFFROAD2011 model does not calculate CO or SO_X emissions. Per CARB guidance, OFFROAD2007 was used to calculate CO and SO_X emissions. Using the SCAB fleet information, the OFFROAD models were run for each operational analysis year. Emission factors were calculated based on each type of equipment, horsepower rating of the equipment, and the corresponding equipment activity levels. The OFFROAD model output shows that, on a per-horsepower-hour basis, emission factors will steadily decline in future years as older equipment is replaced with newer, cleaner equipment that meets the already adopted future state and federal off-road engine emission standards.

Motor Vehicle Emissions

The proposed Project would generate motor-vehicle trips (e.g., delivery trucks, worker vehicles, and visitor vehicles), which would emit air pollutants. Motor vehicle exhaust emissions, as well as emissions from tire and brake wear, were calculated via the EMFAC2011 model (CARB 2011a). The motor vehicle fleet age distribution incorporated into EMFAC2011 was used for the County of Los Angeles fleet mix. Emission calculations are based on the daily trip generation data provided in the Traffic Study (Appendix C).

Assumptions regarding motor vehicles are as follows:

- Delivery trucks were assumed to travel within a 35-mile radius.
- Visitor and worker vehicles were assumed to travel within a 30-mile radius.
- Delivery trucks would not be required to comply with CAAP.
- CARB vehicle type T-6 instate heavy trucks were conservatively assumed for delivery trucks and LDA/LDT1 were assumed for worker vehicles.

Fugitive Source Emissions

Fugitive emissions during operations include road dust generated by vehicles transiting the site and surrounding streets, as well as fugitive VOC emissions from periodic repainting of surfaces with architectural coatings. Assumptions regarding fugitive emissions during operation are as follows:

- AP42 equations and factors were used to determine road dust generated by motor vehicles travelling both on and off site (Appendix B) (AP42, Chapter 13.2.1, January 2011).
- CalEEMOD equations and factors were used to determine VOC emissions from architectural coating activities.
- Architectural coating emissions were based on the usable square footage of each proposed building. A factor of 2 was used to convert the usable square footage to building surface area (SCAQMD 2011c).
- The VOC content of architectural coatings was assumed to be 250 grams per liter in accordance with SCAQMD Rule 1113.

Miscellaneous Stationary Source Emissions

Miscellaneous stationary emissions during operation include natural gas combustion in space heating and water heaters. Emissions were calculated based on building square footage, consumption factors from CalEEMod, and emission factors from SCAQMD Rule 1121 (SCAQMD 2004) for NO_X, and AP-42 for CO, PM, VOC, and SO_X. Indirect GHG emissions from electricity use, water purveying, and wastewater and solid waste purveying were quantified using building square footage, consumption factors, and emission factors from TCR General Protocol.

3.2.4.2 Thresholds of Significance

The following significance criteria are based on the *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006) and other criteria applicable to Port projects. The proposed Project would have a significant impact on air quality and GHG if.

AQ-1: Construction-related emissions exceed any of the SCAQMD thresholds of significance in Table 3.2-7.

AQ-2: Construction-related emissions exceed any of the localized significance thresholds (LST) shown in Table 3.2-8.

AQ-3: Operational emissions exceed any of the SCAQMD thresholds of significance in Table 3.2-9.

AQ-4: Operational emissions exceed any of the LSTs shown in Table 3.2-10.

AQ-5: Project-generated on-road traffic would result in either of the following conditions at an intersection or roadway within 0.25 mile of a sensitive receptor:

- The project would cause or contribute to an exceedance of the California 1- or 8-hour CO standards of 20 or 9.0 ppm, respectively; or
- The incremental increase due to the project would be equal to or greater than 1.0 ppm for the California 1-hour CO standard or 0.45 ppm for the 8-hour CO standard.

AQ-6: It would create an objectionable odor at the nearest sensitive receptor.

AQ-7: It would expose receptors to significant levels of TACs. Impacts would be significant if:

- The maximum incremental cancer risk for residential receptors would be greater than or equal to 10 in 1 million, or
- The non-cancer hazard index is greater than or equal to 1.0 (project increment).

AQ-8: It would conflict with or obstruct implementation of an applicable air quality plan.

GHG-1: It would result in GHG emissions above SCAQMD's GHG significance threshold for CEQA of 3,000 mty CO_2e for industrial facilities (SCAQMD 2011a).

GHG-2: It would conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

The following sections provide additional information on determining the significance of impacts under Thresholds AQ-1 through AQ-4 as listed in Tables 3.2-7 through 3.2-10. Thresholds AQ-5 through AQ-8 and GHG-2 do not require additional explanation in determining significant impacts under these thresholds and are not discussed in any more detail below.

3.2.4.2.1 Construction Thresholds

The *L.A. CEQA Thresholds Guide* (2006) references the SCAQMD *CEQA Air Quality Handbook* (SCAQMD 1993) and EPA AP-42 for calculating and determining the significance of construction emissions. Each lead city department has the responsibility to determine the appropriate standards. The following factors are to be used in a case-by-case evaluation of impact significance for a proposed project:

- Combustion emissions from construction equipment:
  - Type, number of pieces, and usage for each type of equipment
  - Estimated fuel usage and type of fuel (diesel, gasoline, natural gas) for each type of equipment
  - Emission factors for each type of equipment
- Fugitive dust:
  - Grading, excavation, and hauling
  - Amount of soil to be disturbed on site or moved off site
  - Emission factors for disturbed soil
  - Duration of grading, excavation, and hauling activities
  - Type and number of pieces of equipment to be used

- Other mobile source emissions:
  - Number and average length of construction worker trips to the project site, per day
  - Duration of construction activities

For the purposes of this study, the air quality thresholds of significance for construction activities are based on emissions and concentration thresholds established by the SCAQMD (SCAQMD 2011a).

AQ-1: Construction-related emissions exceed any of the SCAQMD thresholds of significance in Table 3.2-7.

Table 3.2-7. SCAQMD Thresholds for Construction Emissions

Air Pollutant	*Emission Threshold (pounds/day)*
VOC	75
CO	550
NO_X	100
SO_X	150
PM10	150
PM2.5	55
Lead	3
Source: SCAQMD 2011a	

AQ-2: Construction-related emissions exceed any of the localized significance thresholds (LST) shown in Table 3.2-8.

LSTs were developed by SCAQMD as part of the SCAQMD's environmental justice initiative (SCAQMD 2008a). LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard. LSTs are intended for projects where the onsite emission sources are confined to an area of less than or equal to five acres on any given day. The LSTs are conservative, providing public agencies with a relatively simple method of evaluating ambient air pollutant concentrations without having to conduct more complicated air dispersion modeling.

LST thresholds vary depending on the pollutant, geographical location within the air basin, size (acres) of the disturbed construction area, the ambient air quality in the project vicinity, and the distance to nearest offsite human receptor. For purposes of a CEQA analysis, the SCAQMD considers a sensitive receptor to be a receptor such as a residence, hospital, prison, and convalescent facility where it is possible that an individual could remain for 24 hours. Schools are also considered sensitive receptors. Although commercial and industrial facilities are not considered sensitive receptors because employees do not typically remain on site for a full 24 hours, it has been LAHD's policy to consider impacts on offsite workers.

The LST methodology requires that PM10 and PM2.5 emissions be evaluated at sensitive receptors because the averaging period for the state standard is 24 hours and because, per SCAQMD's definition, an individual could remain at a sensitive receptor location for the full 24 hours. The LST methodology also requires that for pollutants with standards based on shorter averaging periods, such as NO_2 and CO, emissions be evaluated at industrial and commercial receptors because it is reasonable to assume that a worker at these sites could be present for periods of one to eight hours. VOC does not have an ambient air quality standard and is, therefore, not addressed in the LST methodology. The SCAQMD's LST methodology does not apply to SO_2 because the SCAB has historically been in attainment with SO_2 CAAQS. Finally, offsite mobile emissions are not included in the LST evaluation, per LST methodology, because they are farther away from the receptors and therefore would have a minimal impact on the ambient concentrations at the receptors of interest.

SCAQMD's LST methodology for NO_2 is based on the California 1-hour ambient air quality standard. In 2010, the EPA created a new federal NO_2 1-hour ambient air standard that is lower than the California standard. Because the SCAQMD has not revised their LST methodology to reflect the new federal standard, a different approach was warranted in addressing localized NO_2 impacts as they apply to the federal 1-hour standard. Because SCAQMD's LST methodology does not apply to SO_2, and the EPA also created a new federal 1-hour SO_2 standard, a different methodology was also warranted in addressing localized SO_2 impacts as they apply to the federal 1-hour standard. These alternate methodologies are as follows:

- The *de minimis level* for NO_X stipulated in the federal general conformity rule was used as the federal screening threshold for NO_X. The federal general conformity rule ensures that federal actions do not cause or contribute to a new violation of the NAAQS, do not cause additional or worsen existing violations of the NAAQS, and do not delay attainment of the NAAQS. It should be noted that the proposed Project is not subject to the federal general conformity rule and that the *de minimis* thresholds associated with the general conformity rule were used as a screening threshold for the federal NO_2 standard in absence of an LST.
- The conformity regulation stipulates *de minimis* emission levels based on the type and severity of the nonattainment designation. If the federal action would result in emissions below the *de minimis* levels, the action is determined to conform; that is, it would not cause or contribute to a violation of the NAAQS. The SCAB is considered a maintenance area for NO_2 and as such is subject to a 100 tons per year *de minimis* level. However the SCAB is in extreme nonattainment for O_3, for which NO_X is a precursor and as such is subject to a 10 tons per year *de minimis* level (EPA 2010a). The general conformity *de minimis* level of 10 tons per year was therefore used to evaluate NO_X impacts as they relate to the NAAQS.

Because the SCAB is unclassified for SO_2 and as such does not have a *de minimis* level under general conformity, the EPA Prevention of Significant Deterioration (PSD) of Air Quality (Code of Federal Regulations [CFR], Title 40, Section 52.21) was used to evaluate potential SO_2 impacts. PSD applies to new major sources or major modifications at existing sources for pollutants where the source is located in an NAAQS attainment or unclassified area. It should be noted that the proposed Project is not subject to PSD and that the PSD SER level for SO_X was used as a screening threshold for the federal SO_2 standard in absence of an LST.

Under 40 CFR 52.21(b)(23), the EPA set forth the SER for SO_2. Per the regulation, an ambient impact analysis is not necessary for pollutants with emissions below their respective SERs. In 2010, the EPA issued guidance under PSD in which it recommends the continuing use of the existing SO_2 SERs in conducting air quality impact analyses for PSD projects (EPA 2010b, 2010c). Proposed activities that would generate emissions below the SER are considered to have demonstrated that the said activities would not cause or contribute to a violation of the 1-hour SO_2 NAAQS. The SER for SO_2 is 40 tons per year, per 40 CFR 52.21.

In summary, for this analysis, SCAQMD's LST thresholds were used to evaluate localized impacts for CO, NO_X, PM10, and PM2.5 with respect to the CAAQS. The general conformity *de minimis* level for NO_X and EPA's SER for SO_2 were used to evaluate NO_2 and SO_2 impacts under NAAQS.

The thresholds identified for the construction LST analysis are conservative in that they assume that onsite construction activities within each construction phase overlap within a 5-acre area. In actuality, construction activities would be distributed over an area greater than 5 acres and would therefore have more diluted ambient concentration impacts. In addition, the analysis identifies the distance to a receptor from each construction activity and conservatively uses the shortest distance to inform the significance thresholds.

Construction site acreages and distances to the nearest offsite sensitive and commercial/industrial receptors for program and project elements are summarized in Table 3.2-8 and are shown on Figure 3.2-1.

Table 3.2-8. Construction Activities—Localized Significance Thresholds

			Approximate Distance		*Localized Significance Threshold (pounds per day[b])*				*Federal Threshold (ton/yr)[c]*	
Construction Element	*Year*	*Area Under Construction (acres/day[a])*	*Sensitive Receptor*	*Commercial Receptor*	*CO_2*	*NO_X*	*PM10*	*PM2.5*	*NO_X*	*SO_X*
Phase I Construction										
Berth 56 new building construction	2015–2016		400 meters (m) West to Cabrillo Way Marina	100 m Northeast to Municipal Fish Warehouse						
Berth 57 wharf retrofit/repair, ground improvements, and transit shed rehabilitation	2014–2015		450 m West to Cabrillo Way Marina	130 m West to Berth 54-44 SSA Facility						
Berth 57 floating dock, public plaza, and Signal Street construction	2014–2015		450 m (Cabrillo Way Marina to west)	100 m Northeast to Municipal Fish Warehouse						
Berth 57 promenade construction	2015		450 m (Cabrillo Way Marina to west)	100 m Northeast to Municipal Fish Warehouse						
Berth 57 SCMI interior building construction	2016		450 m (Cabrillo Way Marina to west)	100 m Northeast to Municipal Fish Warehouse						
Overlapping Phase I Construction Elements	2014-2016	5	450 m (Cabrillo Way Marina to west)	100 m Northeast to Municipal Fish Warehouse	2,613	126	141.5	79.5	10	40
Phase II Construction										
Berth 260 demolition of old SCMI building	2017–2018		>500 m	>500 m						

Construction Element	*Year*	*Area Under Construction (acres/day[a])*	*Approximate Distance*		*Localized Significance Threshold (pounds per day[b]*				*Federal Threshold (ton/yr)[c]*	
			Sensitive Receptor	*Commercial Receptor*	*CO_2*	*NO_X*	*PM10*	*PM2.5*	*NO_X*	*SO_X*
Berths 58–60 wharf retrofit/rehabilitation, ground improvements, and transit shed rehabilitation	2019–2020		300 m West to Cabrillo Way Marina	200 m West to Berth 54-44 SSA Facility						
Berths 58–60 promenade construction	2020		300 m West to Cabrillo Way Marina	200 m West to Berth 54-44 SSA Facility						
Berths 58–60 interior building construction	2020–2021		300 m West to Cabrillo Way Marina	200 m West to Berth 54-44 SSA Facility						
Berths 70–71 permanent NOAA facility and wave tank construction, and opportunity sight	2023–2024		350 m East to FCI	280 m West to Berth 54-44 SSA Facility						
Overlapping Phase II Construction Elements	2017-2024	5	300 m West to Cabrillo Way Marina	200 m West to Berth 54-44 SSA Facility	4,184	141	141.5	79.5	10	40

[a] Construction activities would occur on a site greater than 5 acres. However, 5 acres was assumed as a conservative estimate because a site larger than 5 acres would have emissions distributed over a greater area and would therefore have more diluted ambient concentration impacts.

[b] PM10 and PM2.5 LSTs are based on the distance to the nearest non-commercial/industrial sensitive receptor because PM10 and PM2.5 24-hr AAQS averaging times are applicable to residential receptors that could be present for 24 hours. CO and NO_X LSTs are based on the shortest distance to either a sensitive or commercial/industrial receptor because AAQS averaging times for NO_2 and CO are less than 24 hours and as such can apply to worker receptors that are present at a site for less than 24 hours.

[c] NO_X reflects general conformity *de minimis* levels; SO_2 reflects significant emission rate (SER) under the NSR program.

[d] FCI is the Federal Corrections Institution on Terminal Island.

Source: SCAQMD LST Methodology (SCAQMD 2008b) and look-up tables, revised on October 2009 (SCAQMD 2009).

3.2.4.2.2 Operation Thresholds

The *L.A. CEQA Thresholds Guide* provides specific significance thresholds for operational air quality impacts that also are based on SCAQMD standards. For determining CEQA significance, these thresholds are compared to the CEQA increment, where the CEQA increment is quantified by subtracting the CEQA baseline from the proposed project emissions.

AQ-3: Operational emissions exceed any of the SCAQMD thresholds of significance in Table 3.2-9.

Table 3.2-9. SCAQMD Thresholds for Operational Emissions

Air Pollutant	*Emission Threshold (pounds/day)*
VOCs	55
CO	550
NO_X	55
SO_X	150
PM10	150
PM2.5	55
Lead	3
Source: SCAQMD 2011a.	

AQ-4: Operational emissions exceed any of the LSTs shown in Table 3.2-10.

The development of LST thresholds and of NO_2 and SO_2 thresholds is described above under significance threshold AQ-2.

Similar to the construction LST analysis, the thresholds identified for the operational LST analysis are conservative in that they assume that onsite operational activities would overlap within a 5-acre area. In actuality, operational activities would be distributed over an area much greater than 5 acres and would therefore have more diluted ambient concentration impacts. In addition, the analysis identifies the distance to a receptor from each operational activity and conservatively uses the shortest distance to inform the significance thresholds.

Table 3.2-10. Localized Emissions Thresholds Associated with Proposed Project Operations

			Approximate Distance		*Localized Significance Threshold (pounds per day)*[b]				*Federal Threshold (ton/yr)*[c]	
Operational Element	*Year*	*Area (acres/day)*[a]	*Sensitive Receptor*	*Commercial Receptor*	*CO*	*NO_X*	*PM10*	*PM2.5*	*NO_X*	*SO_X*
Berths 56–57—Learning Center; SCMI Research Facility	2016		300 m West to Cabrillo Way Marina	100 m Northeast to Municipal Fish Warehouse						
Berths 58–60—Research Facility, Marine Business Park, Water Taxi, Café, Public Plaza	2021		300 m West to Cabrillo Way Marina	200 m West to Berth 54-44 SSA facility						
Berths 70–71—NOAA Facility, Wave Tank	2024		350 m East to FCI[d]	280 m West to Berth 54-44 SSA facility						
Overlapping Operational Activities	2016-2024	5	300 m West to Cabrillo Way Marina	100 m Northeast to Municipal Fish Warehouse	2,613	126	34	19.5	10	40

[a] Operational activities would occur on a site greater than 5 acres. However, 5 acres was assumed as a conservative estimate because a site larger than 5 acres would have emissions distributed over a greater area and would therefore have more diluted ambient concentration impacts.

[b] PM10 and PM2.5 LSTs are based on the distance to the nearest non-commercial/industrial sensitive receptor because PM10 and PM2.5 24-hr AAQS averaging times are applicable to residential receptors that could be present for 24 hours. CO and NO_X LSTs are based on the shortest distance to either a sensitive or commercial/industrial receptor because AAQS averaging times for NO_2 and CO are less than 24 hours and as such can apply to worker receptors that are present at a site for less than 24 hours.

[c] NO_X reflects general conformity *de minimis* levels; SO_2 reflects significant emission rate (SER) under the NSR program.

[d] FCI is the Federal Corrections Institution on Terminal Island

Thresholds AQ-5 through AQ-8 and GHG-2 do not require additional explanation in determining significant impacts under these thresholds and are not discussed in any more detail.

GHG-1: CEQA encourages lead agencies to adopt thresholds of significance to use in determining the significance of environmental effects. In 2008, the SCAQMD proposed a series of five tiers designed to guide a lead agency or project proponent in evaluating GHG impacts for CEQA analyses. However, only some of SCAQMD's proposed methodology has since been presented to and approved by the SCAQMD board, as the SCAQMD continues to review and revise the methodology.

Several air quality districts, including the SCAQMD and Bay Area Air Quality District (BAAQMD), use a screening significance threshold of 10,000 mty CO2e emissions as the threshold for industrial projects. This screening level was developed to capture and therefore require mitigation for projects representing 90% of GHG emissions from projects subject to SCAQMD and BAAQMD regulations. The SCAQMD initially developed this screening level based on natural gas burning stationary sources, but has designated and board-approved the threshold for all industrial facilities. SCAQMD's board-approved 10,000 mty CO2e threshold requires that construction emissions be amortized over 30 years and included with operational emissions for comparison with the 10,000-mty CO2e threshold.

In addition, the SCAQMD has proposed but not yet board-approved similar numeric thresholds for nonindustrial projects. SCAQMD's proposed numeric thresholds for residential and commercial projects are 3,500 and 1,400 mty CO2e, respectively. The numeric threshold for mixed use residential/commercial and all other nonindustrial projects is 3,000 mty CO2e.

The proposed Project incorporates industrial, recreational, and other nonindustrial uses. SCAQMD's proposed 3,000 mty CO2e threshold for nonindustrial and mixed use projects is lower than SCAQMD's 10,000 mty CO2e threshold for industrial projects and therefore is considered an appropriate and conservative GHG threshold for the proposed Project.

3.2.4.3 Impacts and Mitigation

3.2.4.3.1 Construction Impacts

Impact AQ-1: The proposed Project would result in construction-related emissions that exceed an SCAQMD threshold of significance.

Table 3.2-11 presents peak daily criteria pollutant emissions associated with construction of the proposed Project without mitigation. Table 3.2-12 presents peak daily criteria pollutant emissions associated with construction without mitigation overlapped with operations that would begin during the course of the 21-month construction period as part of the proposed Project. The overlap of construction emissions with operations was evaluated in order to capture the peak emissions levels from these activities, as they are expected to overlap in time. These tables contain peak daily emissions for each year of the proposed Project, as well as significance determinations. Maximum emissions for each element were determined by totaling the daily emissions from the individual construction activities and operational activities that overlap in the proposed construction schedule. Detailed tables of emissions for each proposed project activity can be found in Appendix B. In addition, Appendix B contains data used to quantify emissions.

Table 3.2-11. Peak Daily Construction Emissions—Proposed Project without Mitigation

	Peak Day Emissions (lb/day)						
Year	*VOC*	*CO*	*NO_X*	*SO_X*	*PM10*	*PM2.5*	*DPM*[a]
2014							
Construction Equipment Emissions	12	95	181	0	8	7	8
Vehicle Emissions	3	11	106	0	4	3	2
Worker Vehicle Emissions	2	15	1	0	0	0	0
Fugitive Emissions	206	0	0	0	38	6	0
Onsite Emissions	218	96	186	0	43	12	8
Offsite Emissions	4	25	103	0	7	3	2
Total	223	121	288	0	50	16	10
Threshold	75	550	100	150	150	55	N/A
Significance Determination	**Yes**	No	**Yes**	No	No	No	N/A
2015							
Construction Equipment Emissions	15	120	221	0	10	9	10
Vehicle Emissions	4	14	138	0	5	3	2
Worker Vehicle Emissions	2	18	2	0	0	0	0
Fugitive Emissions	272	0	0	0	53	8	0
Onsite Emissions	288	121	227	0	60	16	10
Offsite Emissions	5	31	134	0	9	4	2
Total	293	152	361	1	68	20	13
Threshold	75	550	100	150	150	55	N/A
Significance Determination	**Yes**	No	**Yes**	No	No	No	N/A
2016							
Construction Equipment Emissions	2	20	30	0	2	1	2
Vehicle Emissions	1	3	30	0	1	1	0
Worker Vehicle Emissions	0	3	0	0	0	0	0

Year	*Peak Day Emissions (lb/day)*						
	VOC	*CO*	*NO_X*	*SO_X*	*PM10*	*PM2.5*	*DPM*[a]
Fugitive Emissions	94	0	0	0	8	1	0
Onsite Emissions	96	20	32	0	9	2	2
Offsite Emissions	1	5	29	0	2	1	0
Total	97	26	60	0	11	3	2
Threshold	75	550	100	150	150	55	N/A
Significance Determination	**Yes**	No	No	No	No	No	N/A
2017							
Construction Equipment Emissions	3	28	49	0	2	2	2
Vehicle Emissions	0	1	13	0	0	0	0
Worker Vehicle Emissions	0	3	0	0	0	0	0
Fugitive Emissions	0	0	0	0	17	2	0
Onsite Emissions	3	28	50	0	19	4	2
Offsite Emissions	1	4	12	0	1	0	0
Total	4	32	62	0	20	5	2
Threshold	75	550	100	150	150	55	N/A
Significance Determination	No	No	No	No	No	No	N/A
2018							
Construction Equipment Emissions	3	28	49	0	2	2	2
Vehicle Emissions	0	1	13	0	0	0	0
Worker Vehicle Emissions	0	3	0	0	0	0	0
Fugitive Emissions	0	0	0	0	17	2	0
Onsite Emissions	3	28	50	0	19	4	2
Offsite Emissions	1	4	12	0	1	0	0
Total	4	32	62	0	20	5	2
Threshold	75	550	100	150	150	55	N/A
Significance Determination	No	No	No	No	No	No	N/A
2019							
Construction Equipment Emissions	6	54	75	0	3	3	3
Vehicle Emissions	5	21	194	1	9	5	2
Worker Vehicle Emissions	1	5	0	0	0	0	0
Fugitive Emissions	566	0	0	0	43	7	0

Year	Peak Day Emissions (lb/day)						
	VOC	*CO*	*NO_X*	*SO_X*	*PM10*	*PM2.5*	*DPM*[a]
Onsite Emissions	572	56	84	0	38	8	3
Offsite Emissions	5	24	186	1	17	7	2
Total	577	80	269	1	55	15	6
Threshold	75	550	100	150	150	55	N/A
Significance Determination	**Yes**	No	**Yes**	No	No	No	N/A
2020							
Construction Equipment Emissions	6	54	75	0	3	3	3
Vehicle Emissions	5	21	194	1	9	5	2
Worker Vehicle Emissions	1	5	0	0	0	0	0
Fugitive Emissions	566	0	0	0	43	7	0
Onsite Emissions	572	56	84	0	38	8	3
Offsite Emissions	5	24	186	1	17	7	2
Total	577	80	269	1	55	15	6
Threshold	75	550	100	150	150	55	N/A
Significance Determination	**Yes**	No	**Yes**	No	No	No	N/A
2021							
Construction Equipment Emissions	0	2	2	0	0	0	0
Vehicle Emissions	0	1	8	0	0	0	0
Worker Vehicle Emissions	0	1	0	0	0	0	0
Fugitive Emissions	104	0	0	0	8	1	0
Onsite Emissions	104	2	2	0	7	1	0
Offsite Emissions	0	2	8	0	1	0	0
Total	105	4	10	0	8	1	0
Threshold	75	550	100	150	150	55	N/A
Significance Determination	**Yes**	No	No	No	No	No	N/A
2022							
Construction Equipment Emissions	0	0	0	0	0	0	0
Vehicle Emissions	0	0	0	0	0	0	0
Worker Vehicle Emissions	0	0	0	0	0	0	0
Fugitive Emissions	0	0	0	0	0	0	0
Onsite Emissions	0	0	0	0	0	0	0

Year	*Peak Day Emissions (lb/day)*						
	VOC	*CO*	*NO_X*	*SO_X*	*PM10*	*PM2.5*	*DPM*[a]
Offsite Emissions	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
Threshold	75	550	100	150	150	55	N/A
Significance Determination	No	No	No	No	No	No	N/A
2023							
Construction Equipment Emissions	1	7	9	0	0	0	0
Vehicle Emissions	0	1	3	0	0	0	0
Worker Vehicle Emissions	0	2	0	0	0	0	0
Fugitive Emissions	1,922	0	0	0	1	0	0
Onsite Emissions	1,922	7	9	0	1	0	0
Offsite Emissions	0	3	3	0	1	0	0
Total	1,923	10	12	0	2	1	0
Threshold	75	550	100	150	150	55	N/A
Significance Determination	**Yes**	No	No	No	No	No	N/A
2024							
Construction Equipment Emissions	1	7	9	0	0	0	0
Vehicle Emissions	0	1	3	0	0	0	0
Worker Vehicle Emissions	0	2	0	0	0	0	0
Fugitive Emissions	1,922	0	0	0	1	0	0
Onsite Emissions	1,922	7	9	0	1	0	0
Offsite Emissions	0	3	3	0	1	0	0
Total	1,923	10	12	0	2	1	0
Threshold	75	550	100	150	150	55	N/A
Significance Determination	**Yes**	No	No	No	No	No	N/A

[a] DPM was conservatively assumed to equal PM10 associated with diesel exhaust.

Emissions are rounded to the nearest pound.

Onsite construction emissions consist of construction equipment exhaust, on-road vehicles traveling and idling on site, architectural coatings, and asphalt operations.

Offsite construction emissions consist of on-road vehicles traveling off site.

Table 3.2-12. Peak Daily Overlapping Construction and Operational Emissions—Proposed Project without Mitigation

	Peak Day Emissions (lb/day)						
Year	*VOC*	*CO*	*NO_X*	*SO_X*	*PM10*	*PM2.5*	*DPM*
2011 CEQA Baseline	16	198	295	0	12	11	11
2016[a]							
Construction	97	26	60	0	11	3	2
Operation	340	361	270	1	21	10	5
Total	437	387	330	1	32	13	7
Threshold	75	550	100	150	150	55	N/A
CEQA Increment	421	189	37	1	19	2	-4
Significance Determination	**Yes**	No	No	No	No	No	N/A
2017							
Construction	4	32	62	0	20	5	2
Operation	340	361	270	1	21	10	5
Total	344	393	332	1	41	14	8
Threshold	75	550	100	150	150	55	N/A
CEQA Increment	328	195	37	1	28	4	-4
Significance Determination	**Yes**	No	No	No	No	No	N/A
2018							
Construction	4	32	62	0	20	5	2
Operation	340	361	270	1	21	10	5
Total	344	393	332	1	41	14	8
Threshold	75	550	100	150	150	55	N/A
CEQA Increment	328	195	37	1	28	4	-4
Significance Determination	**Yes**	No	No	No	No	No	N/A
2019							
Construction	577	80	269	1	55	15	6
Operation	340	361	270	1	21	10	5
Total	917	442	539	1	76	24	11
Threshold	75	550	100	150	150	55	N/A
CEQA Increment	901	244	244	1	64	14	0
Significance Determination	**Yes**	No	**Yes**	No	No	No	N/A
2020							
Construction	577	80	269	1	55	15	6

Year	Peak Day Emissions (lb/day)						
	VOC	*CO*	*NO_X*	*SO_X*	*PM10*	*PM2.5*	*DPM*
Operation	340	361	270	1	21	10	5
Total	917	442	539	1	76	24	11
Threshold	75	550	100	150	150	55	N/A
CEQA Increment	901	244	244	1	64	14	0
Significance Determination	**Yes**	No	**Yes**	No	No	No	N/A
2021							
Construction	105	4	10	0	8	1	0
Operation	1,132	764	451	2	59	24	10
Total	1,236	768	461	2	67	25	10
Threshold	75	550	100	150	150	55	N/A
CEQA Increment	1,221	570	166	2	55	15	-1
Significance Determination	**Yes**	**Yes**	**Yes**	No	No	No	N/A
2022							
Construction	0	0	0	0	0	0	0
Operation	1,132	764	451	2	59	24	10
Total	1,132	764	451	2	59	24	10
Threshold	75	550	100	150	150	55	N/A
CEQA Increment	1,116	566	157	2	47	14	-1
Significance Determination	**Yes**	**Yes**	**Yes**	No	No	No	N/A
2023							
Construction	1,923	10	12	0	2	1	0
Operation	1,132	764	451	2	59	24	10
Total	3,054	774	463	2	61	25	10
Threshold	75	550	100	150	150	55	N/A
CEQA Increment	3,039	577	169	2	49	14	-1
Significance Determination	**Yes**	**Yes**	**Yes**	No	No	No	N/A
2024							
Construction	1,923	10	12	0	2	1	0
Operation	1,892	833	466	2	69	27	10
Total	3,814	843	479	2	71	28	11
Threshold	75	550	100	150	150	55	N/A
CEQA Increment	3,799	645	184	2	58	18	0
Significance Determination	**Yes**	**Yes**	**Yes**	No	No	No	N/A

Year	Peak Day Emissions (lb/day)						
	VOC	CO	NO_X	SO_X	PM10	PM2.5	DPM

[a] 2016 is the first overlap year for construction and operational activities.

Onsite construction emissions are comprised of construction equipment exhaust, on-road vehicles traveling and idling onsite, architectural coatings, and asphalt operations.

Offsite construction emissions are comprised of on-road vehicles traveling offsite.

Onsite operational emissions are comprised of marine vessel engine use at berth, land-side equipment use, on-road vehicles traveling and idling onsite, architectural coatings, and onsite natural gas use.

Offsite operational emissions are comprised of marine vessels transiting within and outside of the harbor, and on-road vehicles traveling offsite.

Impact Determination

Table 3.2-11 shows that, without mitigation, peak daily construction emissions would exceed the SCAQMD daily emission thresholds for VOC in construction years 2014, 2015, 2016, 2019, 2020, 2021, 2023, and 2024. Peak daily construction emissions would also exceed the SCAQMD daily emission thresholds for NO_X in construction years 2014, 2015, 2019, and 2020. The largest contributor to peak daily VOC construction emissions would be fugitive emissions from the painting of buildings, whereas the largest contributor to peak daily NO_X emissions would be the exhaust from off-road construction equipment, followed by exhaust from on-road vehicles.

Table 3.2-12 shows that, without mitigation, peak daily overlapping construction and operational emissions would exceed the SCAQMD daily emission thresholds for VOC in construction years 2016 through 2024, for CO in years 2021 through 2024, and for NO_X in construction years 2019 through 2024. The largest contributor to peak daily VOC construction emissions would be fugitive emissions from the painting of buildings, whereas the largest contributor to peak daily CO and NO_X emissions would be the exhaust from operation of marine research vessels. Due to the different combinations of construction and operational activities, the highest overlapping emissions would vary between different years for different pollutants.

Therefore, without mitigation, the proposed Project would exceed the daily construction emission thresholds for VOC, CO, and NO_X, and significant impacts would occur.

Mitigation Measures

Mitigation measures for proposed project construction were derived, where feasible, from the LAHD's Sustainable Construction Guidelines, in consultation with LAHD staff, and applicable measures of the CAAP. These mitigation measures are required during construction and are to be implemented by the construction contractor.

Table 3.2-13 summarizes construction mitigation measures assumed in the mitigated emission calculations. Regulatory requirements assumed in the unmitigated construction emissions calculations were previously presented in Table 3.2-5.

Table 3.2-13. Mitigation Measures Assumed in the Proposed Project Construction Emissions

Off-road Construction Equipment	*On-road Trucks*	*Tugboats*	*Fugitive Emissions*
MM AQ-2: Implement Fleet Modernization for Construction Equipment	**MM AQ-5:** **Clean Trucks Program for Construction Haul Trucks**	**MM AQ-1: Implement Harbor Craft Engine Standards**	**MM AQ-3: Implement Additional Fugitive Dust Controls** **MM AQ-4**: **Implement SCAQMD's Super-Compliant Architectural Coating Standard**
Mitigation Measures Not Quantified in the Mitigated Emission Calculations[a]			
MM AQ-6: Implement Best Management Practices **MM AQ-7: Implement General Mitigation Measure**			

[a] These mitigation measures were not quantified because their effectiveness has not been established.

Note: This table is not a comprehensive list of all applicable regulations; rather, the table lists key regulations and agreements that substantially affect the emission calculations for the proposed Project. A description of each regulation or agreement is provided in Section 3.2.3, "Applicable Regulations."

MM AQ-1: Implement Harbor Craft Engine Standards. All harbor craft used during the construction phase of the proposed Project will, at a minimum, be repowered to meet EPA Tier 2. Additionally, where available, harbor craft will meet EPA Tier 3 or cleaner marine engine emission standards. Analysis conservatively reflects the use of engines that meet EPA Tier 2 standards.

This harbor craft measure will be met unless one of the following circumstances exists, and the contractor is able to provide proof of its existence:

- A piece of specialized equipment is unavailable in a controlled form within the state of California, including through a leasing agreement.
- A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the proposed Project, but the application process is not yet approved, or the application has been approved but funds are not yet available.
- A contractor has ordered a control device for a piece of equipment planned for use on the proposed Project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must have attempted to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the proposed Project has the controlled equipment available for lease.

MM AQ-2: Implement Fleet Modernization for Construction Equipment

- Tier Specifications:
  a. <u>From the start of construction through December 31, 2014</u>: All off-road diesel-powered construction equipment greater than 50 hp, except marine vessels and harbor craft, will meet Tier-3 off-road emission standards at a minimum. In addition, all construction equipment greater than 50 hp will be retrofitted with a CARB-verified Level 3 Diesel Emission Control Strategy (DECS). Any emissions control device used by the contractor will achieve emissions reductions that are no less than what could be achieved by a Level 3 DECS for a similarly sized engine as defined by CARB regulations.
  b. <u>From January 1, 2015</u>: All off-road diesel-powered construction equipment greater than 50 hp, except marine vessels and harbor craft, will meet Tier-4 off-road emission standards at a minimum. Any emissions control device used by the contractor will achieve emissions reductions that are no less than what could be achieved by a Level 3 DECS for a similarly sized engine as defined by CARB regulations.

A copy of each unit's certified tier specification, BACT documentation, and CARB or SCAQMD operating permit will be provided at the time of mobilization of each applicable unit of equipment. The above "Tier Specifications" measures will be met, unless one of the following circumstances exists, and the contractor is able to provide proof that any of these circumstances exists:

- A piece of specialized equipment is unavailable within 200 miles of the Port of Los Angeles, including through a leasing agreement. If this circumstance exists, the equipment must comply with one of the options contained in the Step-Down Schedule as shown in Table 3.2-14. At no time will equipment meet less than a Tier 1 engine standard with a CARB40-verified Level 2 DECS.
- The availability of construction equipment will be reassessed in conjunction with the years listed in the above Tier Specifications on an annual basis. For example, if a piece of equipment is not available prior to January 1, 2015, the contractor will reassess this availability on January 1, 2015.
- Construction equipment will incorporate, where feasible, emissions-savings technology such as hybrid drives and specific fuel economy standards.

Table 3.2-14. Compliance Step-Down Schedule for Non-Road Construction Equipment

Compliance Alternative	*Engine Standard*[a]	*CARB-Verified DECS*	*PM Emissions*[b] *(g/bhp-hr)*	*NO_X Emissions (g/bhp-hr)*
1	Tier 4	N/A	0.01	0.3
2	Tier 3	Level 3	0.02	2.9
3	Tier 2	Level 3	0.02	4.7
4	Tier 1	Level 3	0.06	6.9
5	Tier 2	Level 2	0.08	4.7
6	Tier 2	Level 1	0.11	4.7

Compliance Alternative	*Engine Standard*[a]	*CARB-Verified DECS*	*PM Emissions*[b] *(g/bhp-hr)*	*NO_X Emissions (g/bhp-hr)*
7	Tier 2	Uncontrolled	0.15	4.7
8	Tier 1	Level 2	0.2	6.9

[a] Equipment less than Tier 1, Level 2 will not be permitted.

[b] Stated emission levels are for engine hp ratings to 176 bhp and above. Emission levels for engine bhp ratings below 176 hp are marginally higher (0.02–0.08 g/bhp-hr depending on hp, Tier, and Vehicle Diesel Emission Control level).

g/bhp-hr = grams per brake horsepower hour

MM AQ-3: Implement Additional Fugitive Dust Controls. The calculation of fugitive dust (PM10) from proposed project earth-moving activities assumes a 61% reduction from uncontrolled levels to simulate three times per day watering of the site and use of other measures (listed below) to ensure compliance with SCAQMD Rule 403 (SCAQMD 2005).

The construction contractor will reduce fugitive dust emissions by 74% from uncontrolled levels (SCAQMD 2007a). The proposed project construction contractor will specify dust-control methods that will achieve this control level in a SCAQMD Rule 403 dust control plan and will include holiday and weekend periods when work may not be in progress.

Measures to reduce fugitive dust include, but are not limited to, the following:

- Active grading sites will be watered every two hours.
- Contractors will apply approved non-toxic chemical soil stabilizers according to manufacturer’s specifications to all inactive construction areas or replace groundcover in disturbed areas (previously graded areas inactive for ten days or more).
- Construction contractors will provide temporary wind fencing around sites being graded or cleared.
- Trucks hauling dirt, sand, or gravel will be covered in accordance with Section 23114 of the California Vehicle Code.
- Construction contractors will install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off tires of vehicles and any equipment leaving the construction site. Pave road and road shoulders.
- The use of clean-fueled sweepers will be required pursuant to SCAQMD Rule 1186 and Rule 1186.1 certified street sweepers. Sweep streets at the end of each day if visible soil is carried onto paved roads on site or on roads adjacent to the site to reduce fugitive dust emissions.
- A construction relations officer will be appointed to act as a community liaison concerning onsite construction activity including resolution of issues related to PM10 generation.
- Traffic speeds on all unpaved roads will be reduced to 15 mph or less.

- Temporary traffic controls such as a flag person will be provided during all phases of construction to maintain smooth traffic flow.
- Construction activities that affect traffic flow on the arterial system will be conducted during off-peak hours to the extent practicable.
- The grading contractor will suspend all soil disturbance activity when winds exceed 25 mph or when visible dust plumes emanate from a site; disturbed areas will be stabilized if construction is delayed.

MM AQ-4: Implement SCAQMD's Super-Compliant Architectural Coating Standard. Architectural coatings used on site will meet SCAQMD's super-compliant VOC standard of 10 grams of VOC per liter.

MM AQ-5: Implement the Clean Trucks Program for Construction Haul Trucks. Heavy duty diesel trucks used for hauling must meet the EPA 2007 emission standards for on-road heavy duty diesel engines (EPA 2006) by 2012. The CTP applies to heavy duty trucks used during construction activities.

MM AQ-6: Implement Best Management Practices. The following types of measures are required on construction equipment (including on-road trucks), as determined feasible and appropriate:

- Use diesel oxidation catalysts and catalyzed diesel particulate trap.
- Maintain equipment according to manufacturers' specifications.
- Install high-pressure fuel injectors on construction equipment vehicles.
- Re-route construction trucks away from congested streets or sensitive receptor areas.

LAHD will implement a process by which to select additional BMPs to further reduce air emissions during construction. LAHD will determine the BMPs once the contractor identifies and secures a final equipment list and project scope. LAHD will then meet with the contractor to identify potential BMPs and work with the contractor to include such measures in the contract. BMPs will be based on BACT guidelines and may also include changes to construction practices and design to reduce or eliminate environmental impacts.

MM AQ-7: Implement General Mitigation Measure. For any of the above mitigation measures, if a CARB-certified technology becomes available and is shown to be as good as or better in terms of emissions performance than the existing measure, the technology could replace the existing measure pending approval by LAHD. For construction, measures will be set at the time a specific construction contract is advertised for bid.

Residual Impacts

Table 3.2-15 presents the peak daily criteria pollutant emissions associated with construction of the proposed Project after the application of Mitigation Measures MM AQ-1 through MM AQ-5. Peak daily emissions for each construction phase were determined by totaling the daily emissions from those construction activities that overlap in the proposed construction schedule. Table 3.2-15 shows that, with mitigation, peak daily construction emissions would be reduced, but would remain above the level of significance for VOC in years 2023 and 2024. Peak daily NO_X construction emissions would also be reduced, but would remain above the level of significance in years 2014 and 2015. The largest contributor to peak daily NO_X construction emissions would be the exhaust from off-road construction equipment.

Table 3.2-16 presents the peak daily overlapping construction and operational emissions after the application of Mitigation Measures MM AQ-1 through MM AQ-5. Table 3.2-16 shows that, with mitigation, peak daily overlapping construction and operational emissions would be reduced but would remain above the level of significance for VOC, CO, and NO_X in years 2021 through 2024. The largest contributors to peak daily VOC emissions are fugitive emissions from architectural coatings. Marine vessel and vehicle emissions are the largest contributors to CO, and marine vessels are the largest contributors to NO_X emissions.

Mitigation Measures MM AQ-6 and MM AQ-7, not included in the mitigated emissions calculations, could further reduce construction emissions, depending on their effectiveness. However, CO and NO_X impacts would remain significant and unavoidable.

Table 3.12-15. Peak Daily Construction Emissions—Proposed Project with Mitigation

	Peak Day Emissions (lb/day)						
Year	*VOC*	*CO*	*NO_X*	*SO_X*	*PM10*	*PM2.5*	*DPM*
2014							
Construction Equipment Emissions	5	95	101	0	1	1	1
Vehicle Emissions	2	7	27	0	3	1	1
Worker Vehicle Emissions	2	15	1	0	0	0	0
Fugitive Emissions	12	0	0	0	24	4	0
Onsite Emissions	17	95	102	0	23	4	1
Offsite Emissions	3	21	28	0	6	2	1
Total	20	117	130	0	28	6	2
Threshold	75	550	100	150	150	55	N/A
Significance Determination	No	No	**Yes**	No	No	No	N/A
2015							
Construction Equipment Emissions	6	120	105	0	1	1	1
Vehicle Emissions	2	10	36	0	3	2	1
Worker Vehicle	2	18	2	0	0	0	0

Year	*Peak Day Emissions (lb/day)*						
	VOC	*CO*	*NO_X*	*SO_X*	*PM10*	*PM2.5*	*DPM*
Emissions							
Fugitive Emissions	14	0	0	0	35	5	0
Onsite Emissions	21	121	106	0	32	5	1
Offsite Emissions	4	27	36	0	7	3	1
Total	25	148	142	1	40	8	2
Threshold	75	550	100	150	150	55	N/A
Significance Determination	No	No	**Yes**	No	No	No	N/A
2016							
Construction Equipment Emissions	1	20	3	0	0	0	0
Vehicle Emissions	1	2	8	0	1	0	0
Worker Vehicle Emissions	0	3	0	0	0	0	0
Fugitive Emissions	4	0	0	0	5	1	0
Onsite Emissions	5	20	3	0	5	1	0
Offsite Emissions	1	5	8	0	2	1	0
Total	5	26	11	0	7	1	0
Threshold	75	550	100	150	150	55	N/A
Significance Determination	No	No	No	No	No	No	N/A
2017							
Construction Equipment Emissions	2	28	13	0	0	0	0
Vehicle Emissions	0	1	4	0	0	0	0
Worker Vehicle Emissions	0	3	0	0	0	0	0
Fugitive Emissions	0	0	0	0	12	2	0
Onsite Emissions	2	28	13	0	12	2	0
Offsite Emissions	1	4	4	0	1	0	0
Total	2	32	17	0	13	2	1
Threshold	75	550	100	150	150	55	N/A
Significance Determination	No	No	No	No	No	No	N/A
2018							
Construction	2	28	13	0	0	0	0

Year	*Peak Day Emissions (lb/day)*						
	VOC	*CO*	*NO_X*	*SO_X*	*PM10*	*PM2.5*	*DPM*
Equipment Emissions							
Vehicle Emissions	0	1	4	0	0	0	0
Worker Vehicle Emissions	0	3	0	0	0	0	0
Fugitive Emissions	0	0	0	0	12	2	0
Onsite Emissions	2	28	13	0	12	2	0
Offsite Emissions	1	4	4	0	1	0	0
Total	2	32	17	0	13	2	1
Threshold	75	550	100	150	150	55	N/A
Significance Determination	No	No	No	No	No	No	N/A
2019							
Construction Equipment Emissions	3	54	9	0	0	0	0
Vehicle Emissions	5	23	70	1	9	5	2
Worker Vehicle Emissions	1	5	0	0	0	0	0
Fugitive Emissions	24	0	0	0	31	5	0
Onsite Emissions	27	55	11	0	23	4	0
Offsite Emissions	5	27	68	1	17	7	2
Total	33	82	79	1	40	10	2
Threshold	75	550	100	150	150	55	N/A
Significance Determination	No	No	No	No	No	No	N/A
2020							
Construction Equipment Emissions	3	54	9	0	0	0	0
Vehicle Emissions	5	23	70	1	9	5	2
Worker Vehicle Emissions	1	5	0	0	0	0	0
Fugitive Emissions	24	0	0	0	31	5	0
Onsite Emissions	27	55	11	0	23	4	0
Offsite Emissions	5	27	68	1	17	7	2
Total	33	82	79	1	40	10	2
Threshold	75	550	100	150	150	55	N/A
Significance	No	No	No	No	No	No	N/A

Year	*Peak Day Emissions (lb/day)*						
	VOC	*CO*	*NO_X*	*SO_X*	*PM10*	*PM2.5*	*DPM*
Determination							
2021							
Construction Equipment Emissions	0	2	1	0	0	0	0
Vehicle Emissions	0	1	4	0	0	0	0
Worker Vehicle Emissions	0	1	0	0	0	0	0
Fugitive Emissions	4	0	0	0	5	1	0
Onsite Emissions	4	2	1	0	5	1	0
Offsite Emissions	0	2	3	0	1	0	0
Total	5	4	5	0	6	1	0
Threshold	75	550	100	150	150	55	N/A
Significance Determination	No	No	No	No	No	No	N/A
2022							
Construction Equipment Emissions	0	0	0	0	0	0	0
Vehicle Emissions	0	0	0	0	0	0	0
Worker Vehicle Emissions	0	0	0	0	0	0	0
Fugitive Emissions	0	0	0	0	0	0	0
Onsite Emissions	0	0	0	0	0	0	0
Offsite Emissions	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
Threshold	75	550	100	150	150	55	N/A
Significance Determination	No	No	No	No	No	No	N/A
2023							
Construction Equipment Emissions	1	7	1	0	0	0	0
Vehicle Emissions	0	1	3	0	0	0	0
Worker Vehicle Emissions	0	2	0	0	0	0	0
Fugitive Emissions	82	0	0	0	1	0	0
Onsite Emissions	83	7	1	0	0	0	0
Offsite Emissions	0	3	3	0	1	0	0

Year	*Peak Day Emissions (lb/day)*						
	VOC	*CO*	*NO_X*	*SO_X*	*PM10*	*PM2.5*	*DPM*
Total	83	10	4	0	1	0	0
Threshold	75	550	100	150	150	55	N/A
Significance Determination	**Yes**	No	No	No	No	No	N/A
2024							
Construction Equipment Emissions	1	7	1	0	0	0	0
Vehicle Emissions	0	1	3	0	0	0	0
Worker Vehicle Emissions	0	2	0	0	0	0	0
Fugitive Emissions	82	0	0	0	1	0	0
Onsite Emissions	83	7	1	0	0	0	0
Offsite Emissions	0	3	3	0	1	0	0
Total	83	10	4	0	1	0	0
Threshold	75	550	100	150	150	55	N/A
Significance Determination	**Yes**	No	No	No	No	No	N/A

[a] DPM was conservatively assumed to equal PM10 associated with diesel exhaust.

Emissions are rounded to the nearest pound.

Onsite construction emissions are comprised of construction equipment exhaust, on-road vehicles traveling and idling onsite, architectural coatings, and asphalt operations.

Offsite construction emissions are comprised of on-road vehicles traveling offsite.

Table 3.2-16. Peak Daily Overlapping Construction and Operational Emissions—Proposed Project with Mitigation

Year	*Peak Day Emissions (lb/day)*						
	VOC	*CO*	*NO_X*	*SO_X*	*PM10*	*PM2.5*	*DPM*
2011 CEQA Baseline	16	198	295	0	12	11	11
2016							
Construction	5	26	11	0	7	1	0
Operation	43	361	270	1	21	10	5
Total	48	387	281	1	28	11	6
Threshold	75	550	100	150	150	55	N/A
CEQA Increment	32	189	-13	1	15	0	-6

Year	*Peak Day Emissions (lb/day)*						
	VOC	*CO*	*NO_X*	*SO_X*	*PM10*	*PM2.5*	*DPM*
Significance Determination	No	No	No	No	No	No	N/A
2017							
Construction	2	32	17	0	13	2	1
Operation	43	361	270	1	21	10	5
Total	45	393	287	1	34	12	6
Threshold	75	550	100	150	150	55	N/A
CEQA Increment	29	196	-7	1	21	1	-6
Significance Determination	No	No	No	No	No	No	N/A
2018							
Construction	2	32	17	0	13	2	1
Operation	43	361	270	1	21	10	5
Total	45	393	287	1	34	12	6
Threshold	75	550	100	150	150	55	N/A
CEQA Increment	29	196	-7	1	21	1	-6
Significance Determination	No	No	No	No	No	No	N/A
2019							
Construction	33	82	79	1	40	10	2
Operation	43	361	270	1	21	10	5
Total	76	444	349	1	61	20	8
Threshold	75	550	100	150	150	55	N/A
CEQA Increment	60	246	54	1	49	9	-4
Significance Determination	No	No	No	No	No	No	N/A
2020							
Construction	33	82	79	1	40	10	2
Operation	43	361	270	1	21	10	5
Total	76	444	349	1	61	20	8
Threshold	75	550	100	150	150	55	N/A
CEQA Increment	60	246	54	1	49	9	-4

Year	Peak Day Emissions (lb/day)						
	VOC	*CO*	*NO_X*	*SO_X*	*PM10*	*PM2.5*	*DPM*
Significance Determination	No	No	No	No	No	No	N/A
2021							
Construction	5	4	5	0	6	1	0
Operation	110	764	451	2	59	24	10
Total	115	768	456	2	65	25	10
Threshold	75	550	100	150	150	55	N/A
CEQA Increment	99	570	161	2	52	15	-1
Significance Determination	**Yes**	**Yes**	**Yes**	No	No	No	N/A
2022							
Construction	0	0	0	0	0	0	0
Operation	110	764	451	2	59	24	10
Total	110	764	451	2	59	24	10
Threshold	75	550	100	150	150	55	N/A
CEQA Increment	95	566	157	2	47	14	-1
Significance Determination	**Yes**	**Yes**	**Yes**	No	No	No	N/A
2023							
Construction	83	10	4	0	1	0	0
Operation	110	764	451	2	59	24	10
Total	193	774	456	2	61	24	10
Threshold	75	550	100	150	150	55	N/A
CEQA Increment	178	577	161	2	48	14	-1
Significance Determination	**Yes**	**Yes**	**Yes**	No	No	No	N/A
2024							
Construction	83	10	4	0	1	0	0
Operation	148	833	466	2	69	27	10
Total	231	843	471	2	70	28	11
Threshold	75	550	100	150	150	55	N/A
CEQA Increment	215	645	176	2	58	17	-1

Year	Peak Day Emissions (lb/day)						
	VOC	*CO*	*NO_X*	*SO_X*	*PM10*	*PM2.5*	*DPM*
Significance Determination	**Yes**	**Yes**	**Yes**	No	No	No	N/A

[a] 2016 is the first overlap year for construction and operational activities.

Onsite construction emissions are comprised of construction equipment exhaust, on-road vehicles traveling and idling onsite, architectural coatings, and asphalt operations.

Offsite construction emissions are comprised of on-road vehicles traveling offsite.

Onsite operational emissions are comprised of marine vessel engine use at berth, land-side equipment use, on-road vehicles traveling and idling onsite, architectural coatings, and onsite natural gas use.

Impact AQ-2: The proposed Project would result in offsite ambient air pollutant concentrations during construction that exceed a threshold of significance.

In addition to regional emissions, SCAQMD has developed a methodology that can be used to evaluate localized impacts that may result from construction-period emissions. For projects that disturb five acres of land or less, SCAQMD has developed LSTs that are used much like the regional significance thresholds. As described in Section 3.2.4.2, "Thresholds of Significance," LSTs represent the maximum emissions from a project that would not be expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard. Therefore, the LSTs are conservative, providing public agencies with a method of evaluating ambient air pollutant concentrations for smaller projects without having to conduct air dispersion modeling.

The LST methodology for NO_2 is based on the California 1-hour ambient air quality standard and does not reflect the federal NO_2 1-hour standard, created in 2010. In addition, LSTs do not include SO_2 and, as such, do not reflect the federal SO_2 1-hour standard. As described in Section 3.2.4.2, "Thresholds of Significance," the federal conformity *de minimis* level was used to evaluate NO_X impacts, and EPA's SER for SO_2 was used to evaluate SO_2 impacts.

Table 3.2-17 presents the peak day onsite construction emissions without mitigation and compares the emissions to significance thresholds. The table shows that the worst-case combination of construction activities would occur in 2015 when many of the Phase I elements, such as Berth 56 new building construction; Berth 57 wharf rehabilitation, ground improvements, transit shed retrofit, floating dock construction, public plaza construction, Signal Street improvements, and promenade construction would occur concurrently. Emissions would be driven by exhaust from non-road construction equipment and by fugitive dust from construction activities.

Table 3.2-18 presents the peak day onsite overlapping construction and operational emissions, without mitigation, that would begin during the course of the 21-month construction period as part of the proposed Project. The overlap of construction emissions with operations was evaluated in order to capture the peak emissions levels from these activities, as they are expected to overlap in time.

It is important to note that Table 3.2-18 presents incremental impacts, that is, total emissions minus the CEQA baseline. The CEQA baseline for localized emissions was determined differently than the CEQA baseline for regional emissions in that the CEQA baseline for localized emissions reflects baseline Berths 56–57 and 58–60 emissions only and conservatively excludes baseline Berth 260 emissions. The reason for this is that the baseline location of SCMI on Berth 260 would have affected different receptors than the proposed location at Berths 56–57 and 58–60; accounting for Berth 260 activities in the baseline used for localized impacts would be an overestimation of the baseline. Therefore, activities at the Berth 260 SCMI facility during the baseline year were conservatively excluded in quantifying incremental emissions.

Table 3.2-17. Construction—Localized Significance Determination without Mitigation

	Compliance with State Standards				*Compliance with Federal Standards*	
	Peak Day Emissions (lb/day)				*Annual Emissions (ton/yr)*	
Year	*CO*	*NO_X*	*PM10*	*PM2.5*	*NO_X*	*SO_X*
2014	96	186	43	12	7	0
Threshold	2,613	126	142	80	10	40
Significance Determination	No	**Yes**	No	No	No	No
2015	121	227	60	16	10	0
Threshold	2,613	126	142	80	10	40
Significance Determination	No	**Yes**	No	No	**Yes**	No
2016	20	32	9	2	3	0
Threshold	2,613	126	142	80	10	40
Significance Determination	No	No	No	No	No	No
2017	28	50	19	4	3	0
Threshold	4,184	141	142	80	10	40
Significance Determination	No	No	No	No	No	No
2018	28	50	19	4	3	0
Threshold	4,184	141	142	80	10	40
Significance Determination	No	No	No	No	No	No
2019	56	84	38	8	4	0
Threshold	4,184	141	142	80	10	40
Significance Determination	No	No	No	No	No	No

Year	*Compliance with State Standards*				*Compliance with Federal Standards*	
	Peak Day Emissions (lb/day)				*Annual Emissions (ton/yr)*	
2020	56	84	38	8	4	0
Threshold	4,184	141	142	80	10	40
Significance Determination	No	No	No	No	No	No
2021	2	2	7	1	0	0
Threshold	4,184	141	142	80	10	40
Significance Determination	No	No	No	No	No	No
2022	0	0	0	0	0	0
Threshold	4,184	141	142	80	10	40
Significance Determination	No	No	No	No	No	No
2023	7	9	1	0	1	0
Threshold	4,184	141	142	80	10	40
Significance Determination	No	No	No	No	No	No
2024	7	9	1	0	1	0
Threshold	4,184	141	142	80	10	40
Significance Determination	No	No	No	No	No	No

Table 3.2-18. Overlapping Construction and Operation—Localized Significance Determination without Mitigation

Year	*Compliance with State Standards*				*Compliance with Federal Standards*	
	Peak Day Emissions (lb/day)[a]				*Annual Emissions (ton/yr)*	
	CO	*NO_X*	*PM10*	*PM2.5*	*NO_X*[c]	*SO_X*
2011 CEQA Baseline[b]	131	214	10	8	37	0
2016						
Construction	20	32	9	2	3	0
Operation	16	14	0	0	2	0
Total	37	45	9	3	6	0
Threshold	2,613	126	142	80	10	40
CEQA Increment	-95	-169	0	-5	-32	0
Significance	No	No	No	No	No	No

Year	*Compliance with State Standards*				*Compliance with Federal Standards*	
	Peak Day Emissions (lb/day)[a]				*Annual Emissions (ton/yr)*	
	CO	*NO_X*	*PM10*	*PM2.5*	*NO_X*[c]	*SO_X*
Determination						
2017						
Construction	28	50	19	4	3	0
Operation	16	14	0	0	2	0
Total	44	63	19	5	5	0
Threshold	4,184	141	142	80	10	40
CEQA Increment	-87	-151	10	-3	-33	0
Significance Determination	No	No	No	No	No	No
2018						
Construction	28	50	19	4	3	0
Operation	37	45	9	3	6	0
Total	65	95	28	7	8	0
Threshold	4,184	141	142	80	10	40
CEQA Increment	-67	-119	19	-1	-29	0
Significance Determination	No	No	No	No	No	No
2019						
Construction	56	84	38	8	4	0
Operation	16	14	0	0	2	0
Total	72	97	38	8	7	0
Threshold	4,184	141	142	80	10	40
CEQA Increment	-59	-117	29	0	-31	0
Significance Determination	No	No	No	No	No	No
2020						
Construction	56	84	38	8	4	0
Operation	16	14	0	0	2	0
Total	72	97	38	8	7	0
Threshold	4,184	141	142	80	10	40
CEQA Increment	-59	-117	29	0	-31	0
Significance Determination	No	No	No	No	No	No

Year	*Compliance with State Standards*				*Compliance with Federal Standards*	
	Peak Day Emissions (lb/day)[a]				*Annual Emissions (ton/yr)*	
	CO	*NO_X*	*PM10*	*PM2.5*	*NO_X*[c]	*SO_X*
2021						
Construction	2	2	7	1	0.1	0
Operation	38	27	1	1	4	0
Total	40	29	8	2	4	0
Threshold	4,184	141	142	80	10	40
CEQA Increment	-91	-185	-1	-6	-34	0
Significance Determination	No	No	No	No	No	No
2022						
Construction	0	0	0	0	0	0
Operation	38	27	1	1	4	0
Total	38	27	1	1	4	0
Threshold	4,184	141	142	80	10	40
CEQA Increment	-93	-187	-9	-7	-34	0
Significance Determination	No	No	No	No	No	No
2023						
Construction	7	9	1	0	1	0
Operation	38	27	1	1	4	0
Total	45	36	2	1	5	0
Threshold	4,184	141	142	80	10	40
CEQA Increment	-86	-178	-8	-7	-33	0
Significance Determination	No	No	No	No	No	No
2024						
Construction	7	9	1	0	1	0
Operation	48	29	1	1	4	0
Total	55	39	2	1	5	0
Threshold	4,184	141	142	80	10	40
CEQA Increment	-76	-176	-8	-7	-33	0
Significance Determination	No	No	No	No	No	No

	Compliance with State Standards				*Compliance with Federal Standards*	
	Peak Day Emissions (lb/day)[a]				*Annual Emissions (ton/yr)*	
Year	*CO*	*NO_X*	*PM10*	*PM2.5*	*NO_X*[c]	*SO_X*

[a] Both onsite and offsite operational emissions are considered to occur within a 5-acre area. This is a conservative assumption because in reality, emissions would be spread over a much larger area, both on land and over water.
[b] CEQA Baseline reflects Berths 56-57 and 58-60 emissions only. The existing SCMI (Berth 260) facility is in a different location than the proposed project site and would affect different receptors, and was therefore not used in the CEQA baseline to calculate localized impacts. Operations at Berths 56-57 and 58-60 are appropriate to use in CEQA baseline to calculate localized impacts.
[c] The federal conformity NO_X *de minimis* level of 10 tpy applies to the proposed project increment rather than absolute emissions.

Impact Determination

Table 3.2-17 shows that without mitigation, localized construction emissions would exceed the SCAQMD LST threshold for NO_X in years 2014 and 2015; therefore, the proposed Project would potentially contribute to exceedances of the state ambient air quality standard for NO_2 in the immediate proposed project vicinity. Without mitigation, localized construction emissions would also exceed the federal threshold for NO_X in year 2015; therefore, the proposed Project would potentially contribute to exceedances of the federal ambient air quality standard for NO_2 in the immediate proposed project vicinity.

Construction and operational activities would overlap in years 2016 through 2024. Table 3.2-18 shows that—without mitigation—localized, overlapping construction and operational emissions would not exceed the SCAQMD LST or federal thresholds for any criteria pollutants and significant impacts would not occur.

Mitigation Measures

Implement Mitigation Measures MM AQ-1 through MM AQ-7.

Residual Impacts

Table 3.2-19 presents the peak day, localized construction emissions with mitigation and shows that NO_X emissions would be reduced after mitigation to below the level of significance.

Mitigation Measures MM AQ-6 through MM AQ-7, not quantified in the mitigated emissions calculations, could reduce construction emissions even further, depending on their effectiveness.

1 **Table 3.2-19.** Construction—Localized Significance Determination with Mitigation

	Compliance with State Standards				*Compliance with Federal Standards*	
	Peak Day Emissions (lb/day)				*Annual Emissions (ton/yr)*	
Year	*CO*	*NO_X*	*PM10*	*PM2.5*	*NO_X*	*SO_X*
2014	95	102	23	4	4	0
Threshold	2,613	126	142	80	10	40
Significance Determination	No	No	No	No	No	No
2015	121	106	32	5	4	0
Threshold	2,613	126	142	80	10	40
Significance Determination	No	No	No	No	No	No
2016	20	3	5	1	0	0
Threshold	2,613	126	142	80	10	40
Significance Determination	No	No	No	No	No	No
2017	28	13	12	2	1	0
Threshold	4,184	141	142	80	10	40
Significance Determination	No	No	No	No	No	No
2018	28	13	12	2	1	0
Threshold	4,184	141	142	80	10	40
Significance Determination	No	No	No	No	No	No
2019	55	11	23	4	1	0
Threshold	4,184	141	142	80	10	40
Significance Determination	No	No	No	No	No	No
2020	55	11	23	4	1	0
Threshold	4,184	141	142	80	10	40
Significance Determination	No	No	No	No	No	No
2021	2	1	5	1	0	0
Threshold	4184	141	142	80	10	40
Significance Determination	No	No	No	No	No	No
2022	0	0	0	0	0	0
Threshold	4,184	141	142	80	10	40
Significance Determination	No	No	No	No	No	No
2023	7	1	0	0	0	0
Threshold	4,184	141	142	80	10	40
Significance Determination	No	No	No	No	No	No

	Compliance with State Standards				Compliance with Federal Standards	
	Peak Day Emissions (lb/day)				Annual Emissions (ton/yr)	
Year	*CO*	*NO_X*	*PM10*	*PM2.5*	*NO_X*	*SO_X*
2024	7	1	0	0	0	0
Threshold	4,184	141	142	80	10	40
Significance Determination	No	No	No	No	No	No

3.2.4.3.2 Operational Impacts

Impact AQ-3: The proposed Project would result in operational emissions that exceed a SCAQMD threshold of significance.

Table 3.2-20 presents the unmitigated peak daily criteria pollutant emissions associated with operation of the proposed Project. Emissions were estimated for four project study years: 2016, 2021, 2024, and 2042. Year 2016 represents the end of Phase I construction of the proposed Project and the start of operation of the new SCMI Research Center and Learning Facility. Year 2021 represents the completion of Berths 58–60 construction and the start of operation of the temporary NOAA facility. Year 2024 represents the completion of Berths 70–71 and the start of operation of the permanent NOAA facility, the Wave Tank, and full project buildout. Emissions in the horizon year 2042 were conservatively assumed to equal year 2024. In actuality, emissions in 2042 would likely be less as marine vessels and other equipment outlive their useful life and are replaced with cleaner equipment. Because there are currently no regulations to specifically require cleaner marine engines replacements or retrofits between years 2024 and 2042, marine engine emissions were assumed to remain constant. Land-side, vehicle sources, fugitive, and stationary source emissions were also assumed to remain constant because there are currently no regulations that require further retrofits of this equipment or sources.

Table 3.2-20 presents emissions associated with marine research vessels, land-side sources (forklifts, generators, etc.), on-road mobile sources (delivery, visitor, and employee vehicles), fugitive sources (landscaping and surface repainting), and miscellaneous stationary utility sources (burning of natural gas in onsite boilers and heaters).

Table 3.2-20. Peak Daily Operational Emissions—Proposed Project without Mitigation

	Peak Day Emissions (lb/day)						
Year	*VOC*	*CO*	*NO_X*	*SO_X*	*PM10*	*PM2.5*	*DPM*
2011 CEQA Baseline	16	198	295	0	12	11	11
2016							
Marine Vessels	9	171	181	0	4	4	4

Year	Peak Day Emissions (lb/day)						
	VOC	*CO*	*NO_X*	*SO_X*	*PM10*	*PM2.5*	*DPM*
Land-Side Sources	0	9	3	0	0	0	0
Vehicle Sources	21	181	86	1	7	3	1
Fugitive Sources	309	0	0	0	10	2	0
Utility Sources	0	0	0	0	0	0	0
Onsite Emissions	310	16	14	0	0	0	0
Offsite Emissions	29	345	256	1	21	9	5
Total	340	361	270	1	21	10	5
Threshold	55	550	55	150	150	55	N/A
CEQA Increment	324	164	-25	0	9	-1	-6
Significance Determination	**Yes**	No	No	No	No	No	N/A
2021							
Marine Vessels	15	306	278	0	7	6	7
Land-Side Sources	0	18	5	0	0	0	0
Vehicle Sources	52	440	168	2	22	10	3
Fugitive Sources	1,064	0	0	0	30	7	0
Utility Sources	0	1	0	0	0	0	0
Onsite Emissions	1,066	38	27	0	1	1	1
Offsite Emissions	65	726	424	2	59	23	9
Total	1,132	764	451	2	59	24	10
Threshold	55	550	55	150	150	55	N/A
CEQA Increment	1,116	566	157	2	47	14	-1
Significance Determination	**Yes**	**Yes**	**Yes**	No	No	No	N/A
2024							
Marine Vessels	15	306	278	0	7	6	7
Land-Side Sources	0	26	5	0	0	0	0
Vehicle Sources	59	500	182	2	26	12	3
Fugitive Sources	1,816	0	0	0	36	9	0
Utility Sources	0	1	1	0	0	0	0
Onsite Emissions	1,819	48	29	0	1	1	1
Offsite Emissions	72	785	437	2	68	27	10
Total	1,892	833	466	2	69	27	11
Threshold	55	550	55	150	150	55	N/A

Year	*Peak Day Emissions (lb/day)*						
	VOC	*CO*	*NO_X*	*SO_X*	*PM10*	*PM2.5*	*DPM*
CEQA Increment	1,876	635	172	2	56	17	-1
Significance Determination	**Yes**	**Yes**	**Yes**	No	No	No	N/A
2042							
Marine Vessels	15	306	278	0	7	6	7
Land-Side Sources	1	26	5	0	0	0	0
Vehicle Sources	59	500	182	2	26	12	3
Fugitive Sources	1,816	0	0	0	36	9	0
Utility Sources	0	1	1	0	0	0	0
Onsite Emissions	1,819	48	29	0	1	1	1
Offsite Emissions	72	785	437	2	68	27	10
Total	1,892	833	466	2	69	27	11
Threshold	55	550	55	150	150	55	N/A
CEQA Increment	1,876	635	172	2	56	17	-1
Significance Determination	**Yes**	**Yes**	**Yes**	No	No	No	N/A

Regional operations impacts were determined on an incremental basis by subtracting CEQA baseline emissions from the total proposed project emissions for each analysis year. Table 3.2-20 presents the peak day onsite operational emissions without mitigation. The table shows that the worst-case combination of operational activities would occur in 2024 when the proposed Project would be built out and the SCMI facilities, NOAA facilities, marine business park, café, and public plaza would be constructed and operational.

Impact Determination

Table 3.2-20 shows that without mitigation, the proposed Project's unmitigated peak daily operational emissions would exceed SCAQMD Significance Thresholds for VOC in analysis years 2016, 2021, 2024, and 2042. Peak daily operational emissions would exceed SCAQMD Significance Thresholds for CO in analysis years 2021, 2024, and 2042. Peak daily operational emissions would exceed SCAQMD Significance Thresholds for NO_X in analysis years 2021, 2024, and 2042. The largest contributor to operational VOC emissions would be re-application of architectural coatings, whereas the largest contributor to operational CO and NO_X emissions would be exhaust from marine vessels and on-road vehicles due to site visitors. Therefore, without mitigation, the proposed project operations would exceed the significance thresholds for VOC, CO and NO_X, and significant impacts would occur.

Mitigation Measures

Mitigation measures for proposed project operations were derived in consultation with LAHD staff and applicable measures of the CAAP.[3] These mitigation measures are required during operation and are to be implemented by LAHD.

Implement Mitigation Measures MM AQ-4 and MM AQ-7.

<u>Lease Measures</u>

The following measures are standard lease measures that would be included in the lease. The measures will reduce future air emissions and comply with Port air quality planning requirements.

LM AQ-1: Periodic Review of New Technology and Regulations. LAHD will require tenants to review, in terms of feasibility and benefits, any LAHD-identified or other new emissions-reduction technology, and report to LAHD.

LM AQ-2: Substitution of New Technology. If any kind of technology becomes available and is shown to be as good or as better in terms of emissions reduction performance than the existing measure, the technology could replace the existing mitigation measure pending approval of LAHD.

Table 3.2-21 summarizes the operational mitigation measures. Regulatory requirements assumed in the unmitigated emission calculations were previously presented in Table 3.2-6.

Table 3.2-21. Mitigation Measures Assumed in the Project Operational Emissions

Marine Vessels	*Land-Side Equipment*	*Vehicle Sources*	*Fugitive Sources*
Mitigation Measures Included in the Mitigated Emission Calculations			
			MM AQ-4: Implement SCAQMD's Super-Compliant Architectural Coating Standard
Mitigation Measures Not Included in the Mitigated Emission Calculations[a]			
MM AQ-7: Implement General Mitigation Measure			

[a] These mitigation measures were not included in the calculations because their effectiveness has not been established.

Note:

This table is not a comprehensive list of all applicable regulations; rather, the table lists key regulations and agreements that substantially affect the emission calculations for the proposed Project. A description of each regulation or agreement is provided in Section 3.2.3, "Applicable Regulations."

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[3] CAAP measures for operational impacts, such as OGV, CHE, and HHDV measures were considered but determined not applicable to the proposed project sources.

Residual Impacts

Table 3.2-22 shows that, following mitigation, the proposed Project's peak daily operational emissions for VOC, CO, and NO_X would be reduced but would remain above the level of significance in years 2021, 2024, and 2042. The largest contributor to VOC emissions would be vehicle sources, whereas the largest contributor to CO and NO_X emissions would remain exhaust from marine vessels and vehicle sources. Impacts would be significant and unavoidable.

Table 3.2-22. Peak Daily Operational Emissions—Proposed Project with Mitigation

	Peak Day Emissions (lb/day)						
Year	*VOC*	*CO*	*NO_X*	*SO_X*	*PM10*	*PM2.5*	*DPM*
2011 CEQA Baseline	16	198	295	0	12	11	11
2016							
Marine Vessels	9	171	181	0	4	4	4
Land-Side Sources	0	9	3	0	0	0	0
Vehicle Sources	21	181	86	1	7	3	1
Fugitive Sources	12	0	0	0	10	2	0
Utility Sources	0	0	0	0	0	0	0
Onsite Emissions	13	16	14	0	0	0	0
Offsite Emissions	29	345	256	1	21	9	5
Total	43	361	270	1	21	10	5
Threshold	55	550	55	150	150	55	N/A
CEQA Increment	27	164	-25	0	9	-1	-6
Significance Determination	No	No	No	No	No	No	N/A
2021							
Marine Vessels	15	306	278	0	7	6	7
Land-Side Sources	0	18	4	0	0	0	0
Vehicle Sources	52	440	168	2	22	10	3
Fugitive Sources	43	0	0	0	30	7	0
Utility Sources	0	1	0	0	0	0	0
Onsite Emissions	45	38	27	0	1	1	1
Offsite Emissions	65	726	424	2	59	23	9
Total	110	764	451	2	59	24	10
Threshold	55	550	55	150	150	55	N/A

Year	Peak Day Emissions (lb/day)						
	VOC	*CO*	*NO_X*	*SO_X*	*PM10*	*PM2.5*	*DPM*
CEQA Increment	95	566	157	2	47	14	-1
Significance Determination	**Yes**	**Yes**	**Yes**	No	No	No	N/A
2024							
Marine Vessels	15	306	278	0	7	6	7
Land-Side Sources	0	26	5	0	0	0	0
Vehicle Sources	59	500	182	2	26	12	3
Fugitive Sources	73	0	0	0	36	9	0
Utility Sources	0	1	1	0	0	0	0
Onsite Emissions	76	48	29	0	1	1	1
Offsite Emissions	72	785	437	2	68	27	10
Total	148	833	466	2	69	27	10
Threshold	55	550	55	150	150	55	N/A
CEQA Increment	132	635	172	2	56	17	-1
Significance Determination	**Yes**	**Yes**	**Yes**	No	No	No	N/A
2042							
Marine Vessels	15	306	278	0	7	6	7
Land-Side Sources	0	26	5	0	0	0	0
Vehicle Sources	59	500	182	2	26	12	3
Fugitive Sources	73	0	0	0	36	9	0
Utility Sources	0	1	1	0	0	0	0
Onsite Emissions	76	48	29	0	1	1	1
Offsite Emissions	72	785	437	2	68	27	10
Total	148	833	466	2	69	27	10
Threshold	55	550	55	150	150	55	N/A
CEQA Increment	132	635	172	2	56	17	-1
Significance Determination	**Yes**	**Yes**	**Yes**	No	No	No	N/A

[a] DPM was conservatively assumed to equal PM10 associated with diesel exhaust.
Emissions are rounded to the nearest pound.
Onsite operational emissions are comprised of marine vessel engine use at berth, land-side equipment use, on-road vehicles traveling and idling onsite, architectural coatings, and onsite natural gas use.
Offsite operational emissions are comprised of marine vessels transiting within and outside of the harbor, and on-road vehicles traveling offsite.

Impact AQ-4: The proposed Project would not result in offsite ambient air pollutant concentrations during operation that exceed a threshold of significance.

SCAQMD has developed a methodology that can be used to evaluate localized impacts that may result from operational emissions. For small projects (5 acres or less), SCAQMD has developed a set of LST lookup tables much like the regional significance thresholds. For larger acreage projects, the use of the 5-acre LSTs is conservative because a large project would have its emission sources spread out over a larger area and therefore would produce more diluted concentrations near the project site. For the analysis, onsite emission sources would be concentrated near the water, where the research vessels would be docked. Emissions were quantified for the operations on the entire site and for vessels while at berth and were compared to the 5-acre LSTs. This constitutes a very conservative approach because in actuality emissions would be spread out and dispersed over a much larger area than the conservative 5-acre estimate.

As discussed under Impact AQ-2, operational impacts are determined on an incremental basis, that is, total emissions minus the CEQA baseline. The CEQA baseline for localized emissions reflects Berths 56, 57, and 58–60 emissions only and excludes Berth 260 emissions. The reason for this is that the proposed Project proposes that the SCMI facility, originally located on Berth 260, be relocated to Berths 56, 57, and 58–60, and, as such, the new SCMI location would affect different receptors. Therefore, operations at the Berth 260 SCMI facility during the Baseline year were conservatively excluded in quantifying incremental emissions.

Table 3.2-23 presents the peak day onsite operational emissions without mitigation. The table shows that the worst-case combination of operational activities would occur in 2024 when the proposed Project would be built out and the SCMI facilities, NOAA facilities, marine business park, café, and public plaza would be constructed and operational.

Table 3.2-23. Operation—Localized Significance Determination without Mitigation

	Compliance with State Standards				*Compliance with Federal Standards*	
	Peak Day Emissions (lb/day)[a]				*Annual Emissions (ton/yr)*	
Year	*CO*	*NO_X*	*PM10*	*PM2.5*	*NO_X*	*SO_2*
2011 CEQA Baseline[b]	19	13	1	1	0	0
2016	16	14	0	0	2	0
Threshold	2,613	126	34	20	10	40
CEQA Increment	-3	1	0	0	2	0
Significance Determination	No	No	No	No	No	No
2021	38	27	1	1	4	0
Threshold	2,613	126	34	20	10	40

Year	*Compliance with State Standards*				*Compliance with Federal Standards*	
	Peak Day Emissions (lb/day)[a]				*Annual Emissions (ton/yr)*	
	CO	*NO_X*	*PM10*	*PM2.5*	*NO_X*	*SO_2*
CEQA Increment	19	14	0	0	4	0
Significance Determination	No	No	No	No	No	No
2024	48	29	1	1	4	0
Threshold	2,613	126	34	20	10	40
CEQA Increment	29	17	0	0	4	0
Significance Determination	No	No	No	No	No	No
2042	48	29	1	1	4	0
Threshold	2,613	126	34	20	10	40
CEQA Increment	29	16	0	0	4	0
Significance Determination	No	No	No	No	No	No

[a] Both onsite and offsite operational emissions are considered to occur within a 5-acre area. This is a conservative assumption because in reality, emissions would be spread over a much larger area, both on land and over water.

[b] CEQA Baseline reflects Berths 56, 57, and 58-60 emissions only. The existing SCMI (Berth 260) facility is in a different location than the proposed site and would affect different receptors, and was therefore not used in the CEQA baseline to calculate localized impacts. Operations at Berths 56, 57, and 58-60 are appropriate to use in CEQA baseline to calculate localized impacts.

Impact Determination

Table 3.2-23 shows that, without mitigation, the proposed Project's unmitigated peak daily operational emissions would not exceed LST or federal thresholds for any criteria pollutants. Therefore, the proposed project operations would not result in significant impacts.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AQ-5: The proposed Project would not generate on-road traffic that would contribute to an exceedance of the 1- or 8-hour CO standards.

Within an urban setting, vehicle exhaust is the primary source of CO. Consequently, the highest CO concentrations are generally found in close proximity to congested intersection locations. Under typical meteorological conditions, CO concentrations tend to decrease as the distance from the emissions source (i.e., congested intersection) increases. For purposes of providing a conservative, worst-case impact analysis, CO concentrations are typically analyzed at congested intersection locations, because if impacts are less than significant in close proximity to the congested intersections, impacts will also be less than significant at more distant sensitive receptor locations.

To ascertain the proposed Project's potential to generate localized air quality impacts, the Traffic Impact Assessment for the proposed Project (Appendix C) was reviewed to determine the potential for the creation of localized CO hot spots at congested intersection locations for operational analysis years 2016, 2024, and 2042. The SCAQMD recommends a hot spot evaluation of potential localized CO impacts when vehicle to capacity (V/C) ratios are increased by 2% or more at intersections with a level of service (LOS) of C or worse. The traffic impact analysis identified 19 key intersection locations along routes that accommodate much of the traffic traveling within the proposed project area. Of the key intersection locations, none of the intersections exceeded the SCAQMD screening criteria.

Impact Determination

Because significant impacts would not occur at the intersections with the highest traffic volumes located adjacent to sensitive receptors, no significant impacts are anticipated to occur at any other locations in the study area. The conditions yielding CO hotspots would not be worse than those occurring at the analyzed intersections. Consequently, the sensitive receptors that are included in this analysis would not be significantly affected by CO emissions generated by the net increase in traffic that would occur under the proposed Project.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AQ-6: The proposed Project would not create an objectionable odor at the nearest sensitive receptor.

Impact Determination

Construction

Potential sources that may emit odors during construction activities include construction equipment exhaust and asphalt paving. Odors from these sources would be localized and generally confined to the proposed project site. The proposed Project would utilize typical construction techniques, and the odors would be typical of most construction sites. Additionally, odors would be temporary and intermittent, occurring when equipment is operating and during paving activities. Odor impacts during construction would be less than significant.

Operation

According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed Project does not include any uses identified by the SCAQMD as being associated with odors and therefore would not produce objectionable odors.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AQ-7: The proposed Project would not expose receptors to significant levels of TACs.

TAC Impacts

Proposed project construction and operations would emit TACs that could affect public health in the proposed project vicinity. A screening level health risk calculation was conducted to assess whether the proposed Project would have the potential to exceed the significance thresholds for TACs in Table 3.2-9.

SCAQMD's *Facility Prioritization Procedures for the AB 2588 Program*[4] (SCAQMD 2011b) provided the methodology for the screening level health risk

[4] The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) was enacted in 1987, and requires stationary sources to report the types and quantities of certain substances routinely released into the air. The goals of the act are to collect emission

calculation. The prioritization procedures take into consideration the potency, toxicity, quantity, and volume of hazardous materials released from the facility, adjustment factors for receptor proximity, exposure period, averaging times, and multi-pathway factors for resident and worker receptors in calculating a total facility prioritization score. A score of 10 or more signifies a potentially high impact facility and requires that a health risk assessment (HRA) be conducted, under the AB 2588 program, to assess the risk to the surrounding community. A score above 1 but below 10 signifies a potentially intermediate impact and requires, under the AB 2588 program, that an HRA be conducted to assess potential risks. A score of 1 or below signifies a low potential for impacts on the surrounding community and does not require the facility to conduct an HRA. For the purposes of this analysis, a score of 1 is used as the HRA screening level; a score below 1 was interpreted to signify that health impacts would be below significance thresholds for TACs in Table 3.2-9.

SCAQMD's prioritization procedure was originally developed for the AB 2588 program, which is primarily concerned with onsite stationary sources. The inclusion of mobile sources, such as research vessels and off-road and on-road vehicles, conservatively overestimates the prioritization score because the analysis assumes that the mobile emission sources would be concentrated at a berth, whereas in actuality the sources and corresponding emissions would be dispersed over a much larger area, both on site and off site, on Port property and in the harbor, and would be located further away from the berth and from nearby human receptors.

Both construction and operational emissions were considered in quantifying the screening health impacts. Construction emissions were averaged over 70 years in quantifying residential cancer risk and over 40 years in quantifying offsite worker cancer risk. Non-cancer chronic impacts were analyzed using average hourly emission rates, and acute non-cancer impacts were analyzed using maximum hourly rates, per AB 2588 prioritization methodology (SCAQMD 2011b).

Furthermore, health impacts are based on ambient concentrations of TACs in the air, which are dependent on the geographical location of the emission sources and human receptors. The resulting health impacts are determined on an incremental basis by subtracting the CEQA baseline impacts from proposed project impacts. Therefore, as with to the localized criteria pollutant impacts discussed under Impacts AQ-2 and AQ-4, the CEQA baseline for localized TAC emissions reflects Berths 56–57 and 58–60 emissions only and conservatively excludes Berth 260 emissions. The reason for this is that the Project proposes that the SCMI facility, originally located on Berth 260, be relocated to Berths 56, 57, and 58–60, and, as such, the new SCMI location would affect different receptors than those which had been affected by the Berth 260 baseline location. Therefore, operations at the Berth 260 SCMI facility during the 2011 baseline year were conservatively excluded in quantifying incremental TAC emissions and associated health impacts.

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data, identify facilities having localized impacts, ascertain health risks, notify nearby residents of significant risks, and reduce those significant risks to acceptable levels.

Impact Determination

Table 3.2-24 presents the cancer risk screening level score for the proposed Project's construction and operational activities. Table 3.2-25 presents the non-cancer chronic health impact screening score, and Table 3.2-26 presents the acute health impact screening score. The tables show that the cancer risk, non-cancer chronic, and non-cancer acute impacts would each have a prioritization score of less than 1; the cancer risk and non-cancer chronic impacts in fact indicate a reduction from existing conditions. The cancer risk, non-cancer chronic, and non-cancer acute health impacts would therefore be less than significant.

Table 3.2-24. Overlapping Construction and Operation—Cancer Risk Screening without Mitigation

Year	*DPM Emissions (lb/yr)*[a]	
	Residential	*Worker*
2011 CEQA Baseline[b]	3,081	3,081
2016		
Construction	57	100
Operation	1,245	1,245
Total	1,302	1,346
CEQA Increment	-1,778	-1,735
Total Score	-39	-32
Priority Score	Low	Low
2021		
Construction	57	100
Operation	1,962	1,962
Total	2,019	2,062
CEQA Increment	-1,061	-1,018
Total Score	-23	-19
Priority Score	Low	Low
2024		
Construction	57	100
Operation	2,158	2,158
Total	2,215	2,258
CEQA Increment	-865	-822
Total Score	-19	-15
Priority Score	Low	Low
2042		

Construction	57	100
Operation	2,158	2,158
Total	2,215	2,258
CEQA Increment	-865	-822
Total Score	-19	-15
Priority Score	Low	Low

[a] Both onsite and offsite operational emissions are considered to occur within a 5-acre area. This is a conservative assumption because, in reality, emissions would be spread over a much larger area, both on land and over water.

[b] CEQA Baseline reflects Berths 56, 57, and 58-60 emissions only. The existing SCMI (Berth 260) facility is in a different location than the proposed site and would affect different receptors, and was therefore not used in the CEQA baseline to calculate localized impacts. Operations at Berths 56, 57, and 58-60 are appropriate to use in CEQA baseline to calculate localized impacts.

Table 3.2-25. Overlapping Construction and Operation—Non-Cancer Chronic Screening without Mitigation

Year	*DPM Emissions (lb/hr)*[a]	*Score* [b]
2011 CEQA Baseline [c]	0.47	
2016		
Construction	0.08	
Operation	0.22	
Total	0.30	
CEQA Increment	-0.17	
Total Score		-0.20
Priority Score		Low
2021		
Construction	0.01	
Operation	0.41	
Total	0.42	
CEQA Increment	-0.05	
Total Score		-0.06
Priority Score		Low
2024		
Construction	0.02	
Operation	0.44	
Total	0.45	
CEQA Increment	-0.02	

Year	*DPM Emissions (lb/hr)*[a]	*Score* [b]
Total Score		-0.02
Priority Score		Low
2042		
Construction	0.00	
Operation	0.44	
Total	0.44	
CEQA Increment	-0.04	
Total Score		-0.04
Priority Score		Low

[a] Both onsite and offsite operational emissions are considered to occur within a 5 acre area. This is a conservative assumption because in reality, emissions would be spread over a much larger area, both on land and over water.
[b] The total facility score is calculated per SCAQMD's Facility Prioritization Procedures for the AB2588 Program (SCAQMD 2011b).
[c] CEQA Baseline reflects B56, B57, and B58-60 emissions only. Existing SCMI (B260) facility is in a different location than the proposed site and would affect different receptors and was therefore not used in the CEQA baseline to calculate localized impacts. Operations at B56, 57, 58-60 are appropriate to use in CEQA baseline to calculate localized impacts.

Table 3.2-26. Overlapping Construction and Operation—Non-Cancer Acute Screening without Mitigation

	Emissions (lb/hr)[a]				
Year	*Acetaldehyde*	*Benzene*	*Formaldehyde*	*Toluene*	*Score* [b]
2011 CEQA Baseline [c]	0.0002	0.0000	0.0003	0.0000	
2016					
Construction	0.0124	0.0034	0.0248	0.0025	
Operation	0.1115	0.0303	0.2232	0.0223	
Total	0.1239	0.0337	0.2480	0.0248	
CEQA Increment	0.1238	0.0337	0.2476	0.0248	
Total Score					0.29
Priority Score					Low
2021					
Construction	0.0020	0.0005	0.0040	0.0004	
Operation	0.2487	0.0677	0.4977	0.0498	
Total	0.2507	0.0682	0.5017	0.0502	
CEQA Increment	0.2506	0.0682	0.5014	0.0502	
Total Score					0.58
Priority Score					Low

Year	Emissions (lb/hr)[a]				Score [b]
	Acetaldehyde	Benzene	Formaldehyde	Toluene	
2024					
Construction	0.0044	0.0012	0.0088	0.0009	
Operation	0.2753	0.0749	0.5508	0.0551	
Total	0.2796	0.0761	0.5596	0.0560	
CEQA Increment	0.2795	0.0761	0.5593	0.0560	
Total Score					0.65
Priority Score					Low
2042					
Construction	0.0000	0.0000	0.0000	0.0000	
Operation	0.2753	0.0749	0.5508	0.0551	
Total	0.2753	0.0749	0.5508	0.0551	
CEQA Increment	0.2751	0.0749	0.5505	0.0551	
Total Score					0.64
Priority Score					Low

[a] Both onsite and offsite operational emissions are considered to occur within a 5 acre area. This is a conservative assumption because in reality, emissions would be spread over a much larger area, both on land and over water.
[b] The total facility score is calculated per SCAQMD's Facility Prioritization Procedures for the AB2588 Program (SCAQMD 2011b).
[c] CEQA Baseline reflects B56, B57, and B58-60 emissions only. Existing SCMI (B260) facility is in a different location than the proposed site and would affect different receptors and was therefore not used in the CEQA baseline to calculate localized impacts. Operations at B56, 57, and 58-60 are appropriate to use in CEQA baseline to calculate localized impacts.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AQ-8: The proposed Project would not conflict with or obstruct implementation of an applicable air quality plan.

Proposed project operations would produce emissions of nonattainment pollutants. The 2007 AQMP proposes emission reduction measures that are designed to bring the SCAB into attainment of the CAAQS and NAAQS. The attainment strategies in this plan includes mobile-source control measures and clean fuel programs that are enforced at the state and federal level on engine manufacturers and petroleum refiners and retailers; as a result, proposed project operations would comply with these control measures. SCAQMD also adopts AQMP control measures into SCAQMD rules and regulations, which are then used to regulate sources of air pollution in the SCAB. Therefore, compliance with these requirements would ensure that the proposed Project would not conflict with or obstruct implementation of the AQMP.

In addition, as discussed in Section 3.2.3.3, "Regional and Local Regulations," the LAHD, in conjunction with the Port of Long Beach, developed the CAAP, a planning and policy document that sets goals and implementation strategies to reduce air emissions and health risks associated with Port operations. Each individual CAAP measure is a proposed strategy for achieving these emissions reduction goals.

The CAAP Update, adopted in November 2010, includes updated and new emission control measures as proposed strategies that support the goals expressed as Source-Specific Performance Standards and the Project-Specific Standard. In addition, the CAAP Update includes the recently developed San Pedro Bay Standards, which establish emission and health risk reduction goals to assist the ports in their planning for adopting and implementing strategies to significantly reduce the effects of cumulative port-related operations. The goals set forth as the San Pedro Bay Standards are the most significant addition to the CAAP and include both a bay-wide health risk reduction standard and a bay-wide mass emission reduction standard. Ongoing Port-wide CAAP progress and effectiveness will be measured against these bay-wide standards.

Therefore, compliance with CAAP measures, Source-Specific Performance Standards, Project-Specific Standards, and San Pedro Bay Standards would ensure that the proposed Project would not conflict with or obstruct implementation of the CAAP.

Impact Determination

The proposed Project would not conflict with or obstruct implementation of the AQMP; therefore, significant impacts under CEQA are not anticipated.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact GHG-1: The proposed Project would produce GHG emissions that exceed CEQA thresholds.

Climate change, as it relates to human-made GHG emissions, is by nature a global impact. The issue of global climate change is, therefore, a cumulative impact. Nevertheless, for the purposes of this EIR, LAHD has opted to address GHG emissions as a proposed project–level impact. In actuality, an appreciable impact on global climate change would occur only when the proposed project GHG emissions combine with GHG emissions from other human-made activities on a global scale.

Impact Determination

Table 3.2-27 presents an estimate of proposed project–related GHG emissions in the form of CO_2e. Both construction- and operation-related GHG emissions are compared to the CEQA baseline emissions for significance determination. As shown, the proposed project GHG emissions would exceed the SCAQMD CEQA significance threshold of 3,000 mty, and would therefore result in a significant impact.

Table 3.2-27. GHG Emissions—Proposed Project without Mitigation

Year	*CO_2e (mty)*
2011 CEQA Baseline	1,789
2016	
Amortized Construction	363
Operation	9,042
Total	9,405
Threshold	3,000
CEQA Increment	7,616
Significance Determination	**Yes**
2017	
Amortized Construction	363
Operation	9,042
Total	9,405
Threshold	3,000
CEQA Increment	7,616
Significance Determination	**Yes**
2018	
Amortized Construction	363
Operation	9,042
Total	9,405
Threshold	3,000
CEQA Increment	7,616
Significance Determination	**Yes**
2019	
Amortized Construction	363
Operation	9,042
Total	9,405

Year	*CO_2e (mty)*
Threshold	3,000
CEQA Increment	7,616
Significance Determination	**Yes**
2020	
Amortized Construction	363
Operation	9,042
Total	9,405
Threshold	3,000
CEQA Increment	7,616
Significance Determination	**Yes**
2021	
Amortized Construction	363
Operation	24,916
Total	25,279
Threshold	3,000
CEQA Increment	23,490
Significance Determination	**Yes**
2022	
Amortized Construction	363
Operation	24,916
Total	25,279
Threshold	3,000
CEQA Increment	23,490
Significance Determination	**Yes**
2023	
Amortized Construction	363
Operation	24,916
Total	25,279
Threshold	3,000
CEQA Increment	23,490
Significance Determination	**Yes**
2024	
Amortized Construction	363
Operation	29,561

Year	*CO_2e (mty)*
Total	29,924
Threshold	3,000
CEQA Increment	28,135
Significance Determination	**Yes**
Note: OFFROAD 2011, EMFAC 2011, and output and energy emissions calculation worksheets are provided in Appendix B.	

Mitigation Measures

Mitigation measures MM AQ-1 through MM AQ-7 developed for criteria pollutant emissions as part of air quality impacts AQ-1 through AQ-8 would not serve to reduce GHG emissions because the mitigation measures reduce criteria pollutants but not fuel consumption.

The Port of Los Angeles Green Building Policy, which requires incorporation of energy and water efficiency measures into new and redeveloped buildings pursuant to LEED standards, as well as the purchase of renewable energy from LADWP, would facilitate minimization of greenhouse emissions generated by the proposed Project. Although LEED standards provide for use of solar panels, to further expand on this policy a mitigation to further facilitate use of solar panels is proposed:

Table 3.2-28. Project Applicability Review of Potential GHG Emission Reduction Strategies

Operational Strategy	*Applicability to Proposed Project*
California Solar Initiative	MM GHG-1 and future regulatory measures planned by the California Public Utilities Commission
Source: (AG 2010).	

MM GHG-1: Solar Panels. LAHD will review the feasibility of including the City Dock site on its Inventory of Potential PV Solar Sites at POLA from the December 2007 Climate Action Plan. This measure is not quantified.

Residual Impacts

Proposed project GHG emissions would remain above the significance threshold; therefore, impacts would be significant and unavoidable.

Impact GHG-2: The proposed Project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

The state of California has adopted laws and policies directed at regulating and reducing GHG emissions, as detailed in Section3.2.3, "Applicable Regulations," AB 32, specifically, aims to reduce statewide GHG emissions to 1990 levels by 2020 and instructs CARB to adopt regulations that reduce emissions from significant sources of GHGs and establish a mandatory GHG reporting and verification program by January 1, 2008. Activities since the adoption of AB32 are presented in Section 3.2.3 "Applicable Regulations." The proposed Project would use stationary and mobile equipment compliant with state and federal emission requirements and would adhere to control measures adopted by the State of California during construction and operation and would therefore comply with the goals of AB 32. Consequently, compliance with the laws and policies detailed in Section 3.2.3, "Applicable Regulations," would ensure that construction and operation of the proposed Project would not result in a significant GHG impact.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

3.2.4.3.3 Summary of Impact Determinations

Table 3.2-29 summarizes the CEQA impact determinations of the proposed Project related to air quality and GHG, as described in the detailed discussion in Section 3.2.4.3. 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 based on substantial evidence gathered from relevant studies.

For each type of potential impact, the table describes the impact, notes the CEQA 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 3.2-29. Summary Matrix of Potential Impacts and Mitigation Measures for Air Quality and Greenhouse Gases Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.2. AIR QUALITY AND GREENHOUSE GASES			
Construction			
AQ-1: The proposed Project would result in construction-related emissions that exceed an SCAQMD threshold of significance.	Significant	**MM AQ-1: Implement Harbor Craft Engine Standards.** All harbor craft used during the construction phase of the proposed Project will, at a minimum, be repowered to meet EPA Tier 2. Additionally, where available, harbor craft will meet EPA Tier 3 or cleaner marine engine emission standards. Analysis conservatively reflects the use of engines that meet EPA Tier 2 standards.	Significant and unavoidable

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		This harbor craft measure will be met unless one of the following circumstances exists, and the contractor is able to provide proof of its existence: ▪ A piece of specialized equipment is unavailable in a controlled form within the state of California, including through a leasing agreement. ▪ A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the proposed Project, but the application process is not yet approved, or the application has been approved but funds are not yet available. ▪ A contractor has ordered a control device for a piece of equipment planned for use on the proposed Project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must have attempted to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the proposed Project has the controlled equipment available for lease. **MM AQ-2: Implement Fleet Modernization for Construction Equipment.** ▪ Tier Specifications: a. <u>From the start of construction through December 31, 2014</u>: All off-road diesel-powered construction equipment greater than 50 hp, except marine vessels and harbor craft, will meet Tier-3 off-road emission standards at a minimum. In addition, all construction equipment greater than 50 hp will be retrofitted with a CARB-verified Level 3 Diesel Emission Control Strategy (DECS). Any emissions control device used by the contractor will achieve emissions reductions that are no less than what could be achieved by a Level 3 DECS for a similarly sized engine as defined by CARB regulations. b. <u>From January 1, 2015</u>: All off-road diesel-powered construction equipment greater than 50 hp, except marine vessels and harbor craft, will meet Tier-4 off-road emission standards at a minimum. Any emissions control device used by the contractor will achieve emissions reductions that are no less than what could be achieved by a Level 3 DECS for a similarly	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		sized engine as defined by CARB regulations. A copy of each unit's certified tier specification, BACT documentation, and CARB or SCAQMD operating permit will be provided at the time of mobilization of each applicable unit of equipment. The above "Tier Specifications" measures will be met, unless one of the following circumstances exists, and the contractor is able to provide proof that any of these circumstances exists: ▪ A piece of specialized equipment is unavailable within 200 miles of the Port of Los Angeles, including through a leasing agreement. If this circumstance exists, the equipment must comply with one of the options contained in the Step-Down Schedule as shown in Table 3.2-14. At no time will equipment meet less than a Tier 1 engine standard with a CARB40-verified Level 2 DECS. ▪ The availability of construction equipment will be reassessed in conjunction with the years listed in the above Tier Specifications on an annual basis. For example, if a piece of equipment is not available prior to January 1, 2015, the contractor will reassess this availability on January 1, 2015. ▪ Construction equipment will incorporate, where feasible, emissions-savings technology such as hybrid drives and specific fuel economy standards.	

Table 3.2-14. Compliance Step-Down Schedule for Non-Road Construction Equipment

Compliance Alternative	*Engine Standard*[a]	*CARB-Verified DECS*	*PM Emissions*[b] *(g/bhp-hr)*	*NO_X Emissions (g/bhp-hr)*
1	Tier 4	N/A	0.01	0.3
2	Tier 3	Level 3	0.02	2.9
3	Tier 2	Level 3	0.02	4.7
4	Tier 1	Level 3	0.06	6.9
5	Tier 2	Level 2	0.08	4.7
6	Tier 2	Level 1	0.11	4.7
7	Tier 2	Uncontrolled	0.15	4.7
8	Tier 1	Level 2	0.2	6.9

[a] Equipment less than Tier 1, Level 2 will not be permitted.

[b] Stated emission levels are for engine hp ratings to 176 bhp and above. Emission levels for engine bhp ratings below 176 hp are marginally higher (0.02–0.08 g/bhp-hr depending on hp, Tier, and Vehicle Diesel Emission Control level).

g/bhp-hr = grams per brake horsepower hour

Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
		MM AQ-3: Implement Additional Fugitive Dust Controls. The calculation of fugitive dust (PM10) from proposed project earth-moving activities assumes a 61% reduction from uncontrolled levels to simulate three times per day watering of the site and use of other measures (listed below) to ensure compliance with SCAQMD Rule 403 (SCAQMD 2005). The construction contractor will reduce fugitive dust emissions by 74% from uncontrolled levels (SCAQMD 2007a). The proposed project construction contractor will specify dust-control methods that will achieve this control level in a SCAQMD Rule 403 dust control plan and will include holiday and weekend periods when work may not be in progress. Measures to reduce fugitive dust include, but are not limited to, the following: ▪ Active grading sites will be watered every two hours. ▪ Contractors will apply approved non-toxic chemical soil stabilizers according to manufacturer's specifications to all inactive construction areas or replace groundcover in disturbed areas (previously graded areas inactive for ten days or more). ▪ Construction contractors will provide temporary wind fencing around sites being graded or cleared. ▪ Trucks hauling dirt, sand, or gravel will be covered in accordance with Section 23114 of the California Vehicle Code. ▪ Construction contractors will install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off tires of vehicles and any equipment leaving the construction site. Pave road and road shoulders. ▪ The use of clean-fueled sweepers will be required pursuant to SCAQMD Rule 1186 and Rule 1186.1 certified street sweepers. Sweep streets at the end of each day if visible soil is carried onto paved roads on site or on roads adjacent to the site to reduce fugitive dust emissions. ▪ A construction relations officer will be appointed to act as a community liaison concerning onsite construction activity including resolution of issues related to PM10 generation. ▪ Traffic speeds on all unpaved roads will be reduced to 15 mph or less.	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		▪ Temporary traffic controls such as a flag person will be provided during all phases of construction to maintain smooth traffic flow. ▪ Construction activities that affect traffic flow on the arterial system will be conducted during off-peak hours to the extent practicable. ▪ The grading contractor will suspend all soil disturbance activity when winds exceed 25 mph or when visible dust plumes emanate from a site; disturbed areas will be stabilized if construction is delayed. **MM AQ-4: Implement SCAQMD's Super-Architectural Coatings Compliant Standard**. Architectural coatings used on site will meet SCAQMD's super-compliant VOC standard of 10 grams of VOC per liter. **MM AQ-5: Implement the Clean Trucks Program for Construction Haul Trucks**. Heavy duty diesel trucks used for hauling must meet the EPA 2007 emission standards for on-road heavy duty diesel engines (EPA 2006) by 2012. The CTP applies to heavy duty trucks used during construction activities. **MM AQ-6: Implement Best Management Practices**. The following types of measures are required on construction equipment (including on-road trucks), as determined feasible and appropriate: ▪ Use diesel oxidation catalysts and catalyzed diesel particulate trap. ▪ Maintain equipment according to manufacturers' specifications. ▪ Install high-pressure fuel injectors on construction equipment vehicles. ▪ Re-route construction trucks away from congested streets or sensitive receptor areas. LAHD will implement a process by which to select additional BMPs to further reduce air emissions during construction. LAHD will determine the BMPs once the contractor identifies and secures a final equipment list and project scope. LAHD will then meet with the contractor to identify potential BMPs and work with the contractor to include such measures in the contract. BMPs will be based on BACT guidelines and may also include changes to construction practices and design to reduce or eliminate environmental impacts. **MM AQ-7: Implement General Mitigation Measure.** For any of the above mitigation measures,	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		if a CARB-certified technology becomes available and is shown to be as good as or better in terms of emissions performance than the existing measure, the technology could replace the existing measure pending approval by LAHD. For construction, measures will be set at the time a specific construction contract is advertised for bid.	
AQ-2: The proposed Project would result in offsite ambient air pollutant concentrations during construction that exceed a threshold of significance.	Significant	Implement Mitigation Measures **MM AQ-1 through MM AQ-7**.	Less than significant
Operations			
AQ-3: The proposed Project would result in operational emissions that exceed a SCAQMD threshold of significance.	Significant	Implement Mitigation Measures **MM AQ-4 and MM AQ-7.**	Significant and unavoidable
AQ-4: The proposed Project would not result in offsite ambient air pollutant concentrations during operation that exceed a threshold of significance.	Less than significant	No mitigation is required.	Less than significant
AQ-5: The proposed Project would not generate on-road traffic that would contribute to an exceedance of the 1- or 8-hour CO standards.	Less than significant	No mitigation is required.	Less than significant
AQ-6: The proposed Project would not create an objectionable odor	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
at the nearest sensitive receptor.			
AQ-7: The proposed Project would not expose receptors to significant levels of TACs.	Less than significant	No mitigation is required.	Less than significant
AQ-8: The proposed Project would not conflict with or obstruct implementation of an applicable air quality plan.	Less than significant	No mitigation is required.	Less than significant
GHG-1: The proposed Project would produce GHG emissions that exceed CEQA thresholds.	Significant	**MM GHG-1: Solar Panels.** LAHD will review the feasibility of including the City Dock site on its Inventory of Potential PV Solar Sites at POLA from the December 2007 Climate Action Plan. This measure is not quantified.	Significant and unavoidable
GHG-2: The proposed Project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.	Less than significant	No mitigation is required.	Less than significant

3.2.4.4 Mitigation Monitoring

Table 3.2-30. Mitigation Monitoring for Air Quality and Greenhouse Gases

Mitigation Measure	**MM AQ-1: Implement Harbor Craft Engine Standards.**
Timing	During specified construction phases.
Methodology	LAHD will include Mitigation Measure MM AQ-1 in the contract specifications for construction. LAHD will monitor implementation of mitigation measures during construction.
Responsible Parties	LAHD
Mitigation Measure	**MM AQ-2: Implement Fleet Modernization for Construction Equipment.**
Timing	During specified construction phases.
Methodology	LAHD will include Mitigation Measure MM AQ-2 in the contract specifications for

	construction. LAHD will monitor implementation of mitigation measures during construction.
Responsible Parties	LAHD
Mitigation Measure	**MM AQ-3: Implement Additional Fugitive Dust Controls.**
Timing	During specified construction phases.
Methodology	LAHD will include Mitigation Measure MM AQ-3 in the contract specifications for construction. LAHD will monitor implementation of mitigation measures during construction.
Responsible Parties	LAHD
Mitigation Measure	**MM AQ-4: Implement SCAQMD's Super-Compliant Architectural Coating Standard**.
Timing	During specified construction phases.
Methodology	LAHD will include Mitigation Measure MM AQ-4 in the contract specifications for construction. LAHD will monitor implementation of mitigation measures during construction.
Responsible Parties	LAHD
Mitigation Measure	**MM AQ-5: Implement the Clean Trucks Program for Construction Haul Trucks**.
Timing	During specified construction phases.
Methodology	LAHD will include Mitigation Measure MM AQ-5 in the contract specifications for construction. LAHD will monitor implementation of mitigation measures during construction.
Responsible Parties	LAHD
Mitigation Measure	**MM AQ-6: Implement Best Management Practices.**
Timing	During specified construction phases.
Methodology	LAHD will include Mitigation Measure MM AQ-6 in the contract specifications for construction. LAHD will monitor implementation of mitigation measures during construction.
Responsible Parties	LAHD
Mitigation Measure	**MM AQ-7: Implement General Mitigation Measure.**
Timing	During specified construction phases.
Methodology	LAHD will include Mitigation Measure MM AQ-7 in the contract specifications for construction. LAHD will monitor implementation of mitigation measures during construction.
Responsible Parties	LAHD.
Residual Impacts	Significant and unavoidable
Mitigation Measure	**MM GHG-1: Solar Panels.**
Timing	During operation.
Methodology	LAHD will include Mitigation Measure MM GHG-1 in project design and lease agreements with tenants.

Responsible Parties	LAHD, SCMI, NOAA, other tenants
Residual Impacts	Significant and unavoidable

3.2.4.5 Significant Unavoidable Impacts

- The proposed Project would produce peak daily construction emissions that would exceed significance thresholds and result in significant and unavoidable impacts for VOC and NO_X under CEQA. The proposed Project would also produce overlapping construction and operational emissions during the construction period that would exceed significance thresholds and result in significant and unavoidable impacts for VOC, CO and NO_X.
- The proposed Project would produce peak daily operational emissions that would exceed significance thresholds and result in significant and unavoidable impacts for VOC, CO and NO_X.
- The proposed Project would produce GHG emissions that would exceed SCAQMD CEQA significance thresholds, resulting in a significant and unavoidable impact.

3.3
BIOLOGICAL RESOURCES

3.3

BIOLOGICAL RESOURCES

3.3.1 Introduction

This section describes the existing biological resources in the proposed project study area, outlines the applicable regulations, analyzes the potential impacts on biological resources, and describes appropriate mitigation measures.

Potentially significant impacts could occur to marine mammals from pile driving. After mitigation is incorporated, all impacts on biological resources would be less than significant.

3.3.2 Environmental Setting

The biological resources of Los Angeles Harbor have been studied for many years and reported in the form of project EIRs or EISs (e.g., LAHD 2009; USACE and LAHD 1992) and baseline studies prepared for the Port (MEC 1987; MEC et al. 2002; SAIC 2010). Older reports provide information that is useful in describing trends in environmental conditions that affect the biological communities in the proposed project study area (e.g., HEP 1980; Reish 1960). This section summarizes information from these reports and other sources cited in the text as they apply to the proposed Project. A reconnaissance was performed by Thomas Johnson Environmental Consultant in April and May 2011 to review existing conditions reported in earlier documents.

The data and descriptions of habitat conditions in this section rely on a variety of reports and data collected over a number of years. The primary source of biological data is from the Port-wide biological surveys conducted in 2008 (SAIC 2010), augmented with other data as cited in this document.

3.3.2.1 Regional Setting

The proposed project study area lies within the Port of Los Angeles/Los Angeles Harbor, on the western edge of San Pedro Bay. This area has been an active port for approximately 100 years and has undergone significant physical changes in the course of being converted to port use, including the construction of the San Pedro and

Middle Breakwaters, deepening navigational channels and basins, and constructing new land to support cargo terminals and other port uses. These changes have resulted in new, mostly deeper-water habitats and modified circulation patterns. In addition, Los Angeles Harbor is surrounded by industrial, commercial, and residential areas, which greatly influence the marine and terrestrial habitats of the harbor.

Los Angeles Harbor is part of the Dominguez Channel watershed, which receives stormwater input from approximately 80 square miles in, around, and north of the Port. Discharges from the watershed, including the industrial, commercial, and recreational uses within the Port, have influenced water quality and sediment quality conditions of the harbor. Despite this input of fresh water, Los Angeles Harbor is primarily marine, with salinities rarely varying more than 1 part per thousand (ppt) from an average of approximately 34 ppt, although somewhat lower salinities can be found immediately adjacent to storm drains and at the mouth of the Dominguez Channel. Prior to the 1980s, harbor waters and sediments were significantly impaired by lack of circulation and unregulated discharges of runoff and process waters. A series of environmental studies has shown that water and sediment quality have improved dramatically since the 1960s, largely because of federal and state water quality regulations governing wastewater and stormwater management (i.e., the Clean Water Act and Porter-Cologne Water Quality Control Act, respectively) and industrial uses of the harbor (HEP 1980; MEC Analytical Systems 2002). Dredging that removed contaminated sediments from the harbor as part of channel deepening and land construction projects has also contributed to improved sediment conditions.

In response to the improved physical conditions in the harbor, the marine environment has also improved (MEC et al. 2002; SAIC 2010), and provides habitat to a variety of aquatic species. The protected environment and concentration of food resources give the harbor considerable value as a nursery area for juvenile fish, and the harbor provides a greater diversity of habitats than the open coast. The harbor is primarily tidal open-water marine habitat with value to biological resources such as marine fish, birds, and the marine food chains that support these consumers, but there is also extensive hard-bottom habitat, in the form of rock dikes and pilings, and limited shallow-water and beach habitat.

The marine environment consists in general terms of the benthos (bottom) and the water column. The benthos comprises the sea floor, the sediment-water interface, hard surfaces such as rocks and pilings, and the associated organisms, which include the benthic infauna (in the sediment), the benthic epifauna (living on but not in the bottom sediments), and the animals and plants attached to hard surfaces. The benthic habitat includes intertidal beaches and mudflats, as well as eelgrass beds, but because no such habitats occur in the proposed project study area they will not be considered further.

The water column includes the open water overlying the benthos, up to the water's surface, including beds of giant kelp, and the organisms that live predominantly up in the water as opposed to being associated primarily with the sediments or attached to hard surfaces. These open water organisms include zooplankton, phytoplankton, fish, and marine mammals. The marine environment also includes the birds that rely on benthic and open-water habitats, known as marine birds. This description of marine habitats is based upon the information contained in the San Pedro Waterfront Project EIS/EIR (LAHD 2009) and SAIC (2010).

3.3.2.2 Study Area

The proposed project study area for biological resources is illustrated in Figure 3.3-1 and includes two sites: the existing SCMI site and the proposed City Dock No. 1 site, both of which are located within Los Angeles Harbor. The first area includes the 1.3-acre SCMI upland site at Berth 260 on Terminal Island, including adjacent waters in Fish Harbor. The second area encompasses the waters and sediments of the East Channel, the upland areas of Berths 56 through 71 (except the area occupied by Warehouse No. 1), the parking lot at 22nd Street west of Sampson Way, and the waters and sediments of the Main Channel adjacent to Berths 68 to 71. In the case of marine mammals, the proposed project study area includes all of Los Angeles Harbor south of the Vincent Thomas Bridge.

The proposed project study area limits for upland (terrestrial) biological resources includes a 100-foot buffer around the proposed project site limits to determine adjacent biological resources that may be indirectly affected by development of the proposed Project. However, biological resources are addressed in the context of the surrounding area and environmental setting, which may extend beyond the proposed project study area, as applicable.

3.3.2.3 Terrestrial Habitats

Terrestrial in this document is defined as land that lies outside of tidal influence but that may have freshwater influences. The terrestrial environment in the harbor area can in general be classified as either developed land (i.e., covered with pavement or structures) or vacant land, but within the proposed project study area all of the land is developed and was built up from fill placed during the early development of the harbor to create backlands for maritime-related uses such as commercial fishing and international commerce. Accordingly, there are no natural terrestrial habitats, including wetlands, or sensitive plant communities in the proposed project study area. This description of terrestrial habitats is based upon reconnaissance-level site visits in 2011 and the information contained in the San Pedro Waterfront Project EIS/EIR (LAHD 2009).

The most common plant species within the proposed project study area are nonnative weeds, such as sea rocket (*Cakile maritima*), tree tobacco, (*Nicotiana glauca*), Bermuda grass (*Cynodon dactylon*), puncture vine (*Tribulus terrestris*), western ragweed (*Ambrosia psilostachya*), and sow thistle (*Sonchus oleraceus*), that have escaped cultivation or been introduced accidentally (SAIC 2004, 2007). These plants occur as isolated individuals or in small clusters along the edges of paved areas. A few small, confined landscaped areas, especially along the west wall of the Westway tank farm at Berths 70–72, support nonnative ornamental plants (palm and eucalyptus trees, grasses, ice plant, and shrubs). Native terrestrial plants were not observed in the proposed project study area during site visits in 2011, but their presence on vacant sites in the general area has been documented. Such plants species are adapted to coastal environments, such as coyote bush (*Baccharis pilularis*), four-winged saltbush (*Atriplex canescens*), and mule fat (*Baccharis salicifolia*).

All wildlife species having the potential or known to occur within the proposed project study area are adapted to human-disturbed landscapes. These include various common insects; native lizards; a variety of native and nonnative small mammal species including Botta's pocket gopher (*Thomomys bottae*), Norway rat (*Rattus norvegicus*), black rat (*R. rattus*), and house mouse (*Mus musculus*); Virginia opossum (*Didelphis virginiana*); common raccoon (*Procyon lotor*); feral cats (*Felis catus*); and possibly coyotes and red foxes.

A number of common terrestrial bird species may be found in the proposed project study area and adjacent buffer areas. Dominant species observed in these areas during surveys for the San Pedro Waterfront Project EIS/EIR (LAHD 2009) included rock pigeon (*Columba livia*), mourning dove (*Zenaida macroura*), American crow (*Corvus brachyrhynchos*), common raven (*C. corax*), European starling (*Sturnus vulgaris*), yellow-rumped warbler (*Dendroica coronata*), Anna's hummingbird (*Calypte anna*), Brewer's blackbird (*Euphagus cyanocephalus*), cliff swallow (*Petrochelidon pyrrhonota)*, barn swallow (*Hirundo rustica)*, house finch (*Carpodacus mexicanus*), and house sparrow (*Passer domesticus*). Of these, rock pigeon, European starling, and house sparrow are nonnative species. These common species are adapted to urban and disturbed habitats. Many are migratory and would be present during fall, winter, and/or spring but are not expected to breed within the proposed project study area. A few of the species present year-round can be expected to nest in shrubs and structures in the proposed project study area; for example, swallows, sparrows, and rock pigeons often nest under eaves; and hummingbirds, starlings, warblers, and finches commonly nest in shrubs and palm trees.

3.3.2.4 Benthic Marine Habitats

Benthic habitats throughout the Los Angeles/Long Beach Harbors (LA/LB Harbors) were surveyed during 1986–1987 (MEC 1988), 2000 (MEC et al. 2002), and 2008 (SAIC 2010). Biological sampling during the 2008 baseline survey (Figure 3.3-1) included benthic infauna and hard-substrate sampling at Station LA-11, in the Main Channel just southeast of the proposed project study area, benthic infauna sampling at Station LA-12, in the Cabrillo Marina, and benthic infauna and epifauna sampling at Station LA-10, in the channel just south of the entrance to Fish Harbor. These stations are very similar in location to stations used during the previous harbor-wide baseline surveys.

3.3.2.4.1 Soft-Bottom Benthos

The soft sediments of the harbor bottom are predominantly sandy silt, although the proportions and distributions of the various grain sizes vary according to area. Areas with the greatest proportion of sand are located in the Main Channel where currents are stronger. Weaker current velocities within Fish Harbor and the slips of the Inner Harbor tend to allow fine particles to settle, resulting in deposition of finer substrates. Clay makes up less than 25% of the sediment composition throughout the harbor.

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ICF INTERNATIONAL

Figure 3.3-1
Biological Resources
City Dock No. 1 Marine Research Center Project

Clay and silt substrates accumulate primarily in areas of reduced current velocity and deeper basins that are protected from wave action.

Organisms that live in (benthic infauna) and on (benthic epifauna) the soft-bottom habitats can be referred to as the soft-bottom benthic invertebrate community. As described in the San Pedro Waterfront Project EIS/EIR (LAHD 2009) these organisms not only live in and on the sediment but also modify the character of the sediments through their normal activities of feeding, growth, and reproduction. Soft-bottom benthic marine organisms are also an important component of harbor food webs because they consume plankton, bacteria, and detritus and are in turn consumed by fish, birds, mammals, and other benthic organisms.

Harbor-wide surveys (MEC 1988; MEC et al. 2002; SAIC 2010) have consistently shown that there is a distinction in the LA/LB Harbors between habitats in the inner harbor (dead-end slips and channels in the northern part of the harbor complex, including the East Channel and Fish Harbor) and outer harbor (the main channels and the open waters south of Terminal Island). The distinction is based on the proportions of pollution-tolerant species and species characteristic of bays as opposed to open coast areas in the soft-bottom infauna. In general, inner harbor areas are characterized by fewer species, a higher proportion of pollution-tolerant species, and a higher proportion of bay species than outer harbor areas. In both areas the infauna is dominated by polychaete worms (nearly half of all animals), with crustaceans, mollusks, echinoderms, and minor phyla present in decreasing order of abundance. The 2008 survey (SAIC 2010) identified some 400 species of infauna; the ten most abundant species included a nonnative clam (*Theora lubrica*), a small crab (*Scleroplax granulata*), two species of small shrimp-like crustacean animals known as leptostracans and amphipods, and six species of polychaetes.

The most abundant epifauna in the harbor as a whole are shrimp (*Crangon* species), ridgeback prawns (*Sicyonia* species), a spider crab (*Pyromaia tuberculata*), and a swimming crab (*Portunus xanthusii*). Other shrimp and crab species, as well as spiny lobsters, sea cucumbers, predatory cone snails, and brittle stars, are also common on harbor sediments. The shrimp are particularly important as food for bottom-dwelling, benthic fish such as young halibut and other flatfish (sanddabs, soles, and turbots), lizardfish, surfperches, and gobies.

This diversity is an indication of the improvement in habitat quality that has occurred in the past 30 years: the earliest comprehensive surveys, Reish's sampling in the 1950s and the University of Southern California's sampling in the 1970s, showed poor habitat quality in the inner harbor, as indicated by large numbers of a few species of pollution-tolerant organisms and even areas totally devoid of life. Even in the outer harbor, *Capitella capitata* and other species known to be associated with polluted environments were common. In the 1986–1987 survey (MEC 1988) no areas were actually devoid of life, although areas such as Fish Harbor and dead-end slips still had very few species. Everywhere else the surveys found more diversity and more sensitive species, and the survey authors concluded that habitat quality had improved dramatically in just 10 or 15 years. The 2000 and 2008 surveys found increased species diversity and less dominance by pollution-tolerant benthic infauna species (MEC et al. 2002; SAIC 2010).

Near the proposed project study area itself, the average number of infaunal species collected during the 2008 survey (SAIC 2010) ranged from 20 at LA-12 to 34 at LA-11, and the number of individual animals from 143 at LA-12 to 108 at LA-11. These patterns may reflect the trend mentioned above of fewer species but more individuals in inner harbor dead-end slips and basins than in open-water outer harbor areas. Epifauna sampling at station LA-10 collected 9 species of animals, by far the most abundant being three shrimp species (*Crangon nigromaculata*, *Sicyonia ingentis*, and a species of the genus *Heptacarpus*).

3.3.2.4.2 Hard-Substrate Habitats

Hard-substrate habitats in the LA/LB Harbors include pilings and the rock shoreline protection known as riprap, and occupy both the intertidal—the portion of the shoreline periodically exposed to air by the tide—and the subtidal zone, which is never exposed to the air. These habitats provide substantial surface area for the attachment of algae and epifaunal invertebrates, which form a diverse and productive community of organisms.

The 2008 biological survey (SAIC 2010) identified 334 species of animals on the riprap, including representatives from every major invertebrate group. Barnacles and limpets dominated the upper intertidal; the nonnative Mediterranean mussel (*Mytilus galloprovincialis*) was a dominant species in the lower intertidal and shallow subtidal. Tanaid and amphipod crustaceans also were dominant species in the shallow subtidal. Other commonly observed fauna in the lower intertidal and shallow subtidal zones included bryozoans, sponges, tunicates, crabs, tube-dwelling polychaetes, sea anemones, sea urchins, and starfish. As in the case of the soft-bottom benthos, hard surfaces in the inner-harbor areas supported lower species diversity, fewer organisms, and a somewhat different suite of species than outer-harbor areas.

The hard-bottom habitat is also characterized by abundant plants, in the form of marine algae. These range from microscopic forms coating the rocks and pilings to the macroalgae commonly called seaweeds. The 2008 survey identified 21 species of seaweeds on the riprap. The lower intertidal and subtidal zones of inner-harbor sites supported species such as *Sargassum*, *Ulva*, and *Colpemenia* that require less water circulation; but the more exposed outer-harbor areas supported the kelp species *Egregia* and *Macrocystis* (giant kelp) in addition to understory species such as *Sargassum*, the coralline red alga *Corallina* spp., the red alga *Rhodymenia*, and the brown algae *Dictyota*.

The 2008 survey (SAIC 2010) characterized the hard-substrate community on the riprap of the City Dock No. 1 portion of the proposed project study area by sampling at station LARR-4, located at the end of the East Channel, at Berth 48. No riprap sampling was conducted in Fish Harbor; but the sampling at LARR-3, a piling in the West Basin of the Inner Harbor, likely approximates conditions in Fish Harbor. Macroalgae on hard substrates were sampled at station T20 (coinciding with LARR-4) and T19 (in Slip 1 of the Inner Harbor, also likely representing conditions in Fish Harbor).

At LARR-4, the highest number of species and of individual animals occurred in the subtidal, and the lowest number in the upper intertidal, which is typical of rocky coastline habitats (e.g., Ricketts et al. 1985). Crustaceans (barnacles, crabs, and amphipods) were the most abundant organisms at every level, followed, in the subtidal, by polychaetes and echinoderms (sea stars and urchins). The most abundant species were the barnacles *Chthamalus fissus* and *Tetraclita rubescens* and the limpet *Colisella scabra* in the upper intertidal; three species of the amphipod *Caprella* in the lower intertidal; and caprellid amphipods, the cumacean *Cumella californica* (a small crustacean), and several polychaete species in the subtidal. Ten species of macroalgae were observed, including the kelp species *Macrocystis* (giant kelp) and *Egregia*) and encrusting corraline algae such as *Corallina*.

At LARR-3, the highest number of species and individuals occurred in the lower intertidal, and the upper intertidal and subtidal had roughly similar numbers of species and individuals. Crustaceans were the most abundant group in the upper and lower intertidal, but the dominance was much less pronounced than at LARR-4; polychaetes and mollusks were also abundant in the upper intertidal, and were joined by echinoderms in the lower intertidal. In the subtidal, echinoderms were the most abundant animal group. The most abundant animal in the upper intertidal on pilings was the barnacle *Balanus glandulus*. In the lower intertidal the amphipods *Caprella simia* and *Zeuxo nomani*, the brittle star *Amphipholis squamata*, and the tunicate (sea squirt) *Ascidea* were the most abundant animals (although visually the zone is dominated by the mussel *Mytilus galloprovincialis*, the smaller animals are actually more numerous). The subtidal piling community was dominated by brittle stars, mussels, amphipods, and polychaete worms. The six species of macroalgae observed at the inner-harbor algal transect included a green alga known as “ectocarpoid fuzz” and the green alga *Ulva*, both common in the intertidal of quiet basins. A visit to the SCMI site in April 2011 noted the same species on riprap and pilings.

3.3.2.5 Water Column Habitats

Water column habitats in the proposed project study area include open-water areas throughout the harbor, nearshore areas adjacent to the hard-substrate and beach habitats, and kelp forests. Beach habitat is not considered in this EIR because the proposed project study area does not include any beaches. Kelp is considered in section 3.3.2.10, “Special Aquatic Habitats.” Open-water habitat includes deepwater areas of the Inner and Outer Harbor without adjacent physical structures, and typically overlies the soft bottom. In the proposed project study area, this habitat type includes portions of the Main Channel, East Channel, and Fish Harbor. The open-water habitat is somewhat protected from wave action by the outer breakwaters but is subject to frequent boat and shipping traffic. Riprap and pilings are prevalent all along the edges of the channels and slips, and their presence influences the composition of the fish community in the adjacent water column. The water-column habitat is populated largely by plankton and fish, although a number of invertebrates live on the fronds of giant kelp.

3.3.2.5.1 Plankton

Plankton is comprised of non-motile or weak-swimming organisms that drift with the currents, and includes a separate component, the *ichthyoplankton*, that is composed entirely of the eggs and larvae of fish. Photosynthetic plankton species (primarily single-celled algae) are termed *phytoplankton*, while planktonic animals are termed *zooplankton*. Plankton is important to many marine ecosystems as the base of the food webs.

Phytoplankton and zooplankton in the LA/LB Harbors have been described in a number of studies (e.g., Environmental Quality Analysts–MBC 1978; HEP 1976, 1979; Barnett and Jahn 1987). In the Outer Harbor, seasonal phytoplankton patterns have been marked by diatom-dominated spring blooms and more intense dinoflagellate-dominated fall blooms, which can be toxic to many marine animals. The phytoplankton are consumed by zooplankton, as well as by many of the benthic animals described above, as currents carry the organisms within reach of bottom-dwelling filter feeders such as barnacles, clams, mussels, tunicates, sponges, and many worm species. The zooplankton is composed largely of tiny crustaceans known as copepods, as well as by planktonic species of mollusks, coelenterates (jellyfish), and several minor phyla or animals. A major seasonal component of the zooplankton, however, is the eggs and larvae of benthic organisms, including worms, starfish, bivalve mollusks (clams and mussels), crabs, lobsters, and fish.

3.3.2.5.2 Fishes

The fish community in Los Angeles Harbor has been studied for nearly 40 years. It includes two major components: the ichthyoplankton, which are the eggs and larvae, and the adult and juvenile fish themselves.

Ichthyoplankton

Fish eggs and larvae have been extensively studied both in the harbor (e.g., MEC et al. 2002) and along the California coast. Studies of fish larvae and fish spawning have identified trends in abundance, density, and occurrence that help to characterize the harbor in terms of spawning and nursery grounds (MBC 1984; MEC 1988; MEC et al. 2002). The large number and variety of fish eggs and larvae found in the harbor reflects the variety of nursery and adult habitats present.

These studies found that peaks in the abundance of larval fishes occur in spring and summer, with a secondary peak in the fall. In 2008 (SAIC 2010), ichthyoplankton sampling identified a total of 71 species or taxa of larval fish. Harbor-wide, the most abundant larvae were gobies, blennies, sculpins, croakers, and anchovies. Sampling at LA-2 in the Outer Harbor near the proposed project study area found the most abundant fish larvae to be blennies, gobies, and sculpins, which made up nearly 90% of the total of more than 400 larvae per 100 cubic meters of water. These are abundant bottom-dwelling fish, although they do not show up in fish sampling in proportion to their abundance because of their ability to hide in the sediments and in rocky crevices. Other common larvae included grunion (*Leuresthes tenuis*) and croakers (queenfish and white croaker). An Inner Harbor site that is considered representative of conditions in Fish Harbor is LA-14, at the mouth of the Consolidated Slip. Sampling at that station collected an average of over 2,000 larvae per cubic meter of water, substantially more than at LA-2, but the species composition was very similar to LA-2, with gobies accounting for over 90% of the larvae.

Adult and Juvenile Fish

Surveys of adult and juvenile fish species within Los Angeles Harbor conducted in 2008 identified a total of 59 individual species from the open-water areas of the LA/LB Harbors (SAIC 2010), and the 2000 survey identified 71 species (MEC et al. 2002), the difference being attributable largely to the more intensive sampling in the 2000 survey. The 2008 sampling collected over 100,000 fish, most of them water-column fish captured in the lampara net. Although the fish population of the harbor is diverse and abundant, a large proportion of the open-water fish community is dominated by three species: white croaker (*Genyonemus lineatus*), northern anchovy (*Engraulis mordax*), and queenfish (*Seriphus politus*); these species have also dominated the catch in previous recent surveys (e.g., MEC et al. 2002; SAIC 1996; MEC 1988). Seven other species have consistently ranked high in abundance in previous studies and are considered important residents of the harbor: California grunion (*Leuresthes tenuis*), topsmelt (*Atherinops affinis*), Pacific sardine (*Sardinops sagax*), white seaperch (*Phanerodon furcatus*), California tonguefish (*Symphurus atricaudus*), speckled sanddab (*Citharichthys stigmaeus*), and shiner perch (*Cymatogaster aggregata*).

In the water column itself, northern anchovy was the most abundant species collected, comprising 87% of the catch; topsmelt, grunion, queenfish, Pacific sardine, and shiner surfperch also had high abundances. Bat rays (*Myliobatis californica*) and California barracuda (*Sphyraena argentea*), although not abundant, together accounted for 23% of the total biomass in water column samples owing to the large size of the individual fish (SAIC 2010).

Bottom-associated (demersal) fish were dominated by three species, northern anchovy, white croaker, and queenfish, which together constituted 76% of the total catch. These three schooling species, along with the California halibut (*Paralichthys californicus*) and bat ray, accounted for 80% of the total biomass (SAIC 2010). The commercially and recreationally important species barred sand bass (*Paralabrax nebulifer*) was present in moderate abundance (SAIC 2010).

The fish community in open-water portions of the proposed project study area is likely to be very similar to the composition of the harbor-wide fish community described above, given the mobility of open-water fish. Areas near pilings and riprap and in the kelp forests were not specifically sampled for fish during the 2008 survey, but fish that would be more abundant in those areas than in the open-water areas can be deduced from the sampling conducted along the San Pedro Breakwater in 1986–1987 (MEC 1988). That study was focused on the kelp forest that grows on the breakwater, but the fish associated with that forest would be very similar to the fish that associate with riprap and pilings. The most abundant fish were, in order, blacksmith (*Chromis punctipinnis*), pile surfperch (*Rhacochilus vacca*), and black surfperch (*Embiotoca jacksoni*). Other commonly observed fish included kelp surfperch (*Brachyistius frenatus*), senorita (*Oxyjulis californica*), kelp bass (*Paralabrax clathratus*), white seaperch (*Phanerodon furcatus*), and olive rockfish (*Sebastes serranoides*).

3.3.2.6 Birds

3.3.2.6.1 Marine Birds

Los Angeles Harbor provides valuable foraging, nesting, and roosting habitats for a diverse group of birds. Water birds in this report are defined as species that rely on marine aquatic environs for their lifecycle requirements. These species can range from those that occur in both freshwater and marine water (e.g., herons) to those that are restricted to estuarine/marine waters (e.g., surf scoter). The most recent comprehensive study of the water birds inhabiting the harbor (SAIC 2010) documented 68 species of birds considered dependent on aquatic habitats (another 28 terrestrial, or non–water-dependent, species such as crows, sparrows, and hawks were also observed). On average, each of the 20 surveys undertaken counted over 6,000 birds present in marine areas of the harbors at any one time. Federally and state special-status species (see Section 3.3.2.8 for more detail on special-status species) that are seasonally common in the harbor include: California brown pelican (*Pelecanus occidentalis californicus*), California least tern (*Sternula antillarum brownii*), American peregrine falcon (*Falco peregrinus*), and Western snowy plover (*Charadrius alexandrinus nivosus*).

The most well-represented bird groups found within the harbors, and in the proposed project study area, were:

- Waterfowl—e.g., western grebe (*Aechmophorus occidentalis*), Brandt's (*Phalacrocorax penicillatus*), double-crested cormorant (*P. auritus*), surf scoter (*Melanitta perspicillata*);
- Gulls—e.g., Heermann's gull (*Larus heermanni*), ring-billed gull, (*L. delawarensis*), California gull (*L. californicus*), western gull (*L. occidentalis*); and
- Aerial Fish Foragers—e.g., California least tern, Forster's tern (*Sterna forsteri*), elegant tern (*S. elegans*), royal tern (S. *maximus*), Caspian tern (*S. caspia*), black skimmer (*Rynchops niger*), California brown pelican.

While the other water-associated bird groups (Large Shorebirds, Small Shorebirds, and Wading/Marsh Birds) occur in low abundances, those species regularly occurring include black-bellied plover (*Pluvialis squatarola)*, black oystercatcher (*Haematopus bachmani*), great blue heron (*Ardea herodias*), and black-crowned night heron (*Nycticorax nycticorax*). Wading/Marsh Birds feed along the riprap for fish and invertebrates (as well as in uplands for insects, rodents, and reptiles). Shorebirds that occur in the Los Angeles Harbor occur almost exclusively on riprap, the beach habitats at Cabrillo Beach and the Seaplane Anchorage, and the mudflats at Berth 78—Ports O'Call and Salinas de San Pedro Salt Marsh. An exception is killdeer

(*Charadrius vociferous*), an upland-adapted shorebird that can be regularly found on vacant lands in the harbors (such as the lot at 22nd Street and Sampson Way).

During the 2008 baseline study, the majority of bird use within the harbors was in the form of resting (66%), followed by foraging (19%), flying (12%), nesting (3%), and courting (0.1%).

3.3.2.6.2 Terrestrial Birds

The 2008 survey (SAIC 2010) assigned terrestrial bird species found in and near the proposed project study area to two guilds: Raptors (e.g., osprey [*Pandion haliaetus*], peregrine falcon, red-tailed hawk [*Buteo jamaicensis*]) and Upland Birds (e.g., rock dove [*Columba livia*], American crow [*Corvus brachyrhynchos*], house finch [*Carpodacus mexicanus*]). The peregrine falcon is on the state endangered species list but has been delisted by the federal government. It nests in small numbers on bridges and other structures in the LA-LB Harbors. Red-tailed hawks and ospreys are present in small numbers, the former foraging in upland areas on mammals and birds, the latter in water areas on fish.

Rock dove (the so-called "city pigeon") is very common, being one of the ten most abundant species in the harbor. Rock doves frequently nest under wharves and on upland structures throughout the LA-LB Harbors. Upland Birds that would be expected to occur in the proposed project study area include rock dove, American crow, house finch, mourning dove (*Zenaida macroura*), Anna's hummingbird (*Calypte anna*), several species of swallows (nesting under building eaves and wharves), European starling (*Sturnus vulgaris*), and several species of sparrows. These common species are adapted to urban and disturbed habitats.

3.3.2.7 Marine Mammals

Marine mammals have not been well-studied within Los Angeles Harbor, however, both pinnipeds and cetaceans have been recorded including California sea lion (*Zalophus californianus*), harbor seal (*Phoca vitulina*), Pacific bottle-nose dolphin (*Tursiops truncatus*), common dolphin (*Delphinus delphis*), Pacific white-sided dolphin (*Lagenorhynchus obliquidens*), Risso's dolphin (*Grampus griseus*), Pacific pilot whale (*Globicephala macrorhynchus*), and gray whale (*Eschrichtius robustus*) (LAHD and Jones & Stokes 2003; SAIC 2010). The most common marine mammal to the harbor is California sea lion, which can be seen throughout the year foraging or resting on buoys, docks, and the breakwaters of the Outer Harbor. Sea lions are commonly found on the Main Channel adjacent to the commercial fish markets and around sport fishing boats at Berth 78—Ports O'Call. Harbor seals are less common than sea lions but individuals can be found sporadically throughout the year either foraging within the harbor or resting on riprap and buoys. Occasional observations of both common and bottle-nosed dolphins occur within the harbor (SAIC 2010), but sightings of whales are rare, since whales typically traverse coastal waters outside the harbors.

3.3.2.8 Special-Status Species

All plant and wildlife species and natural communities in California that have special regulatory or management status were evaluated for potential to occur within the proposed project study area. Those that include the proposed project study area within their currently known general range and for which suitable conditions exist or may exist, or that otherwise may be affected by the proposed Project, are listed in a Special-Status Species Information Table in Appendix D. That table includes both plant and wildlife species and was developed from a database and literature review using the following steps.

1. The California Natural Diversity Database (CNDDB) (CDFG 2008) and the California Native Plant Society's (CNPS) Electronic Inventory (CNPS 2008) were checked to determine if the known range of special-status species occurred within the USGS 7.5-minute San Pedro, California quadrangle (which includes the proposed project study area) and surrounding eight quadrangles.
2. Species were added to these inventories, as appropriate, based on personal knowledge, experience with prior projects in the area, ICF internal databases, and published and unpublished references.
3. A review was performed of key publications on regulatory status and/or distribution for species relevant to the region, along with miscellaneous recent publications (e.g., Federal Register), agency announcements, popular and technical news sources (e.g., Endangered Species and Draft Jurisdictional Delineation Report), and frequent communications with other professionals.

3.3.2.8.1 Plants

A total of 18 special-status plants were identified in the literature review as having potential to occur within the general vicinity of the proposed project study area (Appendix D). The species are: aphanisma (*Aphanisma blitoides*), south coast saltscale (*Atriplex pacifica*), Parish's brittlescale (*Atriplex parishii*), Davidson's saltscale (*Atriplex serenana* var. *davidsonii*), Lewis's evening primrose (*Camissonia lewisii*), southern tarplant (*Centromadia parryi* ssp. *australis*), Orcutt's pincushion (*Chaenactis glabriuscula* var. *orcuttiana*), salt marsh bird's-beak (*Cordylanthus maritimus* ssp. *maritimus*), Catalina crossosoma (*Crossosoma californicum*), beach spectaclepod (*Dithyrea maritima*), island green dudleya (*Dudleya virens* ssp. *insularis*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), Santa Catalina Island desert thorn (*Lycium brevipes* var. *hassei*), prostrate navarretia (*Navarretia prostrata*), coast woolly-heads (*Nemacaulis denudata* var. *denudata*), Lyon's pentachaeta (*Pentachaeta lyonii*), Brand's phacelia (*Phacelia stellaris*), and estuary seablite (*Suaeda esteroa*).

None of these 18 species has the potential to occur within the proposed project study area. This determination is based on a combination of factors, including the species' requirements for some combination of soils, hydrology, habitats, elevation range, and/or disturbance tolerance, along with consideration of the proposed project study area condition and observed resources.

3.3.2.8.2 Wildlife

A total of 39 special-status, state, and federally listed threatened or endangered wildlife species were identified in the literature review as having potential to occur within the general vicinity of the proposed project study area (Appendix D). Factors considered in determining a species' potential for occurrence included presence of potentially suitable habitat; geographic location of the proposed project study area relative to a species' range; direct observation of the species within the proposed project study area; combination of soils, hydrology, habitats, elevation range, and/or disturbance tolerance; consideration of the proposed project study area condition and observed resources; and existing site disturbances.

Based on these above considerations the following species were determined to have no potential to occur within the proposed project study area: Palos Verdes blue butterfly (*Glaucopsyche lygdamus palosverdesensis*), monarch butterfly (*Danaus plexippus*), tidewater goby (*Eucuclogobius newberryi*), leatherback sea turtle (*Dermochelys coriacea*), loggerhead sea turtle (*Caretta caretta*), Olive Ridley sea turtle (*Lepidochelys olivacea*), San Diego coast horned lizard (*Phrynosoma coronatum blainvillei*), bald eagle (*Haliaeetus leucocephalus*), light-footed clapper rail (*Rallus longirostris levipes*), tufted puffin (*Fratercula cirrhata*), coastal California gnatcatcher (*Polioptila californica californica*), tricolored blackbird (*Agelaius tricolor*), big free-tailed bat (*Nyctinomops macrotis*), Pacific pocket mouse (*Perognathus longimembris pacificus*), and San Diego desert woodrat (*Neotoma lepida intermedia*).

Of the 39 potential special-status species, 23 (Table 3.3-1) are known to be present, at least seasonally, within the harbor area. The 2008 survey observed all of the bird species in Table 3.3-1 except a number of the raptors and upland birds (the surveys were conducted from the water) Cooper's hawk, sharp-shinned hawk, white-tailed kite, northern harrier, Western snowy plover, long-billed curlew, Vaux's swift, burrowing owl, loggerhead shrike, and western yellow warbler (SAIC 2010). Within the proposed project study area the potential for many of these species to occur is much lower than for the harbor as a whole, given the lack of natural habitat and limited extent of the proposed project study area. For example, no suitable nesting habitat exists for burrowing owl, Belding's savannah sparrow, or Western snowy plover. Nevertheless, it is possible that any of those species could briefly visit either site within the proposed project study area. Accordingly, this EIR considers all of the 23 special-status species that could potentially visit or inhabit the harbor.

Table 3.3-1. Special-Status Wildlife Species with Potential to Occur within the Proposed Project Study Area

Common Name	*Scientific Name*	*Status*		*Habitat Use*
		Federal	*State*	
Green sea turtle	*Chelonia mydas*	FT	--	Infrequent visitor; has been observed in Alamitos Bay and in the San Gabriel River.
Common loon	*Gavia immer*	--	SSC	Uncommon winter and migrant visitor to harbor waters; no breeding potential in

Common Name	Scientific Name	Status		Habitat Use
		Federal	State	
				study area.
California brown pelican	*Pelecanus occidentalis californicus*	--	SSC	Common all year; roosts on the breakwaters and forages over harbor waters; nests on the Channel Islands and in Baja California, Mexico. Occasionally observed within the harbor.
Double-crested cormorant	*Phalacrocorax auritus*	--	SSC	Common all year; rests on open waters and breakwaters.[1]
Cooper's hawk	*Accipiter cooperii*	--	SSC	Fairly common-to-infrequent in uplands, primarily wooded and brushy areas; unlikely to nest at harbor. Is likely to occur sporadically as a migrant within the proposed project study area.
Sharp-shinned hawk	*Accipiter striatus*	--	SSC	Infrequent winter and migrant visitor in wooded and brushy uplands.
White-tailed kite	*Elanus leucurus*	--	CFP	Rare visitor in open uplands; no breeding potential in study area.
American peregrine falcon	*Falco peregrinus anatum*	--	SE, CFP	Rare; nests on Vincent Thomas Bridge within 1 mile of the harbor and forages in the harbor area.
Merlin	*Falco columbarius*	--	SSC	Rare winter and migrant visitor, all habitats; prefers wetlands and extensive grasslands next to trees.
Northern harrier	*Circus cyaneus*	--	SSC	Infrequent winter and migrant visitor to upland and nearshore waters. Foraging habitat present; no breeding potential in the proposed project study area.
Osprey	*Pandion haliaetus*	--	SSC	Infrequent winter and migrant visitor to all waters and high overhead. Confirmed as migrant and wintering resident nonbreeder.[1]
Western snowy plover	*Charadrius alexandrinus nivosus*	FT	SSC	Infrequent visitor to harbor; confirmed as nonbreeder; observed on Pier 400.[1]
Long-billed curlew	*Numenius americanaus*	--	SSC	Infrequent visitor to harbor; confirmed as nonbreeder; migrant/winter visitor.[1]
California gull	*Larus californicus*	--	SSC	Common winter/migrant visitor in harbor area; confirmed as nonbreeder.
Elegant tern	*Thalasseus elegans*	--	SSC	Common; nested on Pier 400 in 1998–2005; present all year; confirmed as breeder in some years; forages over water near nests.[1]
Black skimmer	*Rynchops niger*	--	SSC	Common; nested unsuccessfully on Pier 400 in 1998–2000 and 2004; forages over water near nests; confirmed as breeder. Fledgling census suggested reproductive success was

Common Name	Scientific Name	Status		Habitat Use
		Federal	State	
				low during these years due to chick mortality.[2] Present all year.[1]
California least tern	*Sternula antillarum brownii*	E	SE, CFP	Fairly common; breeds on Pier 400, present from about April to early September; forages preferentially over shallow waters; confirmed as breeder.[1]
Vaux's swift	*Chaetura vauxi*	--	SSC	Fairly common, widespread migrant (aerial only).
Burrowing owl	*Athene cunicularia*	--	SSC	Rare non-breeder in open areas; observed at Pier 400 during 2007–2010.[2]
Loggerhead shrike	*Lanius ludovicianus*	--	SSC	Rare non-breeder in open areas.
Western yellow warbler	*Dendroica petechia brewesteri*	--	SSC	Fairly common, widespread migrant in uplands; no breeding at harbor.
Belding's savannah sparrow	*Passerculus sandwichensis beldingi*	--	SE	Rare; inhabits pickleweed in salt marsh and adjacent uplands; transient visitor to harbor.[1]
California western mastiff bat	*Eumops perotis californicus*	--	SSC	Rare or infrequent; possibly roosts in large buildings or tall trees at harbor; foraging would likely be low over uplands.

Notes:
FE = federally endangered
FT = federally threatened
SE = state endangered
SSC = state species of special concern
CFP = California fully protected species
-- = no special status

Common: typically present in substantial numbers
Fairly Common: reliably present, but in small numbers
Infrequent: not usually present, but of regular occurrence
Rare: from a single record to a small number of individuals each year

Sources:
[1] LAHD and USACE 2007.
[2] Keane 2000.

California Least Tern

The California least tern, a migratory species that is present and breeds in California from April through August, was federally listed as endangered in 1970 and state listed as endangered in 1971, and is still on both endangered species lists. Loss of nesting and foraging habitat due to human activities caused a decline in the number of breeding pairs (USFWS 1992). The biology of this species in the harbor area has been thoroughly described in the Channel Deepening EIS/EIR (USACE and LAHD 2000). Extensive monitoring of the least tern nesting site and of breeding, nesting, and foraging activity has been conducted by LAHD since the mid-1990s. The species has been nesting on Terminal Island since at least 1973 (Keane 2005a), and at the current site on Pier 400 since 1999. The number of nests has varied over the years, but in general increased to a peak of 1,322 nests in 2005 (Keane 2005b). Nesting decreased through 2011, when less than 10 nests were observed.

The recent low nest numbers are believed to be related primarily to a decline in least tern prey availability, and secondarily to an increase in visits by predators (Keane 2012). Studies of least tern foraging have been conducted in the harbor since 1982. These surveys have found that least terns forage throughout the Outer Harbor, but that once the chicks have hatched they concentrate on shallow-water (generally less than 20 feet deep) areas near their nesting site (Keane 1997, 1999a, 1999b, Keane and Aspen Environmental Group 2004). Foraging is most common near Cabrillo Beach, the West Basin of Long Beach Harbor, the Pier 300 shallow-water habitat, the Seaplane Lagoon, and the gap between the Navy Mole and the Pier 400 Transportation Corridor. Foraging locations are heavily dependent on the localized fish abundance within the size range suitable for least terns, and shallow-water areas (less than 20 feet deep) are an important foraging resource for the least tern.

California Brown Pelican

The California brown pelican was federally listed as endangered in 1970 and was state listed as endangered in 1971. USFWS published a 90-day finding for the California brown pelican delisting petition, initiated a status review to determine if delisting was warranted (see 71 FR 29908 dated 24 May 2006), and has now been delisted (USFWS 2012a). Low reproductive success attributed to pesticide contamination that caused thinning of eggshells was the primary reason for their listing in 1970–1971. After the use of dichloro-diphenyl-trichloroethane (DDT) was prohibited in 1970, the population began to recover (USACE and LAHD 1992). Surveys in 1973 found the California brown pelican comprised only 3.8% of the total bird observations in the LA/LB Harbors (HEP 1980). Abundance of this species increased to 9.5% in 2000 (MEC and Associates 2002). The only breeding locations in the U.S. are at West Anacapa Island and Santa Barbara Island, although a few have begun nesting at the south end of the Salton Sea (NMFS 1991; Patten et al. 2003). Breeding also occurs at offshore islands and along the mainland of Mexico.

This species has been described in the Biological Opinion (1-6-92-F-25) for the Los Angeles Harbor Development Project (USFWS 1992), Biological Assessment for the Channel Improvement and Landfill Development Feasibility Study (USACE 1990), and Navigation Improvement EIS/EIR (USACE and LAHD 1992).

California brown pelicans use the harbor year-round, but their abundance is greatest in the summer when post-breeding birds arrive from Mexico. The highest numbers are present between early July and early November, when several thousand can be present (MBC 1984). Pelicans use all parts of the harbor, but they prefer to roost and rest on the harbor breakwater dikes, particularly the Middle Breakwater (MBC 1984; MEC 1988; MEC and Associates 2002). They forage over open waters for fish such as the northern anchovy. Brown pelicans were observed adjacent to Pier 400 throughout the year during the 2000 baseline surveys.

Western Snowy Plover

The Pacific Coast population of the western snowy plover (*Charadrius alexandrines nivosus*) was federally listed as threatened in 1993 (USFWS 2012b). This small shorebird nests on coastal beaches from southern Washington to southern Baja California and winters along the coast of California and Baja California (NatureServe 2005). The birds forage on invertebrates (crustaceans and worms) along the shore in or near shallow water (Bent 1929). Western snowy plovers were observed on Pier 400 during least tern nesting surveys in 2003 through 2007. The plovers were not nesting but appeared to be utilizing this area during migration for foraging (Keane 2003, 2005a). Critical habitat was designated for this species in September 2005 (USFWS 2012b) and included four locations within coastal Los Angeles County, none of which is in the LA/LB Harbors area.

Burrowing Owl

Burrowing owl (*Athene cunicularia*) is considered a state species of special concern. Burrowing owls were observed on Pier 400 during every least tern survey since 2008 (Keane 2003, 2005a, 2005b, 2007a, 2007b; Keane pers. comm. 2010). The individuals observed were likely present to prey on California least tern adults and chicks (Keane 2007b). Although no evidence of burrowing owl nesting on Pier 400 has been observed during the California least tern monitoring, it is possible that nesting could occur. The nesting season for this species is February through August (California Burrowing Owl Consortium 2011). Based on this, the burrowing owls observed during these studies could be nesting or post-nesting individuals.

Other Special-Status Bird Species

The California gull, common loon, double-crested cormorant, long-billed curlew, and elegant tern are all marine special-status species that are known to use the harbor for at least part of the year. The elegant tern began nesting on Pier 400 in 1998 and 1999, and 10,170 nests were observed in 2004 (Keane 2005a). SAIC (2010) reported nesting on Pier 300 in 2008. Double-crested cormorants were reported by SAIC (2010) to be nesting in electrical transmission towers on Terminal Island in 2008, and are common throughout the harbors. The California gull, common loon, and long-billed curlew do not nest in the harbor.

The black skimmer is a migratory species that has been extending its breeding range northward in recent years and is protected by the federal Migratory Bird Treaty Act (MBTA) (Whelchel et al. 1996). Black skimmers feed by flying just above the surface of the water and snatching up fish swimming just below the surface. This restricts the species to feeding in very calm waters, such as those in enclosed bays. The species nests along the Atlantic and Gulf coasts to southern Mexico and along the coast of southern California, as well as at the Salton Sea (Collins 2006), and was first reported nesting in the Port in 1998. Black skimmer is a California species of special concern (at nesting sites only). It was present in the harbor all year in 2000, but numbers were greatest during the summer nesting season (MEC et al. 2002). In 2008 black skimmers were observed during the winter, but because no nesting occurred in the Port no birds were observed in any other season (SAIC 2010). Black skimmers nested on Pier 400 in 1998 to 2000 (range of 10 to 115 nests) with poor success (Collins 2006) and in 2004 (about 25 nests) (Keane 2005b).

The black oystercatcher is protected by the MBTA. The species has been present in the harbor since at least 1973, and was the most common Large Shorebird observed during the 2008 investigations (SAIC 2010). Black oystercatchers typically nest along rocky shores and islands along the Pacific coast of North America. A nesting colony of black oystercatchers was observed within the riprap along the entire length of the Outer Breakwater of the harbor during baseline studies conducted during 2000 and 2008 (MEC et al. 2002, SAIC 2010). The nesting colony within the Port is considered unusual (MEC et al. 2002), but is clearly a feature of the harbor bird community.

The American peregrine falcon (*Falco peregrinus anatum*) was removed from the federal endangered species list in 1999, but is still state-listed as endangered. Peregrine falcons are known to nest in the harbor area (Gerald Desmond, Vincent Thomas, and Schuyler F. Heim Bridges; Keane 1999a, 2003) and thus periodically forage in the harbor area, preying upon small birds. In heavily urbanized areas such as the Port, this species commonly nests on anthropogenic structures, and is known to exhibit nest site fidelity from year to year. In recent years falcons nesting on the Gerald Desmond Bridge have successfully fledged several young.

Other special-status raptor species such as red-tailed hawk, American kestrel, Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipter striatus*), white-tailed kite (*Elanus leucurus*), merlin (*Falco columbarius*), and northern harrier (*Circus cyaneus*) have been observed in the harbor and have been recorded as infrequent visitors. Osprey (*Pandion haliaetus*) has been confirmed as a wintering resident nonbreeding species in the harbor (MEC et al. 2002, SAIC 2010). Very limited foraging habitat (e.g., open grassland or ruderal areas) exists for these raptor species within the proposed project study area, and there is no potential breeding habitat for white-tailed kite or northern harrier.

In the open ruderal area near 22nd Street/Old Tank Farm , a single loggerhead shrike was recorded during reconnaissance surveys conducted during 2005 (Campbell pers. comm.). It is likely that this individual was nesting in the brush lining the adjacent bluffs. Loggerhead shrikes were not observed during the 2002 and 2008 baseline surveys, but that is not unexpected given the upland nature of the species.

Belding's savannah sparrow (*Passerculus sandwichensis beldingi*) inhabits pickleweed salt marshes exclusively (USACE and LAHD 1992) and has been sporadically identified within the harbor. Although pickleweed (*Salicornia virginica*) exists at the Salinas de San Pedro Salt Marsh, no nesting Belding's savannah sparrows have ever been identified at this location (Chilton pers. comm.).

Within the harbor area, western yellow warbler (*Dendroica petechia brewsteri)* is expected to be limited to a few migrants during spring and summer. This species is protected under the MBTA. The harbor area lacks suitable breeding habitat for this species.

Bats

A number of special-status bat species may be found in the proposed project study area, including long-legged myotis (*Myotis volans*), long-eared myotis (*Myotis evotis*), Yuma myotis (*Myotis yumanensis*), and California western mastiff bat (*Eumops perotis californicus*). While none of these species specifically is known to be associated with marine habitats, some may forage over urban developed areas, aquatic habitats including the harbor, and open land. Roosting requirements vary by species. Within the harbor area, roosting habitat may include crevices or compartments in buildings or warehouses, under or within compartments in bridge structures, or in any natural or anthropogenic compartment, bridge, or alcove. Maternity colonies typically are formed in April and May; young are weaned and flying by July and August (Barkley 1993).

Sea Turtles and Marine Mammals

Sea Turtles

Several sea turtle species are found in the northeastern Pacific Ocean, including green (*Chelonia mydas*), loggerhead, leatherback, and Olive Ridley sea turtles. Loggerhead sea turtles, federally listed as threatened, are found in all temperate and tropical waters throughout the world and are the most abundant species of sea turtle found in U.S. coastal waters (NMFS 2007a). Additionally, several species have regional distributions in southern California. Therefore, it is possible that sea turtles may occasionally enter the Outer Harbor areas, although during more than 20 years of biological surveys, only the green sea turtle has been observed within the LA/LB Harbors (MEC 1988, MEC et al. 2002; Keane pers. comm.). A brief summary of sea turtles that have or could potentially be observed in the proposed project study area is presented below.

Green sea turtles, federally listed as threatened, are found in temperate and tropical waters throughout the world. They primarily remain near the coastline and around islands and live in bays and protected shores, especially in areas with seagrass beds. In the northeastern Pacific, green turtles have been sighted from the coast and within the gulf of Baja California to southern Alaska, but most commonly occur from San Diego south (NMFS 2007a). They are rarely observed in the open ocean. Green sea turtles have been observed infrequently in Alamitos Bay and in the San Gabriel River, possibly attracted to the warm thermal effluent from two upstream generating stations (LAHD 2009). The most recent green sea turtle sighting was a single individual observed in Alamitos Bay during September 2006. There were additional sightings within San Gabriel River in 1999 and 2002, and three green sea turtles were observed in the river during 2004 (LAHD 2009).

Loggerhead sea turtles, federally listed as threatened, are circumglobal, occurring throughout the temperate and tropical regions of the Atlantic, Pacific, and Indian Oceans. Loggerheads nest on ocean beaches, generally preferring high energy beaches (i.e., beaches with substantial wave action) that are relatively narrow, steeply sloped, and coarse-grained (Lohmann and Lohmann 1996).

Leatherback sea turtles, federally listed as endangered, are the most widely distributed of all sea turtles and are found worldwide with the largest north and south range of all the sea turtle species. The Pacific Ocean leatherback population is generally smaller in size than that in the Atlantic Ocean (NMFS 2007a).

Olive Ridley sea turtles, federally listed as threatened, are found in tropical regions of the Pacific, Indian, and Atlantic Oceans. They typically forage offshore in surface waters or dive to depths of 500 feet to feed on bottom-dwelling crustaceans.

Marine Mammals

All marine mammals are protected under the Marine Mammal Protection Act (MMPA) of 1972, and some are also protected by the federal ESA of 1973. As discussed in Section 3.3.2.7, pinnipeds (sea lions and seals) and cetaceans (whales and dolphins) have been recorded within Los Angeles Harbor, including California sea lion, harbor seal, Pacific bottle-nose dolphin, common dolphin, Pacific white-sided dolphin, Risso's dolphin, Pacific pilot whale, and gray whale (LAHD and Jones & Stokes 2003). The most common marine mammal occurring in the harbor is the California sea lion. Harbor seals are less common than sea lions but individuals can be found sporadically throughout the year. Dolphins are seen occasionally, and sightings of whales are rare (USACE and LAHD 1979). No marine mammal species breed in Los Angeles Harbor. None of the pinnipeds found within the harbor are endangered, and there are no designated significant ecological areas for the two species within the harbor. Additionally, there are no designated Marine Protected Areas (MPAs) within the confines of the harbor. The nearest designated marine life refuge is Point Fermin Marine Life Refuge, which extends towards the harbor to the north edge of Outer Cabrillo Beach.

Outside the breakwater, a variety of marine mammals use nearshore waters. These include the gray whale, which migrates from the Bering Sea to Mexico and back each year, blue whale (*Balaenoptera musculus*), fin whale (*Balaenoptera physalus*), humpback whale (*Megaptera novaeangliae*), sperm whale (*Physeter catodon*), minke whale (*Balaenoptera sp.*), and killer whale (*Orcinus orca*). The blue, fin, humpback, sperm, gray, and killer whales are all listed as endangered under the ESA, although the Eastern Pacific grey whale population was delisted in 1994. Species of baleen whales generally are found as single individuals or in pods of a few individuals. Toothed whales, and particularly dolphins, can be found in larger groups of up to a thousand or more (Leatherwood and Reeves 1983). Several species of dolphin and porpoise are commonly found in coastal areas near Los Angeles, including the Pacific white-sided dolphin, Risso's dolphin, Dall's porpoise (*Phocoenoides dalli*), bottlenose dolphin, northern right whale dolphin (*Lissodelphis borealis*), and common dolphin, with the common dolphin being the most abundant (Forney et al. 1995).

Vessel Collisions with Marine Mammals and Sea Turtles

Ship strikes involving marine mammals and sea turtles, although uncommon, have been documented for the following listed species in the eastern North Pacific: blue whale, fin whale, humpback whale, sperm whale, southern sea otter (*Enhydra lutris*), loggerhead sea turtle, green sea turtle, Olive Ridley sea turtle, and leatherback sea turtle (NOAA Fisheries; USFWS 1998a, 1998b, 1998c, 1998d; Stinson 1984; Carretta et al. 2001). Ship strikes have also been documented involving gray, minke, and killer whales. Determining the cause of death for marine mammals and sea turtles that wash ashore dead or are found adrift is not always possible, nor is it always possible to determine whether propeller slashes were inflicted before or after death. In the case of a sea otter for example, wounds originally thought to represent propeller slashes were determined to have been inflicted by great white sharks (Ames and Morejohn 1980). In general, dead specimens of marine mammals and sea turtles showing injuries consistent with vessel strikes are not common.

The majority of reported vessel collisions with marine mammals involve whales. The NMFS has records of vessel strikes with whales in U.S. coastal waters for 1982 through 2007 (NMFS 2007b). Of the recorded strikes in the NMFS database, most of the identified species were gray whales (42%) and blue whales (15%) with a few fin whales and humpback whales. The number of strikes per year ranged from none to seven and averaged 2.6, but the actual number is likely to be greater because not all strikes are reported. The type of vessel(s) involved often was not known but does include freighters/container vessels going to the LA/LB Harbors.

In southern California, potential strikes to blue whales are of the most concern due to the fact that the migration patterns of blue whales north and south along the California coast at times run perpendicular to the established shipping channels in and out of California ports and that blue whale population numbers are low relative to historic numbers. Blue whales normally pass through the Santa Barbara Channel en route from breeding grounds in Mexico to feeding grounds further north. Blue whales were historically a target of commercial whaling activities worldwide, but are now protected from whaling. In the North Pacific, the pre-whaling population size is estimated at approximately 4,900 individuals, and the current population estimate is approximately 3,300 (NMFS 2008). Along the California coast, blue whale abundance has increased over the past two decades (Calambokidis et al., 1990; Barlow 1994; Calambokidis 1995). However, the increase is too large to be accounted for by population growth alone and is more likely attributed to a shift in distribution. Incidental ship strikes and fisheries interactions are listed by NMFS as the primary threats to the California population. According to NMFS records, the average number of blue whale mortalities in California attributed to ship strikes was 0.2 per year from 1991 to 1995 and from 1998 to 2002. September 2007, however, saw an unusual number (3) of blue whale mortalities. These mortalities were confirmed to be caused by ship strikes in the Santa Barbara Channel but declared to be part of an “Unusual Mortality Event” (NMFS 2007b). The cause(s) of the unusual mortality event is undeclared at this time but may have associated with biotoxins from harmful algal blooms along the southern California coast.

Vessel speed does seem to influence whale/ship collision incidences. The Jensen and Silber Whale Strike Database (Jensen and Silber 2004) reports that there are 134 cases of known vessel strikes in U.S. coastal waters. Of these 134 cases, 14.9% (20) involved container/cargo ships/freighters, and 6.0% (8) involved tankers. The remaining incidents involved Navy vessels (17.1% or 23 cases), whale-watching vessels (14.2% or 19 cases), cruise ships/liners (12.7% or 17 cases), ferries (11.9% or 16 cases), Coast Guard vessels (6.7% or 9 cases), recreational vessels (5.2% or 6 cases), and fishing vessels (3.0% or 4 cases) with one collision (0.75%) reported from each of the following: dredge boat, research vessel, pilot boat, and whaling catcher boat. Of the 134 cases, vessel speed was known for 58 cases. Of these 58 cases, most vessels were traveling in the ranges of 13–15 knots, followed by speed ranges of 16–18 knots and 22–24 knots.

According to a report from NMFS, which was based on information in the Jensen and Silber (2004) whale strike database and Laist et al. (2001), the majority of vessel collisions with whales occurred at speeds between 13 and 15 knots. Specifically, NMFS recommends the following:

> Overall, most ship strikes of large whale species occurred when ships were traveling at speeds of 10 knots or greater. Only 12.3% of the ship strikes in the Jensen and Silber database occurred when vessels were traveling at speeds of 10 knots or less. While vessel speed may not be the only factor in ship/whale collisions, data indicate that collisions are more likely to occur when ships are traveling at speeds of 14 knots or greater. This strongly suggests that ships going slower than 14 knots are less likely to collide with large whales. Therefore, NOAA Fisheries recommends that speed restrictions in the range of 10-13 knots be used, where appropriate, feasible, and effective, in areas where reduced speed is likely to reduce the risk of ship strikes and facilitate whale avoidance. (NOAA 2008.)

Other Special-Status Marine Life

The NOAA Fisheries Service has listed four marine Species of Concern (NMFS 2011) in southern California waters: the rockfish species cowcod (*Sebastes levis*) and bocaccio (*Sebastes paucispinis*), and the mollusks green abalone (*Haliotis fulgens*) and pink abalone (*Haliotis corrugata*). Cowcod and bocaccio are generally found at depths greater than 69 feet (McCain et al. 2005), a depth greater than any found in the harbor. Accordingly, these species are not expected to be present within the proposed project study area and were not collected in recent baseline marine biology surveys (MEC et al. 2002; SAIC 2010). Both abalone species could occur in the Outer Harbor, the green abalone on the ocean side of the breakwaters and the pink on the inner face. The pink abalone feed off kelp and drift algae (NMFS 2011), and thus could occur along the Berths 70–71 portion of the proposed project site where kelp currently grows. However, neither species has been collected in the recent baseline surveys, suggesting that there is little chance that populations of either species exist in the proposed project study area.

3.3.2.9 Essential Fish Habitat

Throughout their life cycle, marine fish use many types of habitats—including sea grass, salt marsh, coral reefs, kelp forests, and rocky intertidal areas—for foraging and reproduction. Various activities on land and in water can alter these habitats. NMFS, regional fishery management councils, and federal and state agencies address these threats by identifying EFH for each federally managed fish species.

In accordance with the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act (MSA), of the fish species managed under the

MSA, four pelagic and 15 groundfish (demersal) species are found in the Los Angeles Harbor and are assumed to occur in the proposed project study area (Table 3.3-2). The proposed project study area includes designated EFH for two fishery management plans (FMP), the Coastal Pelagics and Pacific Groundfish FMPs (NMFS 1997). Four of the five species in the Coastal Pelagics FMP are well represented in the proposed project study area. In particular, the northern anchovy is the most abundant species in Los Angeles Harbor, representing over 80% of the fish caught (SAIC 2010), and larvae of the species are also a common component of the ichthyoplankton (SAIC 2010). It is generally held that this species spawns outside the harbor and that the young are carried into the harbor by currents. There is a commercial bait fishery for northern anchovy in the Outer Harbor. The Pacific sardine is currently one of the most common species in the harbor, ranking in the top ten in abundance in the 2008 survey (SAIC 2010). This species is not known to spawn in the harbor. Sardines are also a component of the commercial bait fish harvest in the harbor. Both sardines and northern anchovies are important forage for piscivorous fish. The two other coastal pelagic species, the Pacific and jack mackerel, are common but not abundant as adults in the harbor.

Of the species in the Pacific Groundfish FMP, only four—olive rockfish, vermilion rockfish, California skate, and scorpionfish—can be considered common in the harbor. Olive rockfish have been found largely as juveniles associated with the kelp growing along the inner edge of the Federal Breakwater (MEC 1988). No olive rockfish were caught in bottom or midwater trawls in the 2008 surveys (SAIC 2010), probably because the nets used do not sample olive rockfish habitat effectively. A total of 20 vermilion rockfish were caught in bottom trawls during the 2008 survey, most of them at night, which indicates that the species is not uncommon in the harbor. A total of 23 California skate were captured in the 2008 survey, but in previous surveys they have been uncommon. Scorpionfish is not a major component of the fish community in the harbor (only 11 were caught in the 2008 survey) but is likely to be under-represented in the normal catch due to its nocturnal habits. Diver surveys of local rocky outcrops at night have observed large numbers of scorpionfish in areas where they were not caught in nets or observed during the day (MEC 1991).

Table 3.3-2. MSA-Managed Species Occurring in the Port of Los Angeles and Port of Long Beach Harbors

Common Name	*Species*	*Potential Essential Fish Habitat in Study Area*	*Abundance*
Pelagic Species (Coastal Pelagics)			
Northern anchovy	*Engraulis mordax*	Open water throughout.	Abundant throughout harbor in 2000, 2008.[1, 5]
Pacific sardine	*Sardinops sagax*	Open water throughout.	Abundant throughout harbor in 2000, 2008.[1, 5]
Pacific (chub) mackerel	*Scomber japonicus*	Open water, primarily in Outer Harbor; juveniles off of sandy beaches and around kelp beds.	Common throughout harbor in 2000, only one locale in 2008.[1, 5]
Jack mackerel	*Trachurus symmetricus*	Near breakwater and Inner to Middle Harbor. Young fish over shallow	Common in Inner to Middle Harbor, uncommon in Outer

Common Name	*Species*	*Potential Essential Fish Habitat in Study Area*	*Abundance*
		rocky banks. Young juveniles sometimes school under kelp. Older fish typically further offshore.	Harbor in 2000, common in 2008.[1, 5]
Demersal (Bottom) Species (Pacific Groundfish)			
English sole	*Parophrys vetulus*	On bottom throughout. Benthic dwelling on sand or silt substrate.	Uncommon in 2000;[1] 24 collected in Outer Harbor in 2008.[5]
Pacific sanddab	*Citharichthys sordidus*	Primarily Outer Harbor. Benthic on sand or coarser substrate.	Rare in 2000;[1] common in Outer Harbor in 2008.[5]
Leopard shark	*Triakis semifasciata*	Primarily in Outer Harbor. Over sandy areas near eelgrass, kelp, or jetty areas.	Rare; 3collected in 2000,[1] none in 2008.[5]
Big skate	*Raja binoculata*	Primarily in Outer Harbor. Over variety of substrates generally at > 3-meter depth.	Uncommon; primarily in shallow water; none caught in 2008.[5]
Black rockfish	*Sebastes melanops*	Primarily Cabrillo shallow-water habitat. Along breakwater and deep piers and pilings. Associated with kelp, pilings, eelgrass, high-relief rock.	Rare; 4 collected in deep Inner and Middle Harbor waters in 2000,[1] none in 2008.[5]
California scorpionfish	*Scorpaena gutatta*	Rock dikes and breakwaters.	Common on rock dikes and breakwaters, also on soft bottom at night.[1–5]
Grass rockfish	*Sebastes rastrelliger*	Along breakwater and in eelgrass off of beach areas. Associated with kelp, eelgrass, jetty rocks.	Rare; 3 collected in 2000,[1] none in 2008,[5]
Vermilion rockfish	*Sebastes miniatus*	Primarily along breakwater. Typically near bottom and associated with kelp, along drop offs, and over hard bottom.	Common more recently: four collected in 2000,[1] 20 in 2008.[5]
Cabezon	*Scoraenichthys marmoratus*	Primarily shallow waters, along breakwater and eelgrass areas. Benthic and use a variety of substrates including kelp beds, jetties, rocky bottoms, and occasionally eelgrass beds and sandy bottoms.	Rare; shallow water.[1] None collected in 2008.[5]
Ling cod	*Ophiodon elongatus*	Primarily along breakwater and especially near Angels Gate. Typically on or near bottom over soft substrate near current-swept reefs.	Rare; shallow water.[1] None collected in 2008.[5]
Bocaccio	*Sebastes paucispinis*	Typically found in deeper water near hard substrate, kelp, and algae.	Uncommon; juveniles in kelp around breakwater.[2]
Kelp rockfish	*Sebastes atrovirens*	Found in association with kelp along the breakwaters.	Rare; in kelp along breakwater.[2]
Olive rockfish	*Sebastes serranoides*	Found in association with kelp along the breakwaters.	Common to uncommon; juveniles in kelp around

Common Name	*Species*	*Potential Essential Fish Habitat in Study Area*	*Abundance*
			breakwater.[2]
Calico rockfish	*Sebastes dalli*	Typically found in deeper water near hard substrate, kelp, and algae.	Rare; one collected in Long Beach Harbor,[4] shallow water.[1]
California skate	*Raja inornata*	Usually associated with hard substrate. Found along breakwater and deep piers and pilings. Associated with kelp, pilings, eelgrass, and high-relief rock.	Common; Primarily in Outer Harbor.[1, 5]

Notes:
Potential habitat use from McCain et al. 2005. Species occurrence in Los Angeles and/or Long Beach Harbors recorded from MEC Analytical Systems and SAIC studies.

Abundant: among 10 most abundant species collected.
Common: not one of the 10 most abundant, but at least 100 individuals collected.
Uncommon: between 10 and 100 individuals collected.
Rare: less than 10 individuals collected.
Pelagic and benthic sampling employed in the 2000 surveys (MEC 2002) did not sample rocky breakwater and kelp habitat that could potentially be occupied by some of the species.

Sources:
[1] MEC et al. 2002
[2] MEC 1999
[3] MEC 1988
[4] SAIC and MEC 1997
[5] SAIC 2010

3.3.2.10 Special Aquatic Habitats

3.3.2.10.1 Eelgrass Beds

Eelgrass beds are present in two areas of the harbor: near Cabrillo Beach and in the shallow waters east of Pier 300 (SAIC 2010). Only the Cabrillo Beach beds are in the general vicinity of the proposed project study area, lying approximately 0.7 mile southwest of the proposed project study area. Eelgrass is an important component of estuarine ecosystems and is considered a special aquatic site under the CWA (40 CFR 230). It provides food and habitat for many birds, fish, and invertebrates, and serves as habitat structure for other primary producers such as diatoms and algae. Eelgrass distribution is limited to nearshore areas with sand and silt bottom as a substrate, limited wave exposure, relatively low current velocities, and adequate light (Thom et al. 1998; Greve and Krause-Kensen 2005).

At Cabrillo Beach, eelgrass coverage has varied seasonally and from year to year between 25 acres (in 1996) to 54 acres (in 1999, SAIC 2010); during the September 2008 survey SAIC (2010) measured 38 acres of eelgrass. Eelgrass beds typically contract in size during the winter as they go into dormancy, but some area of the eelgrass beds is expected to be present throughout all seasons. For that reason, the Southern California Eelgrass Mitigation Policy does not certify eelgrass surveys conducted between October and March (NMFS 1991). No eelgrass beds are present in the East Channel, the Main Channel, or in Fish Harbor in the vicinity of the proposed project components, probably because the water depths are too great and the sediments insufficiently sandy.

3.3.2.10.2 Kelp Beds

Giant kelp (*Macrocystis pyrifera*) is a characteristic plant of the open coast, occurring in large beds that form a distinct habitat referred to as kelp forest. Kelp was first introduced to the harbors in the early 1980s as transplants to the San Pedro (Federal) Breakwater. The transplant was sufficiently successful that a study several years later (MEC 1988) documented a thriving kelp community on the breakwater. Kelp spread rapidly throughout the LA/LB Harbors, as documented by subsequent baseline and focused studies (e.g., MEC et al. 2002; MBC 2007; SAIC 2010).

In Los Angeles Harbor, kelp occurs along riprap throughout the Outer Harbor, forming linear forests that covered between 50 and 78 acres (depending on the season) in the 2008 study (SAIC 2010) and between 14 and 25 acres in the 2000 study (MEC et al. 2002). In the proposed project study area, there is an extensive, moderately dense bed of giant kelp just south of the entrance to Fish Harbor, and giant kelp grows along the riprap from Berth 66 to Berth 71, a distance of approximately 2,700 feet. The bed can be assumed to be approximately 100 feet wide, given the water depth (40 to 50 feet) and the slope of the riprap. Accordingly, there is likely to be approximately six acres of kelp within the Main Channel adjacent to the proposed project study area. In addition, small patches of kelp occur off the southern tip of City Dock No.1, adjacent to Berth 60. No kelp was observed either in Fish Harbor itself (it is likely that water clarity and circulation are inadequate to support giant kelp), or in the East Channel slip adjacent to the proposed project site.

Giant kelp supports a rich community of fish, invertebrates, and other large algae, such as *Egregia*. A focused study of the kelp forest on the San Pedro Breakwater in 1986–1987 (MEC 1988) found it to be highly productive, with production rates up to twice as high as those documented for other coastal kelp forests. The authors attributed the high productivity to the high frond density permitted by the sheltered waters of the harbor and the steep configuration of the forest, which reduced self-shading. Much of that production is consumed by the fish and invertebrates that live on and near the kelp, with the rest drifting out into the harbor to feed benthic invertebrates. The study found 28 species of fish in the kelp forest. As described in Section 3.3.2.5.2, the most abundant were, in order, blacksmith, pile surfperch, and black surfperch.

3.3.2.10.3 Depleted Natural Communities

A *natural community* is an assemblage of populations of different species, interacting with one another. The CNDDB tracks the occurrence of what CDFG terms natural communities that are “considered rare and worthy of consideration by CNDDB” (CDFG 2008). Three types of depleted natural communities exist within the harbor: mudflat, coastal freshwater marsh, and southern coastal salt marsh. These three community types are considered depleted natural communities with respect to number and extent, as well as value for habitat. In addition, mudflats are regulated under the CWA as special aquatic sites (40 CFR 230). Coastal freshwater marsh and southern coastal salt marsh are considered wetlands, and are therefore, also regulated as special aquatic sites. None of these habitat types exists in or near the proposed project study area.

3.3.2.11 Wildlife Movement Corridors

Corridors provide specific opportunities for individual animals to disperse or migrate among other areas. These other areas may be very extensive but otherwise partially or wholly separated regions. Appropriate cover, minimum physical dimensions, and tolerably low levels of disturbance and mortality risk (e.g., limited night lighting and noise, low vehicular traffic levels) are common requirements for corridors. Resources and conditions in corridors may be quite different than in the connected areas, but if used by the wildlife species of interest, the corridor would still function as desired. Corridors adequate for one species may be quite inadequate for others. In evaluating corridors, it is important to consider the biology of those species to be addressed (Beier and Loe 1992).

The proposed project study area occurs at the edge of dense urban development and open water and no natural terrestrial corridors (topographic or habitat pathways) transect the proposed project study area. The harbor does not provide opportunities for terrestrial wildlife movement because of existing development. However, some marine fish species move into and out of the harbor for spawning or for nursery areas. Marine mammals, such as the gray whale, migrate along the coast, and migratory birds are visitors to the Port. As a part of the harbor area, the proposed project study area also allows movement of migratory birds.

3.3.2.12 Invasive/Non-Native Species

An *invasive species* is defined as a species (1) that is nonnative (or nonindigenous) to the ecosystem under consideration and (2) whose introduction causes or is likely to cause economic or environmental harm or harm to human health. Invasive species can be plants, animals, and other organisms (e.g., microbes). Human actions are the primary means of invasive species introductions. At this time, no official list of invasive species exists for the state of California, although CDFG and the Invasive Species Council of California (ISCC) have undertaken cataloguing efforts. Currently, the most useful guide is the list compiled by the California Invasive Species Advisory Committee (CISAC, www.iscc.ca.gov/cisac.html), a consortium of California governmental agencies. That list is an ongoing project, and is thus necessarily incomplete, but it represents the best catalogue of potentially invasive non-indigenous species in the state. The terms “invasive” and “non-native” or “non-indigenous” are sometimes used more or less interchangeably in the CISAC list and the lists compiled by other entities such as CDFG because the status of many species on those lists, including for some whether they are even non-native, is uncertain. Thus, a species’ appearance on the CISAC list does not necessarily mean that it would be considered “invasive.” It is important to recognize that many non-indigenous species, including most of the species mentioned below, appear not to be causing substantial environmental or economic harm, and thus would not, strictly speaking, be considered "invasive." Conversely, the absence of a non-native species does not mean that it is not invasive; many of the marine invertebrate species in the LA-LB Harbor complex that were identified by SAIC (2010) as non-native are not on the CISAC list, which is more complete for terrestrial and freshwater species than for marine species.

3.3.2.12.1 Terrestrial

Based on field surveys of the harbor area (LAHD 2009), a total of nine non-native plant species, all of them listed by CISAC, could occur in portions of the proposed project study area: crystal ice plant, wild fennel, tocalote, black mustard, Australian saltbush, castor-bean, giant reed, pampas grass, and Spanish broom. These species are relatively common in the remaining vacant lands in the harbor, and any could occur in the vacant lot at 22nd Street and Sampson Way.

3.3.2.12.2 Marine

Biological baseline monitoring (e.g., MEC et al. 2002; SAIC 2010) has shown that nonindigenous species have become well-established in the harbor's marine communities. In surveys conducted in 2000, a total of approximately 46 nonindigenous species were present in the harbor (MEC et al. 2002). Those studies concluded that approximately 30% of the benthic infaunal species, including several of the dominant invertebrate species (e.g., the polychaete worm *Pseudopolydora paucibranchiata* and the bivalve mollusc *Theora lubrica*), were nonindigenous. The Japanese oyster (*Crassostrea gigas*) and several species of mussels, including the dominant mussel on harbor riprap (*Mytilus galloprovincialis*), are non-native species that have been established so long that few would be recognized as alien to southern California. A 2008 survey (SAIC 2010) found one nonindigenous fish species (yellowfin goby, *Acanthogobius flavimanus*), up to 54 nonindigenous benthic invertebrate species (including one of the dominants, the polychaete *Pseudopolydora paucibranchiata*), and two kelp species (*Sargassum muticum* and *Undaria pinnatifida*). The presence of these species undoubtedly has an impact on the interactions of the species in the harbor environment, but it is not possible to state definitively what that effect actually is. The CISAC list identifies the two kelp species, the mussel *M. galloprovincialis*, and two other mollusks, but does not include the yellowfin goby or any of the other non-indigenous invertebrates.

Another species of great concern is *Caulerpa* (*Caulerpa taxifolia*); it is an invasive, nonnative green macro-alga that grows rapidly from small fragments, outcompetes native species, and carpets the bottom of affected areas. *Caulerpa* infestations are thought to originate from aquarium specimens released into the natural environment (NMFS 2003). *Caulerpa* infestations can alter benthic habitat and cause serious adverse effects on nearshore marine ecosystems. This species has been observed in two locations in California (Agua Hedionda Lagoon in northern San Diego County, and Huntington Harbor, Orange County [NMFS and CDFG 2007]). Since the 1980s, *Caulerpa* infestations in the Mediterranean Sea have expanded to cover large areas and may now be too widespread to eradicate. In California, *Caulerpa* distribution has been localized, and has been successfully eradicated from Agua Hedionda

Lagoon in northern San Diego County and from Huntington Beach Harbor in Orange County (Paznokas pers. comm.). Therefore, NMFS and CDFG have established *Caulerpa* control protocols for the detection and eradication of this alga from California waters (NMFS and CDFG 2007). Bays, inlets, and harbors between Morro Bay and the U.S./Mexico border are potential habitat and need to be surveyed for *Caulerpa* presence prior to potentially disturbing activities such as dredging in order to ensure that no *Caulerpa* is present. *Caulerpa* has not been observed in Los Angeles Harbor (SAIC 2010) despite more than 30 surveys conducted since 2001 (SCCAT 2008).

3.3.2.13 Significant Ecological Areas

Significant ecological areas (SEAs) were established in 1976 by Los Angeles County to designate areas with sensitive environmental conditions and/or resources. The County developed the concept in conjunction with adoption of the original general plan; therefore, SEAs are defined and delineated in conjunction with the Land Use and Open Space Elements for the Los Angeles County General Plan. The Los Angeles County Department of Regional Planning updated the SEA portion of the general plan in 2009 (County of Los Angeles 2009).

An area of Terminal Island is designated as SEA-33 in the County of Los Angeles 2009 SEA update because of California least tern nesting (see Section 3.3.2.8.2), but that designation is out of date because the current nesting site, a 15-acre area on Pier 400 maintained by LAHD, is about a mile south of the SEA-designated area, and terns no longer use the area designated as SEA-33. The Pier 400 site, which is approximately 1 mile from both proposed project study area sites, is protected by fencing and is designated a “no-trespassing” area during the nesting season.

3.3.3 Applicable Regulations

This section provides summary background information regarding the applicable regulations for protecting biological resources.

3.3.3.1 Federal Clean Water Act

The federal CWA’s purpose is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Discharges of dredged or fill material into waters of the United States are regulated under Section 404 of the CWA. Waters of the United States include: (1) all navigable waters (including all waters subject to the ebb and flow of the tide and/or that are, were, or may be susceptible to interstate or foreign commerce); (2) all interstate waters and wetlands; (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, or natural ponds, which could affect interstate or foreign commerce; (4) all impoundments of waters mentioned above; (5) all tributaries to waters mentioned above; (6) the territorial seas; and (7) all wetlands adjacent to waters above. For projects requiring a standard individual permit to authorize discharges of dredged or fill material into waters of the United States, a Section 404(b)(1) alternatives analysis must be conducted (40 CFR 230). This analysis includes consideration of impacts on six special aquatic sites (i.e., sanctuaries and refuges, wetlands, mudflats, vegetated shallows, coral reefs, and riffle and pool complexes). Of these six types, only vegetated shallows occur in the proposed project study area.

3.3.3.2 Rivers and Harbors Appropriations Act of 1899

The Rivers and Harbors Appropriation Act of 1899 (RHA) (33 USC 403), commonly known as the Rivers and Harbors Act, prohibits construction of any bridge, dam, dike, or causeway over or in navigable waterways of the United States without congressional approval. Under Section 10 of the RHA, USACE is authorized to permit structures or work in navigable waters. The construction of wharfs, piers, jetties, and other structures in or over the waters of the Port requires Section 10 permits. When reviewing applications for Section 10 permits, the USACE reviews proposals for consistency with maintaining established navigation channels.

3.3.3.3 Federal Endangered Species Act

The ESA protects plants and wildlife that are listed by USFWS and NMFS as endangered or threatened. Section 9 of the ESA prohibits the taking of endangered wildlife, where *taking* is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct” (50 CFR 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging-up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law. Under Section 7 of ESA, federal agencies are required to consult with USFWS or NMFS, as applicable, if their actions, including permit approvals or funding, could adversely affect an endangered species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, USFWS or NMFS may issue an incidental take statement allowing take of the species that is incidental to another authorized activity provided the action would not jeopardize the continued existence of the species. In cases where the federal agency determines its action may affect, but would be unlikely to adversely affect, a federally listed species, the agency informally consults with USFWS and/or NMFS. This informal consultation typically involves incorporating measures intended to ensure effects would not be adverse, and concurrence from USFWS and/or NMFS concludes the informal process. Without concurrence, the federal agency formally consults to ensure full compliance with the ESA.

3.3.3.4 Federal Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation Act as revised by Public Law (PL) 104-267, the Sustainable Fisheries Act, requires fisheries management councils to describe EFH for fisheries managed under the this law and requires federal agencies to consult with NMFS on actions that may adversely affect EFH. *Essential fish habitat* is defined as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. Managed fisheries and fish species are described in Section 3.3.2.9, above.

3.3.3.5 Federal Marine Mammal Protection Act of 1972

The MMPA prohibits, with certain exceptions, the take of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the U.S. Congress passed the MMPA based on the following findings and policies: (1) some marine mammal species or stocks may be in danger of extinction or depletion as a result of human activities; (2) these species of stocks must not be permitted to fall below their optimum sustainable population level (depleted); (3) measures should be taken to replenish these species or stocks; (4) there is inadequate knowledge of the ecology and population dynamics; and (5) marine mammals have proven to be resources of great international significance.

The MMPA was amended substantially in 1994 to provide for: (1) certain exceptions to the take prohibitions, such as for Alaska Native subsistence and permits and authorizations for scientific research; (2) a program to authorize and control the taking of marine mammals incidental to commercial fishing operations; (3) preparation of stock assessments for all marine mammal stocks in waters under U.S. jurisdiction; and (4) studies of pinniped-fishery interactions. NMFS and USFWS administer this act. Species found in the harbor are under the jurisdiction of NMFS.

3.3.3.6 Executive Order 13112

On February 3, 1999, Executive Order 13112 was signed establishing the National Invasive Species Council. The Executive Order requires that a council of departments dealing with invasive species be created. Currently there are 12 departments and agencies on the council. The constitution and the laws of the U.S., including the National Environmental Policy Act (NEPA), as amended (42 USC 4321 et seq.); Non-Indigenous Aquatic Nuisance Prevention and Control Act of 1990, as amended (16 USC 4701 et seq.); Lacey Act, as amended (18 USC 42); Federal Plant Pest Act (7 USC 150aa et seq.); Federal Noxious Weed Act of 1974, as amended (7 USC 2801 et seq.); ESA, as amended (16 USC 1531 et seq.); and other pertinent statutes, are to prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause.

Each federal agency whose actions may affect the status of invasive species will, to the extent practicable and permitted by law:

1. identify such actions;
2. subject to the availability of appropriations, and within Administration budgetary limits, use relevant programs and authorities to (a) prevent the introduction of invasive species; (b) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; (c) monitor invasive species populations accurately and reliably; (d) provide for restoration of

native species and habitat conditions in ecosystems that have been invaded; (e) conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species; and (f) promote public education on invasive species and the means to address them; and

3. not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.

3.3.3.7 Migratory Bird Treaty Act and State Fish and Game Code (Sections 3503.5 and 3800)

Most bird species found within the vicinity of the proposed project study area are protected under the MBTA of 1918 (16 USC 703–711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Sections 3503, 3503.5, and 3800 of the California Fish and Game Code similarly prohibit the take, possession, or destruction of native birds, their nests, or eggs. MBTA effectively requires that project-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle (February 1 through August 31, annually). Disturbance that causes nest abandonment or loss of reproductive effort (e.g., killing or abandonment of eggs or young) is considered "take" and is potentially punishable by fines and/or imprisonment.

3.3.3.8 California Coastal Act

The California Coastal Act of 1976 recognizes the Port of Los Angeles, as well as other California ports, as primary economic and coastal resources and as essential elements of the national maritime industry. Decisions to undertake specific development projects, where feasible, are to be based on consideration of alternative locations and designs in order to minimize any adverse environmental impacts.

Under the California Coastal Act, water areas may be diked, filled, or dredged when consistent with a certified port master plan only for specific purposes, including the following:

- construction, deepening, widening, lengthening, or maintenance of ship channel approaches, ship channels, turning basins, berthing areas, and facilities that are required for the safety and the accommodation of commerce and vessels to be served by port facilities; and
- new or expanded facilities or waterfront land for port-related facilities.

The water area proposed to be filled is to be the minimum necessary to achieve the purpose of the fill, while minimizing harmful effects on coastal resources, such as water quality, fish or wildlife resources, recreational resources, or sand transport systems, and minimizing reductions of the volume, surface area, or circulation of water.

The act also encourages the protection and expansion of facilities for the commercial fishing industry, water-oriented recreation, and recreational boating interests. Marine resources are to be maintained, enhanced, and where feasible, restored. The biological productivity and the quality of coastal waters appropriate to maintain optimum populations of marine organisms and for the protection of human health are to be maintained. Protection against the spillage of hazardous substances and effective containment and cleanup facilities and procedures are to be provided.

Under the California Coastal Act, LAHD has had to develop a PMP for CCC certification that addresses environmental, recreational, economic, and cargo-related concerns of the Port and surrounding regions. The proposed action would necessitate amendments of the Los Angeles PMP and a Coastal Development Permit from the CCC, which would include a federal consistency determination.

3.3.3.9 Coastal Zone Management Act

Section 307 of the Coastal Zone Management Act requires that all federal agencies with activities directly affecting the coastal zone, or with development projects within that zone, comply with the state coastal acts (in this case, the California Coastal Act of 1976) to ensure that those activities or projects are consistent to the maximum extent practicable. The CCC review for the Coastal Development Permit (mentioned above) would include a federal consistency determination.

3.3.3.10 California Fish and Game Code (Section 1602)

Under Fish and Game Code Section 1602, CDFG has authority to regulate work that will substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This regulation takes the form of a requirement for a Lake or Streambed Alteration Agreement and is applicable to all non-federal projects.

A *stream* is defined in current CDFG regulations as, “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation.”

Water features such as vernal pools and other seasonal swales, where the defined bed and bank are absent and the feature is not contiguous or closely adjacent to other jurisdictional features, are generally not asserted to fall within state jurisdiction. The state generally does not assert jurisdiction over anthropogenic water bodies unless they are located where such natural features were previously located or (importantly) where they are contiguous with existing or prior natural jurisdictional areas.

3.3.3.11 California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code Section 2050 et seq.) provides for the protection of rare, threatened, and endangered plants and animals, as recognized by CDFG, and prohibits the taking of such species without authorization by CDFG under Section 2081 of the Fish and Game Code. State lead agencies must consult with CDFG during the CEQA process if state-listed threatened or endangered species are present and could be affected by the proposed Project. For projects that could affect species that are both state and federally listed, compliance with the federal ESA will satisfy CESA if CDFG determines that the federal incidental take authorization is consistent with CESA under Fish and Game Code Section 2080.1.

3.3.3.12 Ballast Water Management for Control of Non-Indigenous Species

The Non-Indigenous Species Act of 1990 (PL 101-646) identified ballast water as a significant environmental issue. In 1996, the act was reauthorized (PL 104-332) and the Secretary of Transportation was directed to develop national guidelines to prevent the spread and introduction of nonindigenous aquatic species through the ballast water of commercial vessels. Subsequently, the International Maritime Organization developed Guidelines for the Control and Management of Ship’s Ballast Water to Minimize the Transfer of Harmful Aquatic Organisms and Pathogens (International Maritime Organization (IMO) Resolution A.868 (20), which was adopted November 1997). In 2004, the U.S. Coast Guard published requirements for mandatory ballast water management practices for all vessels equipped with ballast water tanks bound for ports or places within the U.S. or entering U.S. waters (69 Federal Register 44952–44961).

California PRC Section 71200 et seq. requires ballast water management practices for all vessels, domestic and foreign, carrying ballast water into waters of the state after operating outside the Exclusive Economic Zone (EEZ). Specifically, the regulation prohibits ships from discharging ballast water within harbor waters unless they have performed an exchange outside the EEZ in deep, open ocean waters. Alternatively, ships may retain water while in port, discharge to an approved reception facility, or implement other similar protective measures. Each ship must also develop a ballast water management plan to minimize the amount of ballast water discharged in the harbor. The act also requires an analysis of other vectors for release of nonnative species from vessels.

Rules for vessels originating within the Pacific Coast region took effect in March 2006. Ships must now exchange ballast water on coast-wise voyages. Regulations currently under consideration for future years (2009–2022) will require phase-in of ballast water treatment performance standards, first for newly constructed ships and then for existing ships. An important distinction between the federal ballast water guidelines and those specified in the California code is that the California code mandates certain best management practices for managing ballast water to reduce introductions of nonindigenous species.

3.3.3.13 State Authority under the Federal Clean Water Act, Sections 401 and 402

Through the authority of SWRCB as handled by the various RWQCBs, the state administers requirements and permitting under Sections 401 and 402 of the federal CWA through agreement with the EPA. If an activity may result in the discharge of dredge or fill material into a waterbody, the 401 process is triggered and state water quality certification (or waiver of certification) that the proposed activity will not violate state water quality standards is required.

In addition to Section 401 requirements, some projects will be subject to compliance with Section 402 of the CWA in accordance with the NPDES. The process for compliance with this provision is normally perfunctory with notification and fee payment under the State General Permit for Construction Period discharges. However, construction activity must conform to best management practices in accordance with a written Stormwater Pollution Prevention Plan (SWPPP), which may be subject to City of Los Angeles review prior to issuance of grading permits.

Dischargers whose construction projects disturb one or more acres of soil, or whose project disturbs less than one acre but is part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit 99-08-DWQ). Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The construction general permit requires the development and implementation of a SWPPP. Section A of the construction general permit describes the elements that must be contained in a SWPPP.

3.3.3.14 California Fully Protected Species

The state of California first began to designate species as fully protected prior to the creation of the CESA and the ESA. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, mammals, amphibians and reptiles, and birds. Most fully protected species have since been listed as threatened or endangered under CESA and/or ESA. The regulations that implement the Fully Protected Species Statute (Fish and Game Code Section 4700) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFG prohibits any state agency from issuing incidental take permits for fully protected species, except for necessary scientific research.

3.3.3.15 Porter-Cologne Water Quality 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 California 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 California 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 California 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.

3.3.4 Impact Analysis

3.3.4.1 Methodology

3.3.4.1.1 Analytical Framework

Impacts on species, communities, and habitats expected to occur as a result of proposed project implementation were identified by examining the proposed project description in view of the existing biological setting as described in Section 3.3.2.

Impacts on biota were assessed in two ways. The first estimated the amount of habitat that would be gained, lost, or disturbed by the proposed Project. The second approach considered whether the proposed Project would have adverse effects on specific resources such as EFH or individual special-status species. Mitigation for impacts on marine biological resources has been developed by LAHD in coordination with NMFS, USFWS, and CDFG through agreed-upon mitigation policies (City of Los Angeles et al. 1984, 1997). For habitat losses these policies define the value of different habitats within the harbor relative to a system of mitigation credits accrued by creating or enhancing habitat in the harbor and at offsite locations. The current mitigation policy is "No net loss of in-kind habitat value, where 'in-kind' refers to coastal, marine, tidally-influenced habitat with value to fish and birds" (USACE and LAHD 1992). For significant impacts on specific biological resources, mitigation is developed on the basis of resource agency policies.

3.3.4.2 Thresholds of Significance

Thresholds of significance for biota and habitats are based on the *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006). The guide does not specifically address marine habitats within the harbor; therefore, LAHD has developed harbor-specific significance criteria for adverse effects on biological habitats. These criteria are consistent with the L.A. CEQA thresholds and Appendix G of CEQA Guidelines. A significant impact on biota or habitats in the proposed project study area would occur if the proposed Project results in the following:

BIO-1: The loss of individuals, or the reduction of existing habitat, of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a species of special concern, or the loss of federally listed critical habitat.

BIO-2: A substantial reduction or alteration of a state-, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.

BIO-3: Interference with wildlife movement/migration corridors that may diminish the chances for long-term survival of a species.

BIO-4: A substantial disruption of local biological communities (e.g., from construction impacts or the introduction of noise, light, or invasive species).

BIO-5: A permanent loss of marine habitat.

The Initial Study determined that for three other thresholds of significance located in Appendix G of the State CEQA Guidelines the proposed Project would have no impact. Accordingly, those criteria are not discussed in this document. Those thresholds are:

- Would the Project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
- Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

3.3.4.3 Impacts and Mitigation

3.3.4.3.1 Construction Impacts

Impact BIO-1a: Construction of the proposed Project would cause the loss of individuals, or the reduction of existing habitat, of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a species of special concern, or the loss of federally listed critical habitat.

The proposed Project would include the rehabilitation of the existing wharf structure at Berths 58–60, the installation of 18,500 square feet of floating docks for small research craft in the East Channel, and minor rehabilitation of wharf facilities at Berths 70–71. New steel and concrete piles would be installed as part of the rehabilitation of the Berths 58–60 wharfs, and a small number of concrete piles would be installed for the floating dock facility and, possibly, for the intake/discharge structures. The steel piles would be driven through the existing wharf deck and rock slope into the harbor bottom by both landside (truck-mounted) and waterborne (barge-mounted) equipment. Some existing concrete piles under the wharf structure and along the wharf face are likely to be cut at the mudline during the rehabilitation.

Two options for the steel piles, which are necessary for the seismic retrofit, are being considered. The first would install 127 72-inch diameter concrete piles 20 feet apart underneath the waterside edge of the existing building (which is over the water), and the second would install 252 60-inch diameter piles in groups of four along the landward edge of the seawall. The first option has the greatest potential for adversely affecting the aquatic environment, and therefore is assumed for this evaluation. While these piles would likely be installed with land-based pile driving equipment, some in-water support vessels (i.e., barges) would likely be needed.

A seawater intake would be constructed at the south end of Berth 60, along the Main Channel (see Chapter 2, “Project Description,” for details of the intake system). The discharge point location would be at Berth 60 along the East Channel (north of the intake). A second intake, for the wave tank, may be constructed at Berth 70–71. Construction of the intake and discharge structures could involve some pile driving and the placement of small amounts of concrete and piping. No other in-water work (e.g., dredging, rock placement) is proposed.

On land, construction activities would include: demolition of existing improvements (mostly at the Fish Harbor site), including office buildings and pavement; rehabilitation and reconstruction of existing buildings; and construction of new buildings, pavement, and utilities (including a circulating seawater system and upgrades to the sanitary sewer system).

Terrestrial Wildlife

Demolition of existing landside facilities and construction of new facilities would displace terrestrial biological resources and could destroy some resources. Individual plants would be destroyed and terrestrial animals would be either destroyed or forced to relocate. In no case would construction cause losses of substantial numbers of individuals or substantial reductions in natural habitat, because few individuals, except birds, utilize the proposed project study area and there are few natural plant species and no natural habitat present.

Marine Mammals

Construction would produce localized turbidity at the site of pile driving and removal and intake structure installation. The piles would be driven through existing rock dikes and would not, therefore, remove any soft-bottom habitat. The piles themselves would be rapidly colonized by hard-surface biota. Accordingly, construction would not result in long-term adverse effects on marine habitats, including benthic habitats and special aquatic sites.

The principal construction-phase disturbance to marine biological resources in the proposed project study area would be pile driving at the City Dock No. 1 location. The primary method of driving piles would be hydraulic impact hammer driving. The sound pressure waves[1] produced by pile driving could disturb or injure marine mammals (specifically sea lions and harbor seals) swimming in the Outer Harbor and East Channel. Such acoustic exposures could result in a temporary or permanent loss of hearing (termed a temporary or permanent threshold shift) depending upon the location of the marine mammal in relation to the source of the sound.

Installing 72-inch-diameter steel piles with an impact hammer pile driver can generate 210 dB_{peak} or 195 dB_{rms} (re: 1 µPa, measured 33 feet from the pile) at the full force of the pile driver (Caltrans 2001; WSDOT 2011). Accordingly, pile-driving noise could, if uncontrolled, exceed the Level A harassment (potential to injure) level of 180 dB_{rms} (re 1 µPa) and the Level B harassment (disturbance threshold) level of 160 dB_{rms} for marine mammals (Federal Register 2005). Observations of marine mammals during the driving of similarly large piles for the San Francisco–Oakland Bay Bridge East Span seismic safety project (Caltrans 2002) found that sound levels dropped below the thresholds within approximately 300 meters of the pile driving site. The noise levels and distances would be less for concrete piles that may be needed for the intake/discharge and wharf rehabilitation because those piles would be much smaller than 72 inches, and thus driven with less force. Underwater noise levels associated with all other construction activities would be below Level A harassment level of 180 dB_{rms} (re 1 µPa) for marine mammals.

Marine wildlife is anticipated to move quickly away from areas where noise generated by pile driving may reach levels that cause disturbance or injury. Observations of marine mammals during the Bay Bridge project confirmed that sea lions actively avoided the area of pile driving (although harbor seals did not seem to

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[1] Underwater sound is produced by pressure waves in the water. Pressure wave measurements are converted to sound pressure levels, which are expressed as a statistical function (root mean square, or rms) in decibels (dB) above the reference sound pressure of one micropascal (1 µPa). A pascal is standard unit of pressure defined as 1 newton per square meter, analogous to pounds per square inch. Because of the close correlation between pressure levels and distance from the source, it is customary to use a standard distance, typically 33 feet in marine environments (Morfey 2001).

be affected). Thus, sea lions and harbor seals would be able to move away from areas where sound pressure waves could adversely affect them. Further, prior to initiating pile driving with an impact hammer, a "soft start" technique with the pile driver would be employed, as requirements of the LAHD's construction permit and the contractor's contract with LAHD, in order to minimize potential harm to marine wildlife and provide them with an opportunity to move from areas where pile driving activities are occurring. The "soft start" technique requires that the initial strikes of a piling are performed at a significantly reduced impact force to start the pile penetration (beginning at 40–60% of full force) and slowly build to full force over several strikes, the strikes being closely spaced in time. The reduced force at the start of impact pile driving provides an incentive and opportunity for animals in the vicinity of pile driving activities to move away before full-force driving begins, thus limiting adverse effects and potential injury. However, adverse effects would still likely occur if sea lions and harbor seals remain in the area after full-force strikes begin. Other marine mammals (e.g., whales and dolphins) and sea turtles are unlikely to be present as few have been observed in the Outer Harbor areas (MEC et al. 2002, SAIC 2010). Any such animals present during construction would likely avoid the disturbance areas and thus would not be injured. No other protected or sensitive marine mammal species normally occur in the proposed project area.

Furthermore, while underwater sound pressure waves radiate in all directions from a pile driving location, the land masses on three sides of the East Channel would block the transmission of these pressure waves except southward out of the entrance to the channel. As a result, the area affected by the increased underwater sound pressure levels would be largely restricted to the East Channel, which would substantially limit the potential to affect marine mammal populations in the area. The primary exception would be the installation of any piles for the seawater intake, which would occur just off the tip of City Dock No. 1. Underwater sound pressures generated at this location would affect species over much of the outer harbor area, but because, as described above, noise levels would be much lower than with steel piles and the number of piles would be limited to a few, it is unlikely that marine mammals would be adversely affected.

California sea lions and harbor seals using the proposed project study area could also be affected by waterborne construction activities other than pile driving, such as intake construction, wharf reconstruction, and floating dock installation. Both species are accustomed to human presence, however, including in-water construction and the industrial activities of the harbor. Accordingly, construction of the proposed Project could cause the animals to relocate to nearby areas, where there would be adequate food and places to rest, but would not be expected to result in take or other injury.

Managed Fish Species

As with marine mammals, underwater sound pressure from pile driving has the potential to disturb or injure adult and juvenile fish species. Fish are less likely to move away from areas affected by noise than are marine mammals, and are therefore more likely to be affected (NMFS 2003, 2004). The level of effect is influenced by a variety of factors, including species, size of fish (smaller fish are affected more), physical condition, number of pile strikes, the shape of the sound wave, water depth, location of fish in the water column, amount of air in the water, surface waves, the nature of the sea bottom, tidal currents, and the presence of predators (NMFS 2003, 2004). Types of effects can include mortality from swim bladder rupture or internal hemorrhaging, changes in behavior, and temporary or permanent hearing loss (Caltrans 2001; Vagle 2003). The most common behavioral changes include temporary dispersal of fish schools. In addition to these direct effects, indirect effects (e.g., increased susceptibility to predation) can occur.

Two of the species in the Coastal Pelagics FMP, northern anchovy and Pacific sardine are common water-column species in the harbor that could be affected by pile driving. The only common Pacific Groundfish species, Pacific sanddab, is also likely to be present near construction area and could be affected by pile driving. As described above for marine mammals, the area affected by increased sound pressures from pile driving would be the East Channel and open waters south of the East Channel. The number of fish affected would depend on the distribution and abundance of these species in and near the East Channel at the time of construction. The sound pressure waves from pile driving could cause mortality of a few individual anchovies, sardines, and sanddabs, but these species are abundant in the harbor and the loss of a few individuals would not substantially affect their populations.

Impaired water quality near the construction site, if it occurred, could adversely affect fish in the East Channel and nearby waters. However, the controls on construction (see Section 3.13, "Water Quality, Sediments, and Oceanography") would ensure that any such occurrences would be localized and temporary. Furthermore, fish in the Coastal Pelagics and Pacific Groundfish FMPs would be expected to move away from areas affected by impaired water quality.

Birds

Birds would be displaced from active construction sites both by the noise of pile driving and by landside activity to an extent that would vary with the species. Sensitive terrestrial bird species (e.g., peregrine falcon, hawks, merlins, kites, burrowing owls, and loggerhead shrikes) would not be adversely affected by construction of the proposed Project because there is no nesting habitat and little or no foraging habitat for any of those species. No known peregrine falcon nesting areas would be affected due to their distances (the Vincent Thomas Bridge over 1.25 miles away, the Schuyler R. Heim Bridge over 1.2 miles away, and the Gerald Desmond Bridge over 2 miles away) from the proposed Project. Some species can be assumed to forage in the proposed project study area, but the amount of area that would be temporarily lost would be small relative to the rest of the harbor, and the quality of the habitat is poor.

Sensitive marine bird species in the harbor that could use the marine habitats in the proposed project study area include most of the marine species in Table 3.3-1, with the exception of long-billed curlew, common loon, and western snowy plover, which are very uncommon in the harbor and for which no nesting, feeding, or resting habitat occurs. In-water construction activities could affect foraging habitat for listed, candidate, or special-status species through a temporary increase in activity, noise, vibration, and turbidity, which have the potential to displace individuals from the work area during construction. Pile driving and construction of the intake structure and of wharfs and docks have the potential to displace individuals during construction activities. Additionally, foraging activities of special-status species that feed on fish in the harbor could be affected as a result of construction and pile driving activities that produce localized turbidity in foraging areas.

In the case of the California least tern, the proposed project study area is more than 1.5 miles from the Pier 400 nesting site. Least terns feed on small fish in the surface waters of the harbor. The shallow waters (<20 feet mean lower low water [MLLW]) in the Outer Harbor are considered important feeding areas for the tern and are areas that require protection. The nearest such habitat is the shallow-water site on the inner face of the San Pedro Breakwater between Cabrillo Beach and the entrance to the harbor. That site is approximately 0.75 mile from the proposed project study area. The East Channel, the Main Channel, and Fish Harbor, all of which are more than 20 feet deep, are not considered essential foraging habitat for the least tern.

Outer Harbor shallow water would be unaffected by the proposed Project; construction activities would create a small amount of localized turbidity that would not migrate as far as the shallow water areas. Accordingly, construction activities for the proposed Project would not interfere with least tern foraging. The potential for impacts from turbidity would be further reduced by the controls and monitoring associated with the water quality permit (see Section 3.13, "Water Quality, Sediments, and Oceanography"), which would ensure that excess turbidity would not extend more than 300 feet from the construction zone. The remainder of proposed project construction activities would not result in short- or long-term effects on California least terns nesting on Pier 400.

The other marine-related bird species (specifically, California brown pelican, double-crested cormorants, California gulls, elegant terns, and black skimmers) are either common year around or seasonally abundant and do not nest in or near the proposed project study area (MEC et al. 2002; SAIC 2010). California brown pelicans and California gulls, in particular, are very habituated to human activities, and thus would not be expected to be disturbed by the construction. Foraging by marine birds in the proposed project study area could continue with no adverse effects. No nesting habitat exists at the proposed project study area for any of these species, so their presence at or near the proposed project study area would be for the purposes of feeding in harbor waters or along the shoreline, resting on the water surface, or roosting on structures. These species would be able to use other areas in the harbor if construction activities occurred when they were present and if the disturbances caused them to avoid the work area.

Birds protected by the MBTA that nest and forage in the harbor include black-crowned night heron, which have nested in trees near the Berth 78—Ports O'Call area approximately 0.25 mile north of the proposed project study area during past years; great blue heron, which have nested in several areas within approximately 0.25 mile of the proposed project study area; and possibly swallows nesting under the wharves. Foraging by these species could be affected by pile driving activities, but the small area that would be affected relative to the harbor as a whole and the temporary nature of the disturbance would prevent substantial disruption to these species.

No known nesting sites of migratory birds would be affected by proposed project construction. However, to comply with the MBTA, which prohibits take of migratory native birds, and similar provisions of the California Fish and Game Code, standard Port construction procedures, which would be reinforced as Mitigation Measure MM BIO-3, require that nesting surveys be conducted if construction would take place during the breeding seasons (February 15 through September 1). If active nests are found, a 100-foot radius would be established around the active nests to prohibit construction activities in this area.

Impact Determination

Despite the soft-start procedure for impact pile driving, pile-driving for construction of the proposed Project could exceed the NMFS threshold criteria for underwater sound pressure, which could result in Level A (potential injury) and Level B (disturbance) harassment of marine mammals, specifically sea lions and harbor seals. The potential for noise-related effects on special-status marine mammals is considered a significant impact.

Pile-driving for construction of the proposed Project could result in temporary disturbance of, and possible damage to, managed fish species, despite the soft-start procedure for impact pile driving. In-water construction other than pile driving would cause localized disturbance and turbidity that could disrupt the behavior of sensitive species of fish. Due to the small number of fish expected, the limited area affected by potentially harmful sound pressure levels, and the relatively short duration of pile driving (weeks to months), loss of individuals would not be substantial. Loss of essential fish habitat would be temporary and localized, consisting of short-term degradation of habitat due to noise and turbidity. Any such losses would be less than significant.

Proposed construction could adversely affect birds protected by the MBTA if they were to nest in the construction area. This impact is considered significant. Effects on other sensitive bird species (i.e., those that do not nest in the area such as marine birds and peregrine falcons) would be temporary and localized, and the impacts would be less than significant. No critical foraging habitat for least terns would be lost because no such habitat exists in or near the proposed project site. Accordingly, impacts related to critical habitat would be less than significant.

Mitigation Measures

Mitigation measures would be implemented to minimize the significant impacts on marine mammals from pile-driving activities and on migratory birds from disturbance of nests.

MM BIO-1. Avoid Marine Mammals. Via the construction contract and the development permit the LAHD will require that pile driving activities for construction of the proposed Project include establishment of a safety zone and monitoring of the area surrounding the operations for pinnipeds by a qualified marine biologist. The monitor will have the authority to halt operations unless, in the opinion of the Port's project engineer (Engineer), halting operations would be unsafe.

The safety zone will extend out to 500 meters from the site of the pile driving, wherever that activity is taking place.

Before pile driving is scheduled to commence, observers on shore or in boats will survey the safety zone to ensure that no marine mammals are present. If marine mammals are observed within the safety zone, driving will be delayed until they move out of the area. If a marine mammal is seen above water and then dives below, the contractor will wait at least 15 minutes, and if no marine mammals are seen, it may be assumed that the animal has moved beyond the safety zone. This 15-minute criterion is based on a study indicating that pinnipeds dive for a mean time of up to about 4 minutes; the 15-minute delay will allow a more than sufficient period of observation to be reasonably sure the animal has left the vicinity.

If pinnipeds enter the safety zone after pile has begun, pile driving will continue. The monitor will record the species and number of individuals observed and make note of their behavior patterns. If animals appear distressed, and if it is operationally safe to do so, the monitor will inform the Engineer that pile driving will cease until the animal leaves the area. In certain circumstances pile driving cannot be terminated safely and without severe operational difficulties. Therefore, if it is deemed operationally unsafe by the Engineer to discontinue pile driving activities, and a pinniped is observed in the safety zone, pile driving activities will continue only until the Engineer deems it safe to discontinue.

MM BIO-2. Minimize In-water Pile Driving Noise. Via the construction contract the LAHD will require the contractor to use sound abatement techniques to reduce both noise and vibrations from pile driving activities. In addition to the “soft-start technique, which will be required at the initiation of each pile driving event or after breaks of more than 15 minutes, sound abatement techniques will include, but not be limited to, vibration or hydraulic insertion techniques, bubble curtains, isolation cage technology, sound aprons, and use of a cushion block on top of the pile being driven. Use of these techniques will reduce both the intensity of the underwater sound pressure levels radiating from the pile driving location and the area in which levels would exceed the Level A and B harassment levels for marine mammals.

MM BIO-3. Conduct Nesting Bird Surveys. Between February 15 and September 1 and prior to ground-disturbing activities, a qualified biologist will conduct surveys for the presence of nesting birds protected under the MBTA and/or similar provisions of the California Fish and Game Code within areas of the proposed project study area that contain potential nesting bird habitat. Surveys will be conducted 24 hours prior to the clearing, removal, or grubbing of any vegetation or ground disturbance. If active nests are located, then a barrier installed at a 50–foot radius from the nest(s) will be established and the tree/location containing the nest will be marked and will remain in place and undisturbed until a qualified biologist performs a survey to determine that the young have fledged or the nest is no longer active.

Residual Impacts

Impacts would be less than significant.

Impact BIO-2a: Construction of the proposed Project would not result in a substantial reduction or alteration of a state-, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.

Special aquatic sites and natural habitats identified in the proposed project study area that would be affected by proposed project construction include kelp outcrops along the Main Channel adjacent to Berths 70–71 and the western end of City Dock No. 1, the eelgrass beds adjacent to Cabrillo Beach, and EFH. No mudflat, salt marsh, cord grass, freshwater marsh habitat, or native plant community would be affected by construction of the proposed Project because no such habitats exist in or near the proposed project study area.

Kelp Beds

Kelp (predominantly *Egregia* and *Macrocystis*) grows on the riprap along the Main Channel side of the proposed project study area at Berths 70–71, and off the tip of City Dock No. 1. The kelp beds fluctuate in area throughout the growing season (March–October), but the beds are likely always present (SAIC 2010). Construction of proposed project features in these areas could affect those kelp beds if it involves pile placement or alterations to other in-water features. Specifically, the barges used for pile driving and work boat activities could damage kelp fronds, and the piles themselves could damage or remove kelp plants. However, these activities would be of short duration and limited extent, and any affected kelp would be expected to reestablish quickly once construction was over, given the vigor of the kelp in the harbor (MEC 1988; SAIC 2010).

Eelgrass

An extensive, dense bed of eelgrass is present approximately 0.7 mi from the proposed project site, in the shallow waters of the Outer Harbor just offshore of Cabrillo Beach and the youth facility north of the beach. Placement of pilings and construction of the water intake and discharge structures would cause increased turbidity in the immediate area of construction. Some of the suspended sediments could, depending on conditions, be carried into the eelgrass bed to increase turbidity there, but the distance involved means that any such effect would be very small.

Since the depth and substrates in the proposed project area are generally inadequate for eelgrass growth, and no eelgrass has been observed in these areas to date, and because construction-related turbidity would be unlikely to reach the existing beds, the proposed Project would be unlikely to affect eelgrass and associated biological communities.

Essential Fish Habitat

Marine habitat in the harbor functions as EFH for several fish species managed under the Coastal Pelagic and Pacific Groundfish FMPs (see Table 3.3-2). Construction of over-water structures such as wharf extensions and floating docks, and installation of pilings and the seawater intake, could affect use of water and sediments below those structures by individuals of these EFH species as a result of noise, physical disturbance, turbidity, and loss of food resources (benthic invertebrates). These effects would be localized and temporary, and would not, therefore, have a substantial effect on EFH in the harbor.

A small amount of the benthic fauna in the harbor bottom below the proposed floating docks would be lost within the footprint of the piles being driven and rock placed around the base of these piles (if any), and soft-bottom habitat could be converted to hard bottom (pilings and rock) at these locations. The docks themselves would provide new attachment surfaces for marine life, including seaweeds and invertebrates, and shelter for small fish. The turbidity generated by driving each pile would be localized immediately adjacent to the pile and would dissipate rapidly with minor effects on nearby invertebrates and fish at the pile locations. The small loss of prey for managed fish species would not adversely affect their populations within the harbor due to the large amount of undisturbed foraging area available and the small number of individuals of managed groundfish species that feed on benthic organisms in the harbor. Construction disturbances such as turbidity would have a negligible effect on eggs and larvae of managed species, which are located primarily in the water column and move with water currents and, thus, would be exposed only briefly to turbidity. Additionally, only a small number would be affected in the construction area relative to those present in all marine habitats in the harbor.

Placement of the floating docks would shade a small area (less than one-half acre) in the East Channel. In shallow water shading could adversely affect the growth of seaweeds and eelgrass on the bottom, but the East Channel is too deep for extensive growths of plants at the bottom. Furthermore, the open structure of floating docks would allow light to penetrate among the docks. Accordingly, the effects of shading on EFH would be minor.

Upland construction activities would have no direct effects on EFH, which by definition is located in the water. Runoff of sediments from such construction could enter harbor waters; however, as discussed in Section 3.13, “Water Quality, Sediments, and Oceanography,” implementation of sediment control measures (e.g., sediment barriers and sedimentation basins) would minimize such runoff and result in minimal effects on water quality that could affect EFH.

Impact Determination

Proposed project construction activities could have minor, short-term effects on kelp beds in and near the proposed project study area. Because these effects would be localized and temporary, impacts on special aquatic sites and natural habitats would be less than significant.

Temporary physical disturbances and turbidity from in-water construction would affect EFH through loss of food resource and avoidance by managed species, and could result in some loss of fish as described above. Because these disturbances would affect few individuals and a small area of the harbor and would be temporary, they would have less-than-significant impacts on EFH or managed species. Although the installation of new in-water piles would result in the loss of deep-water substrate, it would be replaced by the hard vertical habitat of the new piles and the floating docks. Shading would not adversely affect habitat structure of function. Therefore, any potential loss of habitat, or changes in habitat functions, would be considered less than significant.

Construction activities in upland areas would also have less-than-significant impacts on EFH because of the controls that would be implemented to minimize runoff of pollutants from the land into the harbor.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-3a: Construction of the proposed Project would not result in interference with wildlife movement/migration corridors that may diminish the chances for long-term survival of a species.

No known terrestrial wildlife migration corridors are present in the proposed project study area. The only defined migratory species within the harbor are birds, including most of the upland, marine, and special-status species described in Sections 3.3.2.6 and 3.3.2.8.

California least tern and western snowy plover are migratory bird species that occur on Pier 400; the tern nests at the designated nesting site and the plover has been observed in low numbers at the least tern nesting site in recent years. Given the distance of the proposed Project from the Pier 400 nesting site (approximately 1.5 miles) and the limited extent of construction activities, construction of the proposed Project would not interfere with the migration or local movements of these species. California brown pelicans move between the harbor and their nesting sites in Mexico and on offshore islands in order to breed, and move around the harbor area on a daily basis. A number of other water-related birds that are present at least seasonally in the harbor are migratory as well. Construction activities within the proposed project study area would not block or interfere with migration or movement of these, and other species covered under the MBTA because the work would be in a small portion of the harbor area where the birds occur, these species are habituated to harbor activities, and the birds could easily fly around or over the work.

Fish species present in the harbor would be subject to temporary acoustic and possibly degraded water quality during pile driving and other in-water construction activities. These effects could result in result in temporary avoidance of the construction areas. However, these effects would be temporary. There would be no physical barriers to movement, and the baseline condition for fish and wildlife access would be essentially unchanged.

Project-related construction vessel traffic would consist of one or two barges and a few workboats to support the pile-driving and transport construction material. This level of activity would not interfere with marine mammal migrations along the coast because these vessels would represent a small proportion (much less than 1%) of the total Port-related commercial traffic in the area, and each vessel would have a low probability of encountering migrating marine mammals because these animals are generally sparsely distributed (LAHD and USACE 2007) and the bulk of the vessel trips would be inside the harbor.

Impact Determination

Construction of the proposed Project would have little, if any, adverse effect on wildlife movement or migration corridors. Accordingly, impacts of construction would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-4a: Construction activities for the proposed Project would not result in a substantial disruption of local biological communities.

Biological communities, the collection of species inhabiting a particular habitat or ecosystem, can potentially be disrupted by changes in environmental conditions that favor a different assemblage of species or that alter the dynamics among species that make up a biological community. The significance of changes in local conditions depends on the extent and duration of those changes, as well as the species or groups of species affected. Upland and road improvement activities would have minimal effect on terrestrial biota because the species present are nonnative and/or adapted to use of developed sites, and the proposed project study area contains no natural biological communities.

Construction-related impacts on marine biological communities are expected to be temporary, lasting through the construction period and for a short time thereafter. These include physical disturbance, underwater noise, and turbidity produced during pile driving, intake placement, and pipeline installation. Polluted runoff into study area waters from upland activities would be minimized by the proposed project controls described in Section 3.13, "Water Quality, Sediments, and Oceanography" (e.g., project-specific SWPPP and BMPs such as sediment barriers and sedimentation basins). In-water construction is expected to generate turbidity, but not to levels that could result in a substantial disruption of biological communities. Turbidity, noise, and vibration (primarily from pile driving) would likely cause some fish, birds, and marine mammals to leave the immediate proposed project study area temporarily, as described under Impact BIO-1a, above.

The underwater sound pressure levels generated by in-water pile driving are expected to exceed the disturbance or injury thresholds for some aquatic-dependent species occurring in portions of the proposed project study area and Outer Harbor. Therefore, pile driving is expected to affect the behavior of these species, and could result in harm or mortality is some instances. Although these activities would affect individuals, the populations of these organisms would not be adversely affected because the small number of individuals occurring in the affected area and the limited extent of the affected area. The implementation of Mitigation Measures MM BIO-1 and MM BIO-2 would provide additional protection for those species occurring in the areas affected by pile driving activities. Therefore, the proposed Project would not substantially disrupt biological communities.

The invasive green alga, *Caulerpa*, has the potential to spread by fragmentation. Prior to in-water work, (including pile driving), an underwater survey for the invasive alga *Caulerpa* would be conducted in order to ensure that no *Caulerpa* is present in the proposed project study area (NMFS and CDFG 2007). In the event that *Caulerpa* is detected during preconstruction surveys, an eradication program would be implemented per the requirements of the *Caulerpa* protocol (NMFS and CDFG 2007). Construction would commence only after the area is certified to be free of this invasive species. As discussed in the 3.3.2.10.2, more than 30 *Caulerpa* surveys have been conducted in the harbor to date as a standard procedure prior to sediment disturbing activities, and no *Caulerpa* has been found (SCCAT 2008). Considering the *Caulerpa* survey requirement and the absence of *Caulerpa* to date, and with implementation of the aforementioned *Caulerpa* protocols, the potential for proposed project activity to spread this species is low.

Impact Determination

As described above, construction activities in the upland portions of the proposed project study area would result in no substantial disruption of local biological communities. Runoff of sediments and pollutants from upland construction activities would have only localized, short-term effects that would not substantially disrupt biological communities in the East Channel, Main Channel, and Fish Harbor. These effects would represent less-than-significant impacts.

The effects of in-water construction on local biological communities would be limited for the following reasons: the number of organisms occurring in the affected area would be small, fish, birds, and mammals in the construction area would likely move out of the affected area, and the construction would be localized and temporary. Accordingly, underwater noise, physical disturbance, and turbidity would have less-than-significant impacts on local biological communities.

Implementation of the established protocols for the detection and control of *Caulerpa*, which would be required by the USACE permit, and the fact that *Caulerpa* is not likely to be present in the proposed project study area would ensure that impacts related to invasive species would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-5a: Construction of the proposed Project would not result in a permanent loss of marine habitat.

The proposed project study area's waterfront is already affected by boat docks, floats, and shading from wharfs, buildings, and vertical walls. Construction of the proposed Project would neither add nor remove marine habitat area because no new land or water area would be created, no structures that could substantially shade water area would be built, and no in-water structures would be permanently removed. Proposed project construction would, however, add small amounts of various materials (rock, steel, concrete) to the aquatic environment in the form of new pilings, the intake structure, and possible protection for the intake piping. These additions would represent minor changes to the aquatic habitat types in the proposed project study area. Over time, these in-water materials would be colonized by aquatic organisms and function as marine habitat, albeit of different character.

Impact Determination

There would be no permanent loss of marine habitat as a result of proposed project construction. Although there would be changes in habitat character/type from placement of materials and physical structures, the total quantity of open-water habitat would be unchanged. Impacts would, therefore, be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Residual impacts would be less than significant.

3.3.4.3.2 Operational Impacts

Impact BIO-1b: Operation of the proposed Project would not result in the loss of individuals, or the reduction of existing habitat, of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a species of special concern, or the loss of federally listed critical habitat.

Operation of the proposed Project would not adversely affect sensitive terrestrial species (birds and bats) because no activities would take place that could interfere with bird or bat nesting, reproduction, foraging, or migration. Landside activities would have no effect on vegetation.

Under the proposed Project, the potential operational impacts on sensitive marine species would be associated vessel activity and the intake and discharge of up to 2 million gallons of seawater per day. Vessels could spill or leak fuel and lubricants, and vessel passage in the harbor and adjacent coastal waters could interfere with marine mammals. There would be little or no increase in vessel activity under Phase I, which would involve the existing SCMI fleet of small vessels (similar to the recreational fleet in the nearby West Channel) with the possible addition of a few small boats. Under Phase II, however, the wharf at Berths 70–71 is assumed to accommodate larger research vessels (up to 250 feet in length) that do not presently call at the Port of Los Angeles on a regular basis. It is not certain that such vessels would, in fact, be based or call at the proposed project facility, but to be conservative this document assumes that there would be up to 6 large vessel calls per year by NOAA research vessels, spending a total of 60 days in port.

Accidental fuel spills and leaks associated with research vessels could introduce petroleum hydrocarbons into the waters of the East Channel and Main Channel. This document assumes that there would be no illegal discharges (e.g., bilge water and sanitary wastewater), because only one of the SCMI vessels is large enough to have onboard systems that could produce such discharges, and both the SCMI vessels and any larger research vessels that might call are operated by marine scientists and technicians in accordance with best management practices. Fuel and lubricant spills from the SCMI fleet would involve small amounts of gasoline, oil, or diesel fuel spilled during transfer of tanks between the dock and the vessel, or would result from leaks. These events would be no more frequent than under baseline conditions, where they are very rare, but would occur in a different location in the harbor. Fuel spills from larger vessels would not occur at Berths 70–71 because no fueling would take place there; vessels would be fueled at local, existing fuel docks. However, leaks from vessels berthed at Berths 70–71 could occur in the event of piping failures, hull rupture, or other accident.

A variety of marine organisms could be affected by spills and leaks. Specific effects would depend on the type and size of the spill or leak, the timing (both season and time of day relative to tidal cycle), and the effectiveness of emergency response efforts to contain and clean up the fuel spill. Contaminants could have indirect effects on sensitive species by affecting prey species such as plankton, invertebrates, and fish. Some contaminants could bioaccumulate, potentially reducing the survival and reproductive success of sensitive species. Sensitive marine bird species could be affected by leaks and spills into critical nesting or foraging habitat. Insoluble hydrocarbons that would float on the water surface could coat the feathers of birds using the water surface for resting or those diving into the water. Most impacts would occur in the immediate vicinity of the spill, but tidal currents could move the pollutant out into the Outer Harbor. Dilution, flushing, and evaporation of volatile materials would reduce concentrations to below toxic levels and ultimately remove the materials from the harbor. The severity of the effects would depend on the number and species of organisms affected and the spill's extent, toxicity, and clean up response.

With appropriate operational controls and compliance with the various permit requirements and regulations related to spill control (water quality BMPs included in the proposed Project as detailed in Section 3.13, "Water Quality, Sediments, and Oceanography"), it is expected that spills and leaks would be contained at the vessel, cleaned up, and disposed of at an approved location, and would thus have minimal adverse effects on biological resources.

Large volume intakes may result in losses of aquatic organisms when these collide with intake screens (impingement) or are drawn into the intake along with the water (entrainment). The design of the intake would include screens that would reduce water velocities at the intake approach to less than about 0.5 feet per second, which is the velocity identified in the U.S. EPA guidelines as a rate which generally allows fish to move away from the intake structure and thereby results in de-minimus impingement levels. While these approaches would minimize or eliminate effects on most juvenile and adult fish, which can avoid low-velocity intakes, they would not substantially minimize the entrainment of planktonic eggs or larvae. A large number of fish eggs and larval species have been reported in the harbor (MEC 2002; SAIC 2010), which reflects the variety of nursery and adult habitats present.

SAIC (2010) found that the most abundant fish larvae collected at Station LA-2 (near the proposed project intake location) were blennies, gobies, and sculpins, which made up nearly 90% of the total. Northern anchovy larvae, in the Coastal Pelagics FMP, constituted approximately 0.5 % of the total number of larvae in the water column. Of the other managed species, only flatfish larvae (which may have included Pacific sanddab, in the Pacific Groundfish FMP) were captured. On the other hand, in the 2000 survey (MEC et al. 2002) northern anchovy larvae were the third most abundant species in the ichthyoplankton, accounting for 14% of the total catch. It is likely, therefore, that the seawater intake would cause some mortality of northern anchovy larvae, and to a lesser extent, Pacific sanddab larvae. The harbor is not a spawning ground for northern anchovy, which reproduce in coastal waters outside the harbor (SAIC 2010). Negligible mortality of other managed species would be expected because of their very low abundances in the harbor.

Based on the overall density of larval fish (4 per cubic meter, or 1.5 per 100 gallons) collected at Station LA-2 (SAIC 2010), the estimated entrainment at the proposed project intake (2 million gallons per day) would likely be on the order of about 30,300 larvae of all species per day, whereas a 100% recirculating seawater system, with an intake volume of 27,400 gallons per day, would entrain about 411 fish larvae per day. These losses would represent a tiny fraction of the standing stock of larvae in the harbor because the amount of water withdrawn by the intake would be a tiny fraction of the volume and turnover of the harbor.

A study of a proposed desalinization plant seawater intake in nearby Santa Monica Bay came to a similar conclusion. In that case, the withdrawal of 1 million gpd (approximately half the proposed project's flow-through volume) was estimated to cause the loss of less than 3/100^{ths} of 1% of the larvae of managed fish species and key invertebrates (crabs and lobsters) in the vicinity of the intake without an intake screen, and even less than that with the addition of a screen (West Basin Municipal Water District 2008). Accordingly, the presence of an intake withdrawing quantities of water that would be minor relative to the total volume and turnover of the harbor and that would destroy few larvae would not adversely affect northern anchovy or any other species managed under the Coastal Pelagics or Pacific Groundfish FMPs.

Water discharged from the proposed facility directly to the harbor would be monitored to ensure compliance with water quality standards established by the SWRCB and the LARWQCB discharge permits for the facility. If these standards would not be met, discharge water would be further treated (in the case of a flow-through system) or routed through the sanitary sewer to the existing TIWRP (in the case of a recirculating system). Discharges to the harbor from a flow-through system would be approximately 2 million gpd, and to the Terminal Island facility from a recirculating system approximately 27,400 gal/day (consisting largely of the waste-stream generated during periodic filter backwash cleaning operations). Discharges to the sanitary sewer would be coordinated with the Bureau of Sanitation to avoid negative impacts to the treatment plant operations. With these controls, the likelihood of adverse effects on sensitive marine wildlife species as a result of water discharges would be low.

With both systems, discharges from tanks that housed non-native species would be specially treated (see Impact BIO-4b for more detail) before being discharged either to the TIWRP or to the harbor in order to prevent the introduction of non-native species into harbor waters. If treatment in the City Dock No. 1 facilities could not completely eradicate non-native species, discharge to the harbor would be prohibited by the facility's permits.

Sensitive marine birds, including the endangered California least tern, would not be affected by operation of the proposed Project because operation would not produce any conditions that would affect foraging or nesting behavior or critical habitats. Leaks and spills would be small and localized, meaning that few, if any, individuals would be exposed to pollutants such as oil and toxic hydrocarbons. Pollutant effects on food resources such as fish and invertebrates would be too small, in the context of the harbor habitat as a whole, to have a substantial adverse effect on foraging. The passage of vessels and other activities would not affect nesting or critical foraging habitat not only because no such habitats exist near Berths 70–71 or the navigation channels but also because marine birds in the harbor are acclimated to vessel activity.

Operation of the proposed Project would have a low probability of harming marine wildlife species of concern such as marine mammals and sea turtles. The existing SCMI fleet consists of small vessels that are very unlikely to harm marine mammals and sea turtles by collision; operational-phase threats to such organisms would come from the 6 calls per year by larger research vessels.

The addition of 24 vessel calls per year to the Port would have a low probability of harming marine mammals and sea turtles. Specifically, despite the large volume of vessel traffic along the coast, few whale strikes in California coastal waters have been reported over the past 25 years (NMFS 2007b), and very few ship strikes involving pinnipeds have been reported over the past 28 years by the Santa Barbara Marine Mammal Center (1976–2004). Furthermore, larger research vessels move at very slow speeds, which greatly reduce the chance of colliding with marine mammals. For instance, the largest vessel in the NOAA fleet, the R/V Ronald H.

Brown, cruises at 11 knots and has a top emergency speed of 15 knots (NOAA 2012). As discussed in Section 3.3.2.8.2, NMFS recommends that speed restrictions in the range of 10 to 13 knots be used, where appropriate, feasible, and effective, in areas where lower speed is likely to reduce the risk of ship strikes and facilitate whale avoidance. At such low speeds, whales, sea lions, seals, and other marine mammals would be easily able to avoid vessels calling at the Berth 70–71 facilities. Accordingly, the likelihood of collisions with marine mammals would be very low.

No sea turtle ship strikes have been reported in the area, although an olive Ridley sea turtle stranded in the Santa Barbara Channel in 2003 showed signs of blunt force trauma consistent with a vessel strike (Santa Barbara Marine Mammal Center 1976–2004). Sea turtles are infrequent visitors to the harbor; that fact, the few additional vessel transits, and the low vessel speed make encounters with sea turtles unlikely.

Impact Determination

Operation of the proposed Project would not affect terrestrial biological resources, including sensitive birds and bats. Accordingly, impacts on sensitive terrestrial biological resources would be less than significant.

Operation of the proposed Project would result in adverse effects on some fish species of special concern. While the design of the seawater intake structures would minimize or eliminate potential effects on adults and most juvenile fish, by meeting approved screening criteria, the intake operations would result in the entrainment or impingement of eggs and larvae. The maximum effect would result from a 100% flow-through system, which would destroy eggs and larvae in approximately 2 million gallons of water per day. However, because this amount would represent a tiny fraction of the total water volume and turnover of the harbor, and because the harbor is not a spawning ground for managed species, the impacts on managed fish species would be less than significant.

Increased vessel traffic would incrementally increase the potential for accidental leaks and spills. These spill and leak events are considered unlikely, and implementation of spill control mitigation measures (described in Section 3.13, “Water Quality, Sediments, and Oceanography”) would reduce their consequences. Accordingly, impacts on sensitive species would be less than significant.

Research vessels transiting the nearshore waters of southern California and the Outer Harbor could collide with endangered, threatened, or species of concern such as marine mammals and sea turtles. Impacts of project-related vessel traffic on marine mammals and sea turtles would be considered less than significant, however, because the slow ship speeds, infrequent vessel calls, and low numbers of marine mammals in the harbor area makes the probability of vessel strikes involving proposed project vessels very low.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-2b: Operation of the proposed Project would not result in a substantial reduction or alteration of a state-, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.

Kelp Beds

Little or no kelp (predominantly *Egregia* and *Macrocystis*) exists in the East Channel (SAIC), although sparse patches occur near the site of the proposed project seawater intake at the end of Berth 60. However, the operation of the intake would not adversely affect kelp because kelp is adapted to high-energy environments characterized by strong waves and currents and, in any case, intake velocities would be low. Kelp does grow on the riprap at Berths 70–71. Vessels docking at those berths could affect the kelp by propwash during maneuvering into and away from berth. As stated above, however, kelp is adapted to high-energy environments, so it is unlikely that propwash would have substantial adverse effects on the kelp bed. No other operational activities would affect the kelp bed.

Eelgrass

No eelgrass occurs in or adjacent to the proposed project study area. Therefore, operation of the proposed Project, specifically vessel activity and intake of seawater, would not adversely affect the eelgrass beds in the Cabrillo Beach vicinity.

Essential Fish Habitat

The Los Angeles-Long Beach Harbor represents EFH for the Coastal Pelagics and Pacific Groundfish FMPs. The only potential effects of proposed project operations on EFH would be associated with the quality of water discharged to the harbor under the flow-through option. Degraded water quality could result in locally degraded habitat quality for the managed species. However, the discharge of water under this scenario would not have deleterious effects on EFH because the composition of the discharged water would be regulated by permit conditions and the water would be treated before discharge (see Impact WQ-1b in Section 3.13 for details on water quality, treatment, and potential impacts).

Impact Determination

Because vessel activity would be infrequent, operational impacts on kelp would be less than significant. No eelgrass is close enough to the proposed Project to be affected by operational activities; accordingly, impacts on eelgrass would be less than significant. Operation would have less-than-significant impacts on EFH because the discharged water would not degrade the quality of the local habitats.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-3b: Operation of the proposed Project would not result in interference with wildlife movement/migration corridors that may diminish the chances for long-term survival of a species.

As described in Section 3.3.2.11, the proposed project study area occurs at the edge of a dense urban and industrial development that precludes the existence of natural terrestrial corridors. Although the harbor itself does not constitute a migratory route for marine organisms, some marine fish species move into and out of the harbor for spawning or for nursery areas, several species of whales and dolphins migrate along the coast outside the harbor, and migratory birds are visitors to the Port. Operation of the proposed Project would not interfere with any of these activities. The negligible increase in large vessel traffic of 6 calls per year and daily trips of smaller boats would have little, if any, effect on wildlife movement or migration within or near the harbor, and would therefore not diminish the chances for the long-term survival of any species.

Impact Determination

Because operation of the proposed Project would not interfere with wildlife migration or other movements, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-4b: Operation of the proposed Project would not result in a substantial disruption of local biological communities.

The terrestrial biological resources of the proposed project area would not be substantially disrupted because those resources are sparse and because no proposed project operation other than vehicle parking and pedestrian activities would take place on land.

The operational aspects of the proposed Project with the greatest potential to affect biological communities would be the seawater intake. The intake would be designed to minimize potential impingement or entrainment of most adult and juvenile fish, by following approved intake screening and approach velocity criteria. However, impingement and entrainment planktonic biota would still occur. While this would not result in a significant effect on the overall biological communities in the harbor, some localized populations could be affected by the operation of the intake. For example, California grunion spawn at nearby Cabrillo Beach and larvae and juvenile fish from this local population could be adversely affected by the operation of the intake, particularly if the 100% flow-through system (2 million gallons per day) is selected. The potential effects of intake operations are discussed in detail above (see Impact BIO-1b).

Operation of the proposed Project would have no effect on the physical nature of the harbor environment because the only physical changes would be replacement of existing pilings and the addition of a few new pilings for small boat docks. Because the proposed project study area is already characterized by extensive pilings and other hard substrata, these alterations would not cause any changes in the nature of the biological community.

The proposed Project could support research on marine species not native to southern California. At least some of these organisms could be maintained in circulating seawater systems, using seawater taken from the harbor. If that water were to be discharged to the harbor via an outfall, the result could be introduction of nonindigenous species to the harbor environment. The design of the proposed Project recognizes the risk. Researchers would be required to install and maintain controls, both physical and procedural, on their experiments to prevent the escape of organisms into the environment, whether via spent seawater or other means. Spent seawater from such experiments would typically be discharged to the sanitary sewer for treatment through the City of Los Angeles wastewater treatment system. That treatment would destroy any multicellular organisms (some bacteria could survive the treatment process). If, however, water must be discharged back into the harbor, the facility would require that discharged water be treated in accordance with standard research aquarium practices, including UV light treatment, microfiltration, and other mechanical and chemical treatments as appropriate, before being discharged into the harbor. The specific treatment techniques would vary with the source of the water (e.g., exotic species or hormonal research tanks vs. local species holding tanks) to ensure that exotic species and potentially harmful substances such as antibiotics are not released to the harbor. Further, the NPDES permit would include required treatment standards, as appropriate.

Operation of the proposed Project is assumed to increase the number of large vessels (approximately 250 feet) visiting the harbor by about 6 per year. Most of the research vessels that would call at the proposed Project under Phase II would conduct research within the EEZ, including the existing operations of the SCMI vessels, or have arrived from another Pacific coast port. Some, however, would likely arrive from beyond the EEZ, and the larger ones that utilize ballast water could have taken some on in a foreign port. Ships entering the harbor from beyond the EEZ, including research vessels, are subject to ballast water management regulations to minimize the risk of accidental introductions of invasive species, as described in Section 3.3.3.12.

This increase in vessel traffic, amounting to a fraction of 1% of the total vessel traffic in Los Angeles-Long Beach Harbor, would incrementally increase the potential for invasive species introductions. Research vessels require minor amounts of ballast water compared to cargo vessels, but there would still be a risk of invasive species introduction, which would disrupt biological communities. In view of the very small increment of vessel traffic that the proposed Project would represent, however, and the controls on ballast water, the likelihood that project-related vessels would introduce invasive species would be small. Similarly, the risk of accidental introductions of invasive species attached to the hull or other equipment would also be very small.

Impact Determination

Under the flow-through scenario for the seawater system, spent seawater to the harbor would be discharged to the harbor. Under this design, discharge permit conditions would require that the water be treated to eliminate viable organisms and harmful chemicals. Accordingly, impacts of spent seawater discharge from the research facilities at the proposed project study area would be less than significant.

Although very unlikely, operation of the proposed Project has the potential to introduce invasive marine species into the harbor through the minor ballast water exchanges that could inadvertently occur, or through organisms attached to ship hulls or equipment. Invasive species would substantially disrupt biological communities. However, due to the limited increase in vessel arrivals, particularly from outside of the EEZs, this effect is considered less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-5b: Operation of the proposed Project would not result in a permanent loss of marine habitat.

Operation of the proposed Project would consist of research activities both on land and on the water. No use of natural habitats would occur beyond the withdrawal of water from the harbor. Accordingly, there would be no permanent loss of marine habitat.

Impact Determination

There would be no permanent loss of marine habitat as a result of proposed project operation. Accordingly, there would be no impact.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

3.3.4.3.3 Summary of Impact Determinations

Table 3.3-3 summarizes the impact determinations of the proposed Project related to biological resources. 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 potential impact, the table describes the impact, notes the impact determination, describes any applicable mitigation measures, and notes the residual impacts (i.e., the impact remaining after mitigation). All impact determinations, whether significant or not, are included in this table.

Table 3.3-3: Summary Matrix of Potential Impacts and Mitigation Measures for Biological Resources Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.3 BIOLOGICAL RESOURCES			
Construction			
BIO-1a: Construction activities would result in the loss of individuals, or the reduction of existing habitat, of a state- or federally listed endangered, threatened, rare, protected, or candidate, or a species of special concern, or the loss of federally listed critical habitat.	Significant	**MM BIO-1. Avoid Marine Mammals.** Via the construction contract and the development permit the LAHD will require that pile driving activities for construction of the proposed Project include establishment of a safety zone and monitoring of the area surrounding the operations for pinnipeds by a qualified marine biologist. The monitor will have the authority to halt operations unless, in the opinion of the Port's project engineer (Engineer), halting operations would be unsafe. The safety zone will extend out to 500 meters from the site of the pile driving, wherever that activity is taking place. Before pile driving is scheduled to commence, observers on shore or in boats will survey the safety zone to ensure that no marine mammals are present. If marine mammals are observed within the safety zone, driving will be delayed until they move out of	Less than significant

Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
		the area. If a marine mammal is seen above water and then dives below, the contractor will wait at least 15 minutes, and if no marine mammals are seen, it may be assumed that the animal has moved beyond the safety zone. This 15-minute criterion is based on a study indicating that pinnipeds dive for a mean time of up to about 4 minutes; the 15-minute delay will allow a more than sufficient period of observation to be reasonably sure the animal has left the vicinity. If pinnipeds enter the safety zone after pile has begun, pile driving will continue. The monitor will record the species and number of individuals observed and make note of their behavior patterns. If animals appear distressed, and if it is operationally safe to do so, the monitor will inform the Engineer that pile driving will cease until the animal leaves the area. In certain circumstances pile driving cannot be terminated safely and without severe operational difficulties. Therefore, if it is deemed operationally unsafe by the Engineer to discontinue pile driving activities, and a pinniped is observed in the safety zone, pile driving activities will continue only until the Engineer deems it safe to discontinue. **MM BIO-2. Minimize In-water Pile Driving Noise.** Via the construction contract the LAHD will require the contractor to use sound abatement techniques to reduce both noise and vibrations from pile driving activities. In addition to the "soft-start technique, which will be required at the initiation of each pile driving event or after breaks of more than 15 minutes, sound abatement techniques will include, but not be limited to, vibration or hydraulic insertion techniques, bubble curtains, isolation cage technology, sound aprons, and use of a cushion block on top of the pile being driven. Use of these techniques will reduce both the intensity of the underwater sound pressure levels radiating from the pile driving location	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		and the area in which levels would exceed the Level A and B harassment levels for marine mammals. **MM BIO-3. Conduct Nesting Bird Surveys.** Between February 15 and September 1 and prior to ground-disturbing activities, a qualified biologist will conduct surveys for the presence of nesting birds protected under the MBTA and/or similar provisions of the California Fish and Game Code within areas of the proposed project study area that contain potential nesting bird habitat. Surveys will be conducted 24 hours prior to the clearing, removal, or grubbing of any vegetation or ground disturbance. If active nests are located, then a barrier installed at a 50–foot radius from the nest(s) will be established and the tree/location containing the nest will be marked and will remain in place and undisturbed until a qualified biologist performs a survey to determine that the young have fledged or the nest is no longer active.	
BIO-2a: Construction activities would not result in a substantial reduction or alteration of a state-, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.	Less than significant	No mitigation is required.	Less than significant
BIO-3a: Construction activities would not result in interference with wildlife movement/ migration corridors that may diminish the chances for long-term survival of a species.	Less than significant	No mitigation is required.	Less than significant
BIO-4a: Construction activities for the proposed Project would not result in a substantial disruption of local biological communities.	Less than significant	No mitigation is required.	Less than significant
BIO-5a: Construction of	Less than	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
the proposed Project would not result in a permanent loss of marine habitat.	significant		
Operations			
BIO-1b: Operation of the proposed Project would not result in the loss of individuals, or the reduction of existing habitat, of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a species of special concern, or the loss of federally listed critical habitat.	Less than significant	No mitigation is required.	Less than significant
BIO-2b: Operation of the proposed Project would not result in a substantial reduction or alteration of a state-, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.	Less than significant	No mitigation is required.	Less than significant
BIO-3b: Operation of the proposed Project would not result in interference with wildlife movement/migration corridors that may diminish the chances for long-term survival of a species.	Less than significant	No mitigation is required.	Less than significant
BIO-4b: Operation of the proposed Project would not result in a substantial disruption of local biological communities.	Less than significant	No mitigation is required.	Less than significant
BIO-5b: Operation of the proposed Project would not result in a permanent loss of marine habitat.	No impact	No mitigation is required.	No impact

3.3.4.4 Mitigation Monitoring

Table 3.3-4. Mitigation Monitoring for Biological Resources

Impact BIO-1a: Construction of the proposed Project would result in the loss of individuals, or the reduction of existing habitat, of a state- or federally listed endangered, threatened, rare, protected, or candidate, or a species of special concern, or the loss of federally listed critical habitat.	
Mitigation Measure	**MM BIO-1. Avoid Marine Mammals.**
Timing	During construction activities.
Methodology	Via the construction contract and the development permit the LAHD will require that pile driving activities for construction of the proposed Project include establishment of a safety zone and monitoring of the area surrounding the operations for pinnipeds by a qualified marine biologist. The monitor will have the authority to halt operations unless, in the opinion of the Port's project engineer (Engineer), halting operations would be unsafe. The safety zone will extend out to 500 meters from the site of the pile driving, wherever that activity is taking place. Before pile driving is scheduled to commence, observers on shore or in boats will survey the safety zone to ensure that no marine mammals are present. If marine mammals are observed within the safety zone, driving will be delayed until they move out of the area. If a marine mammal is seen above water and then dives below, the contractor will wait at least 15 minutes, and if no marine mammals are seen, it may be assumed that the animal has moved beyond the safety zone. This 15-minute criterion is based on a study indicating that pinnipeds dive for a mean time of up to about 4 minutes; the 15-minute delay will allow a more than sufficient period of observation to be reasonably sure the animal has left the vicinity. If pinnipeds enter the safety zone after pile has begun, pile driving will continue. The monitor will record the species and number of individuals observed and make note of their behavior patterns. If animals appear distressed, and if it is operationally safe to do so, the monitor will inform the Engineer that pile driving will cease until the animal leaves the area. In certain circumstances pile driving cannot be terminated safely and without severe operational difficulties. Therefore, if it is deemed operationally unsafe by the Engineer to discontinue pile driving activities, and a pinniped is observed in the safety zone, pile driving activities will continue <u>only</u> until the Engineer deems it safe to discontinue.
Responsible Parties	LAHD
Residual Impacts	Less than significant.
Mitigation Measure	**MM BIO-2. Minimize In-water Pile Driving Noise.**
Timing	During in-water pile driving activities
Methodology	Via the construction contract the LAHD will require the contractor to use sound abatement techniques to reduce both noise and vibrations from pile driving activities. In addition to the "soft-start technique, which will be required at the initiation of each pile driving event or after breaks of more than 15 minutes, sound abatement techniques will include, but not be limited to, vibration or hydraulic insertion techniques, bubble curtains, isolation cage technology, sound aprons, and use of a cushion block on top of the pile being driven. Use of these techniques will reduce both the intensity of the underwater sound pressure levels radiating from the pile driving location and the area in which levels would exceed the Level A and B harassment levels for marine mammals.

Responsible Parties	Contractor
Residual Impacts	Less than significant.
Mitigation Measure	**MM BIO-3. Conduct Nesting Bird Surveys.**
Timing	During construction that occurs between 15 February and 1 September.
Methodology	Between February 15 and September 1 and prior to ground-disturbing activities, a qualified biologist will conduct surveys for the presence of nesting birds protected under the MBTA and/or similar provisions of the California Fish and Game Code within areas of the proposed project study area that contain potential nesting bird habitat. Surveys will be conducted 24 hours prior to the clearing, removal, or grubbing of any vegetation or ground disturbance. If active nests are located, then a barrier installed at a 50–foot radius from the nest(s) will be established and the tree/location containing the nest will be marked and will remain in place and undisturbed until a qualified biologist performs a survey to determine that the young have fledged or the nest is no longer active.
Responsible Parties	LAHD
Residual Impacts	Less than significant.

3.3.4.5 Significant Unavoidable Impacts

The proposed Project would not result in any significant unavoidable impacts on biological resources. Mitigation measures would be incorporated to reduce potentially significant impacts on marine wildlife from pile driving activities to less-than-significant levels.

3.4

CULTURAL RESOURCES

3.4

CULTURAL RESOURCES

3.4.1 Introduction

This section describes the environmental and regulatory setting for cultural resources, as well as the potential impacts on cultural resources that would result from the proposed Project and the mitigation measures that would reduce these impacts. Cultural resources customarily include archaeological, ethnographic, and architectural resources (the historic built environment). Though not specifically a cultural resource, paleontological resources (fossils) also are considered here because they are discussed in Appendix G of the State CEQA Guidelines (Environmental Checklist Form), within the context of Section V, Cultural Resources.

CEQA Guidelines Section 15120(d) prohibits an EIR from including information about the location of archaeological sites or sacred lands: “No document prepared pursuant to this article that is available for public examination shall include…information about the location of archaeological sites and sacred lands.” Therefore, the specific locations of archaeological sites have been omitted from this section, and the cultural resources technical reports are a confidential (non-printed) appendix to this document.

Potentially significant impacts would occur on unknown buried prehistoric and historical archaeological resources, buried human remains, and historical architecture. No impact would occur to known buried archaeological resources or paleontological resources. After mitigation, the following impact would remain significant and unavoidable:

- Construction of the five-story, 100,000 square-foot wave tank building would have a significant impact on the historic setting of two nearby historic resources, which are also contributors to the potential Municipal Pier No. 1 Historic District. Although mitigation is available to reduce the impact of this structure, the overall size and scale of this structure cannot be mitigated to a less-than-significant level. As such, this element of the proposed Project would be significant and unavoidable.

3.4.2 Environmental Setting

This section presents the physical setting, prehistoric context, ethnographic setting, historic context, and site-specific setting relative to cultural resources that are present in the proposed project area.

3.4.2.1 Historical Physical Setting

The proposed project area is located within the Los Angeles Basin, a broad, level expanse of land comprising more than 800 square miles that extends from Cahuenga Peak south to the Pacific coast, and from Topanga Canyon southeast to the vicinity of Aliso Creek. Prior to historical settlement of the area, the plain was characterized by extensive inland prairies and a lengthy coastal strand, with elevations approximately 500 feet above mean sea level. The Los Angeles plain is traversed by several large watercourses, most notably the Los Angeles, Rio Hondo, San Gabriel, and Santa Ana Rivers. Marshlands fed by fresh or salt water also once covered many portions of the area (Hamilton et al. 2004; McCawley 1996).

The Los Angeles–Long Beach Harbor was once a low-lying coastal marsh generally referred to as either the Wilmington Lagoon or San Pedro Creek. The lagoon had a complex network of estuaries, stream channels, tidal channels, sand spits, beaches, and marshy inlands (Schell et al. 2003). Although the present configuration of the Port partly reflects the natural arrangement of the landscape, filling and dredging activities have formed an extensive network of wharves and shipping channels along the waterfront. Earth deposits underlying the proposed project area consist of artificial fill materials, as this area of land has been built up during the historic development of the Port.

3.4.2.1.1 Historic Context of Municipal Pier No. 1

Unless otherwise noted, the discussion below is summarized from *Historic Resources Evaluation Report for Port of Los Angeles, Municipal Pier No. 1* (Appendix E).

In anticipation of increased shipping resulting from construction of the Panama Canal, to be completed in 1914, the Los Angeles Board of Harbor Commissioners initiated several improvements at the Port of Los Angeles in the early 1910s to capture a greater portion of the increased shipping traffic in the Pacific. Improvements to the Outer Harbor included the construction of the massive Municipal Pier No. 1. Work on the pier began with the filling of the Huntington Concession (also called the “Huntington Fill”) during the spring of 1912. Over 60 acres were in-filled with materials taken from dredging the adjacent channel to a new depth of 35 feet (Marquez and De Turenne 2007). According to the *Los Angeles Times*, this area provided the best opportunity for deep water wharfage at the Port. The Board of Harbor Commissioners Report for 1912–1913 called the construction of Municipal Pier No. 1, “one of the best pieces of wharf construction in the country,” and also noted that, “[t]his will be the finest wharf construction that can be built, and is designed for the deep sea commerce of the great ocean lines that will come through the Panama Canal from Europe, or engage in trans-Pacific trade.” The

Harbor Commission believed that timber construction was obsolete and concrete structures were the wave of the future, especially where oil was involved. This *Los Angeles Times* article compared the Port's project with existing concrete piers in other major ports around the world, including those in Hamburg, Germany; Southampton, England; and Antwerp, Belgium; a clear attempt to position the Port of Los Angeles in an international perspective, and exemplifying the enthusiasm for capturing a larger share of the increased world trade resulting from the anticipated opening of the Panama Canal.

The layout of Municipal Pier No. 1 was proposed by Consulting Engineer E. P. Goodrich of New York and prepared by City Engineer Homer Hamlin and Harbor Engineer Vincent Thomas. Plans included a 12-foot-high concrete sheet piling retaining wall (bulkhead). The interior was to be filled with dredged materials and raised to a height of 16 feet above the low-water level. The area was surrounded by 40 feet of docking space placed on concrete pilings. The dock would include modern traveling cranes, 16 railroad tracks, and a roadway wide enough to accommodate an electric railway, as well as provide almost 2 miles of wharfage. The construction contract, in the amount of $444,777, was awarded to Snare & Triest in December 1912.

Municipal Pier No. 1, located between the Main Channel and East Channel, was completed in 1914. At that time, the pier was about 2,520 feet long and 650 feet wide. The pier could be extended an additional 1,400 feet into the harbor if increased shipping traffic necessitated additional wharfage. A June 20, 1914, *Los Angeles Times* article called Municipal Pier No. 1 "the finest reinforced concrete wharf in the world." The article also noted that, "[w]ithin a short time the city will have sufficient wharves to accommodate a great volume or traffic, and others will be built as rapidly as they are needed."

Los Angeles Municipal Shed No. 1 (Berths 58–60) , a one-story steel-frame building measured 1,800 feet long by 100 feet wide, was constructed on site by 1915. The shed, a one-story steel-frame building, measured 1,800 feet long by 100 feet wide. City Engineer Homer Hamlin is credited with designing the shed, which was constructed for, and operated by, the American-Hawaiian Steamship Company.

Additional transit sheds and other structures were added to the dock over the next several years, including Municipal Warehouse No. 1, a massive, six-story concrete warehouse, which was completed in 1917 (Marquez and De Turenne 2007). See discussion of Municipal Warehouse No. 1, below. The December 6, 1914, *Los Angeles Times* article, anticipating the construction of Warehouse No. 1, claimed that the structure would be the "largest west of Chicago," and noted that together with adjacent Municipal Shed No.1, "the port is expected to meet all shipping requirements for the present."

Figure 3.4-1 shows an aerial view of Municipal Pier No. 1 with completed warehouses and sheds circa 1925.

Municipal Warehouse No. 1

Municipal Warehouse No. 1 is a large, six-story structure containing 500,000 square feet in its 475- by 150-foot rectangular plan. The building was designed in 1915 by Peter Ficker, then an employee of the Harbor Engineers office. (Peter Ficker also designed Municipal Transit Shed No. 1). It was constructed with steel reinforced, poured-in place concrete, and has a flat roof with a short parapet wall with an unornamented cornice. The building is characterized by vertical elements on all elevations, including full-height engaged pilasters, projecting concrete fire-escape stairways, and steel loading bay doors and cast-concrete gargoyle drain spouts at each floor level. The building sits at the southeastern end of Municipal Pier No. 1 adjacent to Berths 59–60, between Signal Street to the west, the Main Ship Channel on the east, and the Outer Harbor to the south. Completed in 1917, Warehouse No.1 served as the Port's only bonded warehouse. The bonded portion of a warehouse was also used for particularly valuable goods. During the era of break-bulk cargo handling, warehousing at the Port terminals was important for efficient commerce, and Warehouse No.1 served a leading role in warehousing at the Port of Los Angeles from 1917 through the 1950s (Jones & Stokes 1999).

In 2004 Municipal Warehouse No. 1 was listed on the National Register of Historic Places. As noted in Jones & Stokes' National Register Nomination form for Municipal Warehouse No. 1, "[t]he process of transshipment dictated the order in which the Harbor Commission funded construction activities: dredging of the ship channel, construction of [Municipal] Pier 1 and associated wharves, transit sheds, and rail lines, and construction of the massive, bonded warehouse. With these facilities in place, the Port of Los Angeles entered into international commerce, and by 1923 had surpassed all the other west coast ports in tonnage and value of cargo" (Jones & Stokes 1999).

Berths 57–60 (Transit Sheds)

The transit shed at Berth 57, a one-story, 93-foot-wide by 500-foot-long shed, was constructed in 1923, immediately north of Municipal Shed No. 1 (transit shed at Berths 58–60).

Plans on file with the Port indicate that a timber wharf extension had been planned along the western edge of the all-concrete pier adjacent to the transit sheds at Berth 57–60 as early as 1924 (Port 1924). However, these plans were abandoned in favor of an all-concrete wharf, which was constructed nearly 14 years later in July, 1938. This effort widened the pier by another 30 feet and provided new trackage for railcars loading and unloading goods at Berths 57–60.

Berths 70–71 (Westway/Pan-American Oil Company Pump House)

As early as 1923, the Pan American Petroleum Company initiated plans to establish an oil loading station along the Main Channel at Municipal Pier No. 1 (Berths 70–71). The existing Westway Terminal Building appears to be the last remaining

Source: POLA

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Figure 3.4-1
City Dock #1 Circa 1925
City Dock No. 1 Marine Research Center Project

structure from this important Port development, which included two other small buildings constructed in a similar Mission Revival architectural style as well as a large oil tank farm that surrounded the buildings (ICF Jones & Stokes 2008). In late summer of 1923, the Pan American Petroleum and Transport Company entered into a 30-year lease with the Los Angeles Harbor Commission (LAHC) for 7 acres of Pier No. 1 to construct a fire-proof oil loading station along the Port's Main Channel (Berths 70–71). The purpose of the facility was to transport oil for shipment from the company's refinery at Watson via three oil lines to the Marine Loading Station located at Berths 70–71.

The 1923 Westway Terminal Building is a concrete two-story Mission Revival style building with a front gabled roof and a parapet flanked by two modern shed roofs.

Berth 260

The SCMI facility is currently located at Berth 260 on Terminal Island. The property consists of a 19,000-square-foot office and research building, a 2,700-square-foot storage warehouse, and a 2,400-square-foot shop storage. The SCMI office and research building is a two-story office building with a flat roof, overhanging eaves, and stucco siding with aluminum frame windows. The warehouse and shop consist of material from two to three modified steel frame shipping containers. The facility was found to be non-historic in the Built Environment Evaluation Report of Terminal Island because they do not meet the minimum age requirement for eligibility for listing in the federal, state, or local register. (SWCA 2011.)

3.4.2.2 Site-Specific Setting

3.4.2.2.1 Cultural Records Search

Archaeology

ICF cultural resources staff conducted a records search at the South Central Coastal Information Center of the California Historical Resources Information System located at California State University, Fullerton, on September 29, 2005, which was updated on January 16, 2008. The records search included a review of all recorded cultural resources within a 1-mile radius of the proposed project area. In addition, a review of historic registers was conducted including: California Historic Landmarks (CHL), NRHP, CRHR, California Points of Historical Interests (PHI) and California Historic Resources Inventory (HRI), California Place Names, and Los Angeles Historic-Cultural Monuments.

According to the record search, 19 cultural resources studies have been previously conducted within a 0.5-mile radius of the proposed project area; 4 of these studies were conducted within the proposed project area. The record search indicates that no known prehistoric or historical archaeological sites are located within the proposed project area. Two archaeological sites, CA-LAN-145 and CA-LAN-1129H, have been previously identified within a 0.5-mile radius of the proposed project area.

Historic Architectural Resources

A record search was conducted at the South Central Coastal Information Center of the California Historical Resources Information System located at California State University, Fullerton, for the San Pedro Waterfront Project EIS/EIR, which included the proposed project area and its vicinity. The record search included a review of federal, state, and local historic registers. Previous architectural historical resources surveys and inventories in the area were consulted. Another source consulted was *Los Angeles: An Architectural Guide* by David Gebhard and Robert Winter (2003). There are no historical resources, within the proposed project boundary, identified in the guidebook.

The majority of the proposed project area was included in the January 1997 *Phase II Cultural Resources Reconnaissance Survey of 7,500 Acres of Land and Water for the Port of Los Angeles* (Fugro West 1997). The survey was prepared for the LAHD Environmental Management Division by Fugro West, Inc., and it included documentation of historical resources on California Department of Parks and Recreation (DPR) inventory forms (series DPR 523).

The proposed project area was surveyed in the July 2008 *Final Architectural Survey and Evaluation of Signal Street Properties, Port of Los Angeles, Los Angeles, California*. The survey was prepared for the LAHD by ICF Jones & Stokes, and it included documentation of historical resources on California Department of Parks and Recreation inventory forms (series DPR 523).

In addition, the proposed project area was resurveyed in the February 2011 *Historic Resources Evaluation Report of Municipal Pier No. 1.* The report was prepared for the LAHD by ESA. The report included a summary of prior historical evaluations at Municipal Pier No. 1 by ICF Jones & Stokes and Fugro West, and evaluated the pier both individually and as a potential historic district. The evaluation found that Municipal Pier No. 1 is eligible for listing in the National Register, CRHR, and as a City of Los Angeles Monument. The pier was documented as a potential district on DPR 523 forms.

The proposed project area was identified as encompassing one architectural property, Municipal Warehouse No. 1, which is listed on the NRHP and the CRHR. Three other buildings were previously determined to be significant in a historical resources survey, transit shed at Berth 57, transit shed at Berths 58–60, and the Westway Terminal Building at Berths 70–71 (ICF Jones & Stokes 2008).

3.4.2.2.2 Archival Research

Archaeology and Historic Architectural Resources

Extensive archival research was conducted for the San Pedro Waterfront Project (ICF Jones & Stokes 2008). Because the present proposed project area was completely encompassed by the San Pedro Waterfront Project area, the research for that project was used as the basic research information for the proposed Project. Archival research for San Pedro Waterfront included a review of primary and secondary documents available at the Wilmington and San Pedro Bay Historical Societies and the Los Angeles Public Library, the photo archives at the Port, regional prehistoric and ethnographic materials on file at ICF International, and the following:

- Sanborn fire insurance maps (1888, 1891, 1902, 1908, 1921, 1950, 1969)
- Historic topographic maps (1896, 1925, 1944, 1951,1964)
- LAHD Port annual reports (1918-1920, 1924-1925, 1925-1926, 1926-1927)
- U.S. Coast Survey Map of the California Coast (1859)
- Historic Aerial Photographs (LAPL, LAHD, Wilmington Historical Society)
- General Land Office Plat Maps (1859, 1862, 1867)

Archival research demonstrated that the proposed project area was built from dredged materials in essentially one episode. The surface of City Dock No. 1 was then developed over the course of the twentieth century by the Port. This makes it unlikely that any historical archaeological sites (e.g., refuse deposits, earlier building foundations) are preserved in the proposed project area. The location on artificial fill precludes the possibility of intact prehistoric archaeological sites. However, several historical architectural resources are present.

3.4.2.2.3 Existing Cultural Resources

Paleontological Resources

A report prepared for the San Pedro Waterfront Project (Kirby and Demere 2008), which encompasses the proposed project area, determined that the proposed project site is underlain by artificial fill. The original shoreline of the harbor lies approximately 0.2 mile to the west of the proposed project area. Given the preponderance of fill material, no further paleontological research was necessary for the proposed project area, and, therefore, no additional research was conducted for the proposed Project.

Archaeological Resources

The identification of cultural resources in the proposed project area was based on the results of a record search, and archival and historic map research. The information generated represents the cultural resources baseline for the impact analysis because cultural resources information does not change substantially over time. The proposed project area is located on artificial fill, which would preclude the possibility of intact prehistoric archaeological sites. At the time of the study, the proposed project area was paved and developed, precluding survey for historical archaeological resources.

According to the record search, no known prehistoric or historical archaeological sites are located within the proposed project area. The proposed project area was built from dredged materials and then developed over the course of the twentieth century. This makes it unlikely that any historical archaeological sites are preserved in the project area. The location of the proposed project area on artificial fill precludes the possibility of intact prehistoric archaeological sites.

Historic Architectural Resources

For the purposes of this Draft EIR, all buildings, structures, objects, landscape elements, and other features that could be considered historical resources are evaluated in light of each of the five definitions under CEQA. Each definition is described in more detail below, along with a listing of those historical resources on, adjacent to, near, or historically related to the proposed project site that meet any of the definitions. If a historical resource meets more than one definition, it is listed only once, under the first applicable definition category.

Field reconnaissance surveys of all the buildings in the study area were conducted by an architectural historian who meets the U.S. Secretary of the Interior's Professional Qualifications Standards (48 FR 44738-9) on December 10, 2010.

State Criteria—Historical Resources per Section 15064.5(a) of the CEQA Guidelines

The CEQA historical resources study area includes areas that would be affected by the proposed Project, which extend well beyond the federal Area of Potential Effects (APE). The CEQA statute and guidelines provide five basic definitions as to what may qualify as a historical resource. Specifically, Section 21048.1 of the CEQA statute (Division 13 of the PRC), in relevant part, provides a description for the first three of these definitions, as follows:

> …an historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources. Historical resources included in a local register of historical resources, as defined in subsection (k) of Section 5020.1, are presumed to be historically or culturally significant for purposes of this section, unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant. The fact that a resource is not listed in, or determined to be eligible for listing in, the California Register of Historical Resources, not included in a local register of historical resources, or not deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1 shall not preclude a lead agency from determining whether the resource may be an historical resource for purposes of this section.

To simplify the first three definitions provided in the CEQA statute, a historical resource is a resource that is:

- listed in the CRHR,
- determined eligible for the CRHR by the State Historical Resources Commission, or
- included in a local register of historical resources.

Section 15064.5 of the CEQA Guidelines (14 CCR 3) supplements the statute by providing two additional definitions of historical resources, which may be simplified in the following manner. An historical resource is a resource that is:

- identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g), or
- determined by a lead agency to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. Generally, this category includes resources that meet the criteria for listing on the CRHR (PRC Section 5024.1; 14 CCR 4852).

Definition 1—Listed in the California Register of Historic Resources

There are several ways in which a resource can be listed in the CRHR; these are codified under 14 CCR 4851.

- A resource can be listed in the CRHR by the State Historical Resources Commission.
- If a resource is listed in or determined eligible for listing in the NRHP, it is automatically listed in the CRHR.
- If a resource is a California State Historical Landmark, from No. 770 onward, it is automatically listed in the CRHR.

Table 3.4-1 identifies the two properties within the APE that are listed in or determined eligible for listing in the NRHP, and therefore are automatically listed in the CRHR.

Table 3.4-1. Properties within the APE that Are Listed in or Determined Eligible for Listing in the NRHP and for the CRHR (Meets Definition 1: Listed in the California Register of Historic Resources)

Name	*Location*	*Status*	*Date Status Determined*
Municipal Warehouse No. 1	2500 Signal Street	NRHP listed	April 21, 2000

Definition 2—Determined Eligible for the California Register of Historic Resources

There are no historical resources on, adjacent to, or near the proposed project site that are known to have been determined eligible for the CRHR by the State Historical Resources Commission.

Definition 3—Listed in a Local Register of Historical Resources

There are no historical resources on or adjacent to the proposed project site that are listed in a local register of historical resources; specifically, Historic-Cultural Monuments and Historic Preservation Overlay Zones (HPOZs).

Definition 4—Identified as Significant in an Historical Resources Survey

According to Section 15064.5(a)(2) of the CEQA Guidelines, a resource "identified as significant in a historical resource survey meeting the requirements [set forth in] section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant." The requirements set forth in PRC 5024.1(g) for historical resources surveys determine that a resource identified as significant in an historical resource survey may be listed in the CRHR if the survey meets all of the following criteria:

1. the survey has been or will be included in the State Historical Resources Inventory;
2. the survey and the survey documentation were prepared in accordance with SHPO procedures and requirements;
3. the resource is evaluated and determined by SHPO to have a significance rating of Category 1 to 5 on DPR Form 523; and
4. if the survey is five or more years old at the time of its nomination for inclusion in the CRHR, the survey is updated to identify historical resources that have become eligible or ineligible due to changed circumstances or further documentation and those that have been demolished or altered in a manner that substantially diminishes the significance of the resource.

Table 3.4-2 presents historical resources in the APE that were identified in a survey to be significant.

Table 3.4-2. Historical Resources in the APE Determined to Be Significant in a Historical Resources Survey (Meets Definition 4: Identified as Significant in an Historical Resources Survey)

Name	*Location*	*Survey*	*Statement of Significance*
Transit Shed, Berth 57	Berth 57	Fugro West Survey (1997) and IFC Jones & Stokes (2008)	"This building should be regarded as eligible for listing on the NRHP under Criterion A (events) as one of the earliest extant sheds built during the first period of Port expansion." The construction of such a huge building on Pier One indicates the importance of commercial activities in the Outer Harbor in the early years of the Port's development.
Transit Shed, Berths 58–60	Berth 58	Fugro West Survey (1997)	"This building appears to be eligible for individual listing on the NRHP under

Name	Location	Survey	Statement of Significance
		and IFC Jones & Stokes (2008)	Criterion A (events). It was one of the first sheds built during the modern era of the Port of LA, and is the oldest known survivor from this period. It also appears to be eligible under Criterion C (design) for its interesting and ambitious use of neoclassical treatments."
Potential Municipal Pier No. 1 Historic District	Municipal Pier No. 1, including seven contributors and two non-contributors	Appendix E	With a common function, design, and history in anticipation of the increase in shipping due to the opening of the Panama Canal, Municipal Pier No. 1 and its associated structures appear to meet NRHP Criterion A (Events) individually, and as a potential historic district. Due to the early use of reinforced concrete construction at the Port of Los Angeles, which reflected both the permanence and the importance of the facility, Municipal Pier No. 1, and associated structures also appear to meet NRHP Criterion C (Design), and for its associations with the work of a master; City Engineer Homer Hamlin, who was one of the City of Los Angeles's foremost engineers. For similar reasons, the potential historic district also appears eligible for the CRHR under Criteria 1 (Events) and 3 (Design), and as a City Monument.

The district evaluation by ESA identified seven contributors to the potential district, five of which are located within the APE. They are Municipal Pier No. 1 itself, inclusive of the entire 36-acre earth-filled pier plus the concrete pile–supported structure along its western edge, Municipal Warehouse No. 1, transit shed at Berths 58–60, transit shed at Berth 57, and Pan American Petroleum Company Marine Loading Station Facility at Berth 70 [Westway Terminal Building]), and two of which are outside of the APE (former Pan-Am Terminal Facility at Berth 56 [California Fish and Game Building] and the former Immigration Station [Canetti's Restaurant at 309 E. 22nd Street – now closed]). Non-contributors to the potential district included the tank farm and loading docks at Piers 70–72, and the water taxi landing on the southwestern corner of the pier.

Figure 3.4-2, "APE for Historical Resources," identifies the APE boundary in relationship to the proposed project boundary.

Definition 5—Determined Significant by the Lead Agency

The fifth and final category of historical resources covers those that are determined significant by a lead agency. This usually occurs during the CEQA compliance process, such as the preparation of this Draft EIR. According to Section 15064.5(a)(3) of the CEQA Guidelines, "Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource is considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the CRHR" (PRC SS5024.1; 14 CCR 4852).

As shown in Table 3.4-3, one historical resource identified in a survey was determined to be significant by the lead agency.

Table 3.4-3. Historical Resources in the APE Determined to Be Significant by the Lead Agency (Meets Definition 5: Determined Significant by the Lead Agency)

Name	*Location*	*Survey*	*Statement of Significance*
Westway/Pan-American Oil Company Pump House.	Berth 70	Fugro West Survey (1997) and IFC Jones & Stokes (2008)	Built on Pier No. 1 at Berths 70–71, the Pump House is potentially eligible for listing in the NRHP under Criterion A and the CRHR under Criterion 1 for its contribution to the broad patterns of local history through its association with the Pan-American Oil Company. It is also eligible under Criterion B and CRHR Criterion 2 for its association with Los Angeles oil magnate Edward J. Doheny, who formed a consortium that constructed the tanks, wharves, and refineries that by 1922 made the Los Angeles Harbor the world's leading oil shipment point. The original large diameter tanks were replaced by smaller diameter tanks. Because of its late Mission Revival architectural style applied to an industrial building, it is eligible for the CRHR under Criterion 3.

3.4.3 Applicable Regulations

The proposed project area contains several historically significant structures, and several federal, state, and local regulations apply to the proposed Project including the Secretary of Interior Standards and NHPA. In addition, the proposed Project would include in-water work related to replacement piles and water intake systems. In-water work in the bay and landside facilities related to the in-water work (including landside construction within 100 feet of the water work) would be under the jurisdiction of the USACE. Compliance and coordination with federal programs such as the NRHP and consultation requirements with SHPO (Section 106) would be required as a separate requirement from this Draft EIR and the CEQA process.

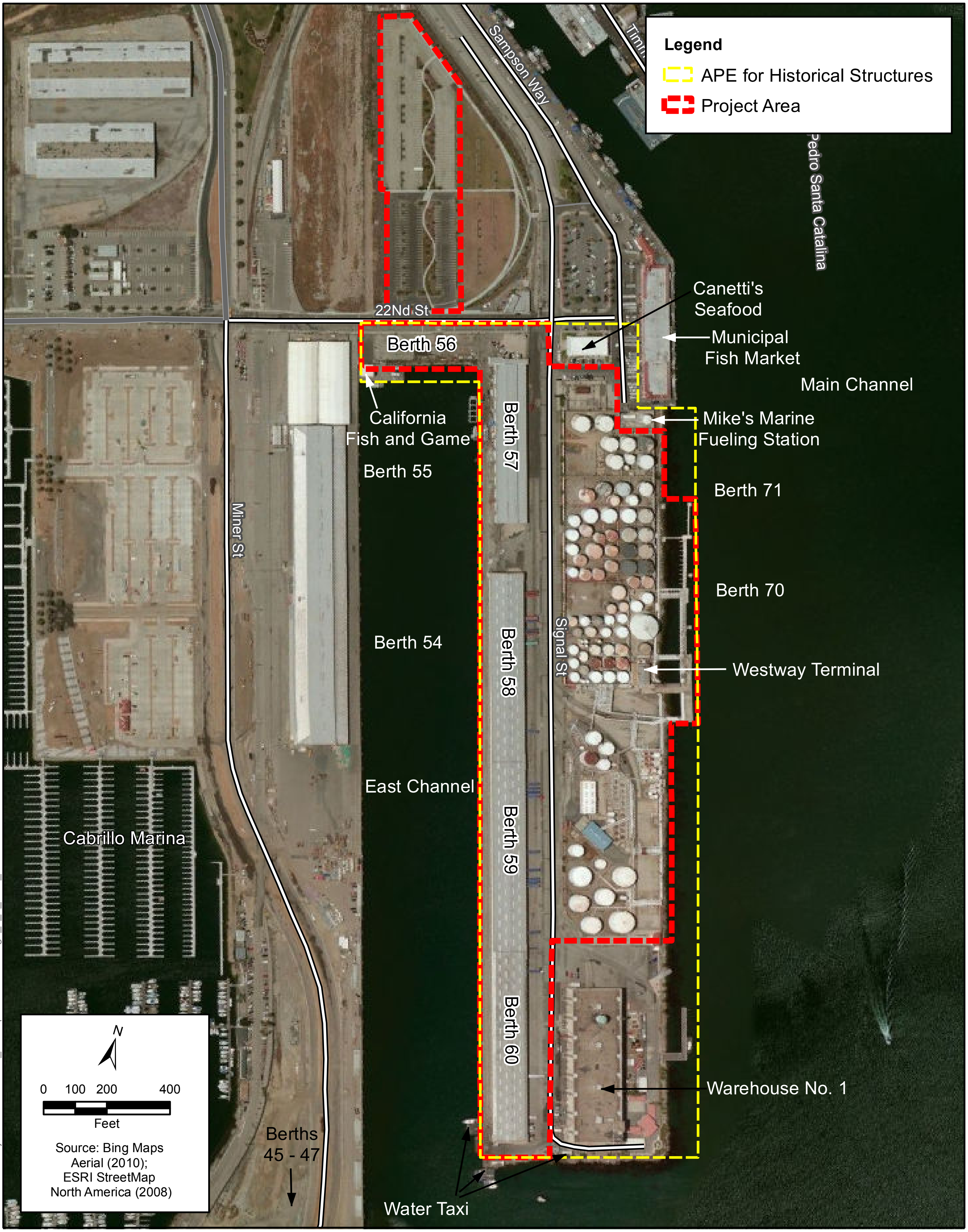

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Figure 3.4-2
APE for Historical Structures
City Dock No. 1 Marine Research Center Project

3.4.3.1 Federal

3.4.3.1.1 Historic Architectural Resources

Secretary of Interior Standards

The Secretary of Interior Standards are guidelines for the treatment of historic structures, and, while compliance is not mandatory, they are intended to promote responsible preservation practices intended to protect cultural resources. There are four treatment approaches, which include Preservation, Rehabilitation, Restoration, and Reconstruction. The first treatment, Preservation, places a high premium on the retention of all historic fabric through conservation, maintenance, and repair. It reflects a building's continuum over time, through successive occupancies, and the respectful changes and alterations that are made. Rehabilitation, the second treatment, emphasizes the retention and repair of historic materials, but more latitude is provided for replacement because it is assumed the property is more deteriorated prior to work. (Both Preservation and Rehabilitation standards focus attention on the preservation of those materials, features, finishes, spaces, and spatial relationships that, together, give a property its historic character.) Restoration, the third treatment, focuses on the retention of materials from the most significant time in a property's history, while permitting the removal of materials from other periods. Reconstruction, the fourth treatment, establishes limited opportunities to re-create a non-surviving site, landscape, building, structure, or object in all new materials.

National Historic Preservation Act

The NHPA of 1966, as amended, is the primary set of federal laws governing projects that may affect cultural resources. Section 106 of the NHPA requires that all federal agencies review and evaluate how their actions or undertakings may affect historic properties, though it only applies to the activities undertaken by federal agencies. Historic properties may include those that are already listed on the NRHP or those that are eligible but not yet listed. The regulations implementing Section 106 are codified at 36 CFR 800 (2001). The Section 106 review process involves four steps:

- Initiate the Section 106 process by establishing the undertaking, developing a plan for public involvement, and identifying other consulting parties.
- Identify historic properties by determining the scope of efforts, identifying cultural resources, and evaluating their eligibility for inclusion in the NRHP.
- Assess adverse effects by applying the criteria of adverse effects to historic properties (resources that are eligible for inclusion in the NRHP).
- Resolve adverse effects by consulting with the State Historic Preservation Officer and other consulting agencies, including the Advisory Council if necessary, to develop an agreement that addresses the treatment of historic properties.

To determine whether an undertaking may affect NRHP-eligible properties, cultural resources (including archaeological, historical, and architectural properties) must be inventoried and evaluated for eligibility to be listed on the NRHP. Criteria considers whether the quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association; the resource must also meet one of the following:

A. Be associated with events that have made a significant contribution to the broad patterns of our history (Criterion A).

B. Be associated with the lives of persons significant in our past (Criterion B).

C. Embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction (Criterion C).

D. Have yielded, or may be likely to yield, information important in prehistory or history (Criterion D).

3.4.3.2 State

3.4.3.2.1 Archaeological Resources

CEQA Guidelines define a significant cultural resource as "a resource listed in or eligible for listing in the California Register of Historical Resources" (PRC Section 5024.1). A resource may be eligible for inclusion in the CRHR if it meets any one of the following criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. It is associated with the lives of important historical figures.
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of an important creative individual, or possesses high artistic value.
4. It has yielded, or may be likely to yield, important prehistoric or historic information.

If an archaeological resource does not fall within the definition of an historical resource, but does meet the definition of a *unique archaeological resource* (PRC 21083.2), then the site must be treated in accordance with the special provisions for such resources. An archaeological resource will be *unique* if it:

- contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- has a special and particular quality such as being the oldest of its type or the best available example of its type; or

- is directly associated with a scientifically recognized important prehistoric or historic event or person.

Should an archaeological resource be determined potentially eligible for listing in the CRHR based on one or more of the criteria, the integrity of the resource then comes into question. For archaeological resources, integrity is most commonly defined as the ability to address important research questions outlined in a formal research design. For prehistoric and historic archaeological sites, integrity of location, materials, and association are generally most crucial. To address important research topics, archaeological deposits usually must be in their original location, retain depositional integrity, contain adequate quantities and types of materials in suitable condition to address important research topics, and have a clear association. Associations may be defined at different social scales (household or specific activity, region, or even city) and across various temporal spans (brief or longer term). Cultural sites that have been affected by ground-disturbing activities such as grazing, off-road vehicle use, trenching, and vandalism often lack the integrity to answer important questions. This is because spatial or depositional relationships have been lost, deposits or sites from widely different periods and associations have been mixed, or the contents of the deposits have been skewed by selective removal of materials.

Even without a formal determination of significance and nomination for listing in the CRHR, the lead agency can determine that a resource is potentially eligible for such listing to assist in determining whether a significant impact would occur. The fact that a resource is not listed in the CRHR, or has not been determined eligible for such listing, and is not included in a local register of historic resources does not preclude an agency from determining that a resource may be a historical resource for the purposes of CEQA however it must be based upon substantial evidence in light of the whole record per PRC section 15064.5(3).

3.4.3.2.2 Native American and Other Human Remains

The disposition of Native American burials and other human remains except in a dedicated cemetery are governed by Section 7050.5 of the California Health and Safety Code, and PRC Sections 5097.94 and 5097.98, and falls within the jurisdiction of the Native American Heritage Commission (NAHC). Section 7052 of the Health and Safety Code establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives. This includes non-Native American human remains and human remains in non-archaeological contexts.

Penal Code Section 622.5 provides misdemeanor penalties for injuring or destroying objects of historical or archaeological interest located on public or private lands, but specifically excludes the landowner. PRC Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, or historical, resources located on public lands.

3.4.3.2.3 Paleontological Resources

For purposes of CEQA, paleontological resources are treated as cultural resources. The CEQA Environmental Checklist (CEQA Guidelines Appendix G), under the Cultural Resources heading, includes the question would the project "[d]irectly or indirectly destroy a unique paleontological resource or site or unique geologic feature." PRC Section 5097.5 prohibits excavation or removal of any "vertebrate paleontological site or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands." PRC Section 30244 requires reasonable mitigation of adverse impacts on paleontological resources from development on public land. Penal Code Section 623 spells out regulations for the protection of caves, including their natural, cultural, and paleontological contents. It specifies that no "material" (including all or any part of any paleontological item) be removed from any natural geologically formed cavity or cave.

3.4.3.2.4 Historic Architectural Resources

CEQA Guidelines Section 15064.5(a.3) and PRC Section 21084.1 define the criteria used to determine the significance of cultural resources, characterized as "historic resources" as follows:

> Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources. (PRC SS5024.1; 14 CCR 4852.)

CEQA Guidelines (Section 15064.5(b) [revised October 26, 1998]) state that "a project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." To this end, the Guidelines list the following definitions:

1. Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.
2. The significance of an historical resource is materially impaired when a project:
    a. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or
    b. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical

resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

c. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

PRC Section 21083.2(j) states that an historical resource is a resource listed in, or is determined to be eligible for listing in, the CRHR, or listed in a local register of historical resources, or deemed significant pursuant to criteria identified in PRC Section 5024.1(g) defined above, unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant. The fact that a resource is not listed in, or is determined not to be eligible for listing in, the CRHR, not included in a local register of historical resources, or not deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1 does not preclude a lead agency from determining whether the resource may be an historical resource. CEQA Guidelines Sections 15064.5 and 15126.4 guide the evaluation of impacts on prehistoric and historic archaeological resources. Section 15064.5(c) provides that, to the extent an archaeological resource is also a historical resource, the provisions regarding historical resources apply. These provisions endorse the first set of standardized mitigation measures for historic resources by providing that projects following the Secretary of the Interior's Standards for Treatment of Historic Properties be considered as mitigated to a less-than-significant level. Specifically, CEQA Guidelines (Section 15064.5(b)(3) states that "Generally, a project that follows the Secretary of the Interior's Standards for Rehabilitation and Buildings for Rehabilitating Historic Buildings (Weeks and Grimmer, 1995), shall be considered mitigated to a level of less-than-significant impact on the historical resources."

3.4.3.3 Regional and Local

3.4.3.3.1 Archaeological Resources

City guidelines for the protection of archaeological resources are set forth in Section 3 of the General Plan of the City of Los Angeles Conservation Element, which, in addition to compliance with CEQA, requires the identification and protection of archaeological sites and artifacts as a part of local development permit processing. Specifically, Los Angeles Municipal Code Section 91.106.4.5 states the following:

> The building department shall not issue a permit to demolish, alter or remove a building or structure of historical, archaeological or architectural consequence if such building or structure has been officially designated, or has been determined by state or federal action to be eligible for designation, on the National Register of Historic Places, or has been included on the City of Los Angeles list of historic cultural monuments, without the department having first determined whether the demolition, alteration or removal may result in the loss of or serious damage to a significant historical or cultural asset. If the department determines that such loss

> or damage may occur, the applicant shall file an application and pay all fees for the California Environmental Quality Act Initial Study and Check List, as specified in Section 19.05 of the Los Angeles Municipal Code. If the Initial Study and Check List identifies the historical or cultural asset as significant, the permit shall not be issued without the department first finding that specific economic, social or other considerations make infeasible the preservation of the building or structure.

3.4.3.3.2 Ethnographic Resources

Relative to ethnographic resources, the *L.A. CEQA Thresholds Guide* (2006) states: "Consider compliance with guidelines and regulations such as the California Public Resources Code." No specific local regulations mandating the protection of ethnographic resources exist.

3.4.3.3.3 Paleontological Resources

City guidelines for the protection of paleontological resources are specified in Section 3 of the City of Los Angeles General Plan Conservation Element. The policy requires that the City's paleontological resources be protected for research and/or educational purposes. It mandates the identification and protection of significant paleontological sites and/or resources known to exist or that are identified during land development, demolition, or property modification activities.

3.4.3.3.4 Historic Architectural Resources

City guidelines for the protection of historic architectural resources are also set forth in Section 3 of the General Plan of the City of Los Angeles Conservation Element (see Section 3.4.3.2.1, "Archaeological Resources," above for details).

Five types of historic protection designations apply in the City: (1) Historic-Cultural Monument designation by the City's Cultural Heritage Commission and approved by the City Council; (2) placement on the California Register of Historical Resources or (3) the National Register of Historic Places (1980 National Historic Preservation Act); (4) designation by the Community Redevelopment Agency (CRA) as being of cultural or historical significance within a designated redevelopment area; and (5) classification by the City Council (recommended by the planning commission) as an HPOZ. These designations help protect structures and support rehabilitation fund requests (Appendix E).

The City Cultural Heritage Commission (CHC) was established by ordinance in 1962 to protect and/or identify architectural, historical, and cultural buildings; and structures and sites of importance in the City's history and/or cultural heritage. The CHC has designated over 700 sites as Historic-Cultural Monuments, including historic buildings, corridors (tree-lined streets), and geographic areas. Historical resources may also include resources listed in the State Historic Resources Inventory as significant at the local level or higher, and those evaluated as potentially significant in a survey or other professional evaluation (Appendix E). The HPOZ provision of the zone code, Los Angeles Municipal Code (LAMC) Section 12.20.3, was adopted in 1979, and was amended in 2001. It contains procedures for designation and protection of areas that have structures, natural features, or sites of historic, architectural, cultural, or aesthetic significance. HPOZ areas contain significant examples of architectural styles characteristic of different periods in the City's history. No area within the Port has been designated as part of an HPOZ (Appendix E).

The significance of an historical resource is also based on (1) whether the site has been coded by the Department of Building and Safety with a Zoning Instruction number in the 145 series (which indicates prior identification of the property as historic); (2) whether the resource has been classified as historic in an historical resources survey conducted as part of the updating of the Community Plan, the adoption of a redevelopment area, or other planning project; (3) whether the resource is subject to other federal, state, or local preservation guidelines; (4) whether the resource has a known association with an architect, master builder, or person or event important in history such that the resource may be of exceptional importance; and (5) whether the resource is over 50 years old and a substantially intact example of an architectural style significant in Los Angeles. (City of Los Angeles 2006.)

City of Los Angeles Historic-Cultural Monument Designation

In the City of Los Angeles, resources may be designated as Historic-Cultural Monuments under Sections 22.120, et seq., of the LAMC. An historical or cultural monument is defined as:

> "[A]ny site (including significant trees or other plant life located thereon), building or structure of particular historic or cultural significance to the City of Los Angeles, such as historic structures or sites in which the broad cultural, political, economic or social history of the nation, state or community is reflected or exemplified, or which are identified with historic personages or with important events in the main currents of national, state or local history, or which embody the distinguishing characteristics of an architectural-type specimen, inherently valuable for a study of a period style or method of construction, or a notable work of a master builder, designer, or architect whose individual genius influenced his age."

City of Los Angeles Historic Preservation Overlay Zones

HPOZs are essentially locally designated historic districts or groupings of historical resources. Under the HPOZ ordinance (LAMC Section 12.20.3), to be significant, structures, natural features, or sites within the involved area or the area as a whole must meet one or more of the following criteria:

a. have substantial value as part of the development, heritage or cultural characteristics of, or is associated with the life of a person important in the history of the city, state, or nation;

b. are associated with an event that has made a substantial contribution to the broad patterns of our history;

c. are constructed in a distinctive architectural style characteristic of an era of history;

d. embody those distinguishing characteristics of an architectural type or engineering specimen;

e. are the work of an architect or designer who has substantially influenced the development of the City;

f. contain elements of design, details, materials or craftsmanship which represent an important innovation;

g. are part of or related to a square, park or other distinctive area and should be developed or preserved according to a plan based on a historic, cultural, architectural or aesthetic motif;

h. owing to its unique location or singular physical characteristics, represent an established feature of the neighborhood, community or City; or

i. retaining the structure would help preserve and protect an historic place or area of historic interest in the City.

3.4.4 Impact Analysis

3.4.4.1 Methodology

Impacts on cultural resources from the proposed Project were evaluated by determining whether demolition or ground disturbance activities would affect areas that contain or could contain any archaeological or historical sites listed in or eligible for listing in the NRHP or the CRHR, that are designated as a City of Los Angeles Historic-Cultural Monument or that are included within a City of Los Angeles HPOZ, or that are otherwise considered a unique or important archaeological resource under CEQA (City of Los Angeles 2006). A project that follows the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* or the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (Secretary's Standards; Weeks and Grimmer 1995) would be considered as mitigated to a level of less than significant. Impacts on paleontological resources were evaluated similar to buried archaeological resources, that is, by determining whether ground disturbance activities would affect areas that contain or could contain any a unique paleontological resource or site or unique geologic feature.

Furthermore, the impact analysis assumed that the proposed Project would comply with all applicable local, state, and federal laws, including those mentioned in the following paragraphs.

The disposition of Native American burials is governed by Section 7050.5 of the California Health and Safety Code, and PRC Sections 5097.94 and 5097.98, and falls within the jurisdiction of the NAHC. Section 7052 of the Health and Safety Code establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

Penal Code Section 622.5 provides misdemeanor penalties for injuring or destroying objects of historical or archaeological interest located on public or private lands, but specifically excludes the landowner. PRC Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological or historical resources located on public lands.

If human remains are discovered or recognized during site preparation, grading, or construction, there will be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the County coroner has been informed and has determined that no investigation of the cause of death is required. If the remains are determined by the coroner to be of Native American origin, the descendants will be identified and notified through the Native American Heritage Commission.

If the remains are of Native American origin:

a. the descendants of the deceased Native Americans will make a recommendation to the person responsible for the excavation work as to the means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods, as provided in PRC Section 5097.98. Upon discovery of human remains, the landowner shall ensure that the immediate vicinity is not damaged or disturbed until specific conditions are met through discussions with the descendants regarding their preferences for treatment (PRC Section 5097.98 as amended); or

b. if the NAHC is unable to identify a descendant, or the descendant fails to respond within 48 hours after being notified by the commission, the landowner is required to reinter the human remains and to protect the site where the remains are reinterred from further and future disturbance.

According to the California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony (Section 7052). Section 7050.5 requires that excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner will contact the California Native American Heritage Commission.

3.4.4.2 Thresholds of Significance

The *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006) provides specific thresholds of significance to address potential impacts on cultural resources resulting from implementation of a project. The proposed Project would have a significant impact on cultural resources if it would:

CR-1: Disturb, damage, or degrade a known prehistoric and/or historical archaeological resource resulting in a reduction of its integrity or significance as an important resource

CR-2: Disturb, damage, or degrade an unknown prehistoric and/or historical archaeological resource resulting in a reduction of its integrity or significance as an important resource

CR-3: Disturb, damage, or degrade unknown human remains.

CR-4: Result in the permanent loss of, or loss of access to, a paleontological resource of regional or statewide significance.

CR-5: Result in a substantial adverse change in the significance of an historical resource, involving demolition, relocation, conversion, rehabilitation, alteration, or other construction that reduces the integrity or significance of important resources on the site or in the vicinity.

3.4.4.3 Impacts and Mitigation

Impact CR-1: The proposed Project would not disturb, damage, or degrade a known prehistoric and/or historical archaeological resource resulting in a reduction of its integrity or significance as an important resource.

As stated under Section 3.4.2.2.2, "Archival Research," a comprehensive records search and review of relevant archival documents indicate that there are no known prehistoric or historical archeological resources within the proposed project area. Consequently, there is no potential for the proposed Project to impact known archaeological resources.

Impact Determination

Because there are no known prehistoric or historical archeological resources in the proposed project area, the proposed Project would have no impact on known prehistoric or historical archeological resources.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact CR-2: The proposed Project would not disturb, damage, or degrade an unknown prehistoric and/or historical archaeological resource resulting in a reduction of its integrity or significance as an important resource.

The proposed project area is located on artificial land, built with fill dredged from the harbor. The proposed project area was built from dredged materials in essentially one episode during 1912–1914, and then the artificial land surface was developed over the course of the twentieth century. This precludes the possibility of intact prehistoric archaeological sites. However, there is a remote possibility that displaced prehistoric material may be present in the artificial fill, having been dredged up from the shallow harbor floor. Nevertheless, because this material is not in situ, it would not be a significant cultural resource.

Construction of City Dock No. 1 on artificial fill followed by the construction of buildings that remain in place to the present, makes it unlikely that any historical archaeological sites (e.g., refuse deposits, earlier building foundations) are preserved in the proposed project area. However, there is a slight possibility that the remains of previous historical development may be buried within the artificial fill of the proposed project site. Excavation and trenching, as well as other ground-disturbing actions, have the potential to damage or destroy these previously unidentified, possibly significant archeological resources.

Construction activities at Berth 260 near Fish Harbor would only include light surface grading of the heavily disturbed site and demolition of the existing structures. There would not be any new construction. Therefore, construction activities at Berth 260 would not encounter unknown prehistoric or historical archaeological resources.

Impact Determination

Disturbance of any deposits that have the potential to provide data important in history regarding Port history and development, class and ethnicity, urban geography, and labor relations would be considered significant. However, existing laws and regulations (PRC Section 15064.5 (f) and PRC 21082) would ensure any discovery of archaeological materials would not result in a significant impact. Therefore, impacts related to the possible disturbance, damage, or degradation of cultural resources would be less than significant.

In the event that any artifact or an unusual amount of bone, shell, or nonnative stone is encountered during construction, LAHD would require work to stop immediately and relocated to another area. The contractor would stop construction within 100 feet of the exposed resource until a qualified archaeologist can be retained by LAHD to evaluate the find (see 36 CFR 800.11.1 and 14 CCR 15064.5(f)). Examples of such cultural materials might include ground stone tools such as mortars, bowls, pestles, and manos; chipped stone tools such as projectile points or choppers; flakes of stone not consistent with the immediate geology such as obsidian or fused shale; historic trash pits containing bottles and/or ceramics; or structural remains. If the resources are found to be significant, they would be avoided or treated consistent with SHPO Guidelines. As a standard practice, all construction equipment operators would attend a preconstruction meeting presented by a professional archaeologist retained by LAHD that will review types of cultural resources and artifacts that would be considered potentially significant, to ensure operator recognition of these materials during construction.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact CR-3: The proposed Project would not disturb, damage, or degrade unknown human remains.

The results of the proposed project technical analysis indicates a low potential to encounter buried prehistoric or historic period human remains within the proposed project area. The proposed project area is located on artificial land, which precludes the possibility of intact prehistoric burials. Also, no known historic period burials or cemeteries have been documented within the proposed project area.

However, there is a remote possibility that displaced prehistoric human remains may be present in the artificial fill, having been dredged up from the shallow harbor floor. There is also a remote possibility that human remains could have been disposed of in the artificial fill during the historical period. Excavation and trenching, as well as other ground-disturbing actions, have the potential to damage or destroy previously unidentified human remains within the proposed project area.

Construction activities at Berth 260 near Fish Harbor would only include light surface grading of the heavily disturbed site and demolition of the existing structures. There would not be any new construction. Therefore, construction activities at Berth 260 would not have the potential to encounter buried human remains.

In the event human remains are discovered, LAHD would be required to comply with state law which states that there would be no further excavation or disturbance of the area or any nearby area reasonably suspected to overlie adjacent remains until the coroner is contacted and the appropriate steps taken pursuant to Health and Safety Code Section 7050.5 and PRC Section 5097.98. If the coroner determines the remains to be Native American, the coroner would contact the NAHC within 24 hours. If Native American human remains are discovered during proposed project construction, it would be necessary to comply with state laws relating to the disposition of Native American burials that are under the jurisdiction of the NAHC (PRC Section 5097).

Impact Determination

Although the possibility of encountering buried human remains is extremely low, the possibility cannot be ruled out. However, existing laws and regulations would ensure any discovery of human remains would not result in a significant impact. Therefore, impacts related to the possible disturbance, damage, or degradation of human remains would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact CR-4: The proposed Project would not result in the permanent loss of, or loss of access to, a paleontological resource of regional or statewide significance.

The proposed project area is located on artificial land, built with fill dredged from the harbor. A report prepared for the San Pedro Waterfront Project (Kirby and Demere 2008), which encompasses the proposed project area, determined that the proposed project site is underlain by artificial fill. The original shoreline of the harbor lies approximately 0.2 mile to the west of the proposed project area. This precludes the possibility of intact fossils or paleontological deposits being found in the proposed project area. However, there is a remote possibility that displaced paleontological materials or fossils material may be present in the artificial fill, having been dredged up from the shallow harbor floor. Any organic remains encountered in the artificial fill will have lost their original stratigraphic and geologic context due to the disturbed nature of artificial fill materials. Any fossils found in this material are not in situ, and would not be a significant paleontological resource under CEQA.

Excavation into undisturbed geologic deposits underlying the proposed project area, which include Quaternary alluvium and Pleistocene-age offshore marine deposits of San Pedro Sand, would potentially impact fossil resources. If construction of the proposed Project would reach such depths as to excavate into intact sediments underlying the proposed project site, this could result in significant impacts because of the potential to damage or destroy significant nonrenewable fossil resources. . However, no proposed project–related construction is planned that would reach to depths that would impact intact geological formations underlying the proposed project site.

Construction activities at Berth 260 near Fish Harbor would only include light surface grading of the heavily disturbed site and demolition of the existing structures. There would not be any new construction. Therefore, there would not be a potential to impact any possible paleontological resources buried at Berth 260.

Impact Determination

Because there are no paleontological resources in the proposed project area, the project would have no impact on these resources. No proposed project–related construction is planned that would reach to depths that would impact intact geological formations underlying the proposed project area. Therefore, the proposed Project would have no impacts on paleontological resources.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact CR-5: The proposed Project would result in a substantial adverse change in the significance of a historical resource, involving demolition, relocation, conversion, rehabilitation, alteration, or other construction that reduces the integrity or significance of important resources on the site or in the vicinity.

Given the historical significance of the proposed project site and its eligibility for listing in the CRHR as a Historic District (see Appendix E for the full technical report), modifications to the existing transit sheds and associated structures that contribute to the potential Historic District would be considered significant impacts if not modified in accordance with the Secretary's Standards. Most modifications to the contributing existing buildings and structures would be done in accordance with these standards; however, some would not. The following describes the impacts related to each of the listed or listing-eligible resources:

Properties in the APE Listed in or Determined Eligible for Listing in the California Register of Historic Resources

Municipal Warehouse No. 1

The proposed Project includes a new public pile-supported promenade along the eastern side of City Dock No. 1. This new walkway would provide public access to the waterfront and would have minimal effect on the historic setting of the warehouse. No substantial adverse change in the significance of this structure would occur because the building's historic integrity would remain intact after completion of this portion of the proposed Project.

A 50,000-square-foot, 2-story building for NOAA that would include office and laboratory space would be constructed in the vicinity of Municipal Warehouse No. 1. As presented in the project description, the NOAA building would be designed in accordance with the Secretary's Standards, including plan review by a qualified consulting architectural historian for compliance with the Secretary's Standards.

The 2-story building would be subordinate to the 6-story Municipal Warehouse No. 1 primary historical resource. The building design would reference the adjacent building's maritime industrial character, materials, and massing. As an example, appropriate design cues would be taken from the adjacent Municipal Warehouse No. 1 building such as, such as a rectilinear form with flat roof or monitor roof shapes, exposed exterior walls painted a light color, expressed pilasters, repetitively punched openings, and symmetrically arranged elevation. The use of overly elaborate architectural styles that purposely depart from the simple, maritime industrial character of the area would be avoided, as would large amounts of landscaping, because landscaping is not characteristic of the area. As such, this proposed project element would be generally consistent with the guidance provided by the Secretary's Standards.

Westway Terminal/Pan American Oil Co. Pump House

The proposed Project includes the redevelopment of the 14.3-acre Westway Liquid Bulk Marine Terminal at Berths 70–71. A 50,000-square-foot facility for NOAA that would include office and laboratory space would be developed on the remediated Berth 70–71 site. The historic Westway Terminal Building (also known as the Pan-American Oil Company Pump House) would be adaptively reused by a future occupant. As presented in the project description, reuse would be completed in a manner consistent with the Secretary's Standards, including, plan review by a qualified consulting architectural historian for compliance with the Secretary's Standards.

The Mission Revival style character of the Westway Terminal Building would be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize this building, stucco wall cladding, or stepped Mission parapet, would be avoided.

Deteriorated historic features of the Westway Terminal Building would be repaired rather than replaced, to the extent feasible. Where the severity of deterioration requires replacement of a distinctive feature, the new feature would match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features would be substantiated by documentary, physical, or pictorial evidence, to the extent available. As such, this proposed project element would be generally consistent with the guidance provided by the Secretary's Standards.

The proposed waterfront promenade would wrap around the existing dock area near the Westway Terminal Building. This dock area has already been altered, and the building that remains would not be demolished or altered. Therefore, no significant impact resulting from this proposed project element is anticipated.

Redevelopment of Berths 70–71 would also involve development of an 80,000-square-foot, steel-reinforced concrete wave tank on the land side, which would be enclosed within its own five-story 100,000-square-foot building. The building would be approximately 50 feet tall.

Construction of the wave tank could have an indirect impact on the historic setting of the Westway Terminal Building, as well as the transit shed at Berth 57 (described below), given its adjacency to both resources and its large height and mass relative to those smaller historic resources. The wave tank building would be the second largest structure on the pier with one less story than the tallest structure (Municipal Warehouse No. 1) but more visually prominent than the other historic resources located nearby. The Secretary of the Interior's Standards provide guidance on new construction adjacent to historic resources. Standard #9 states that, "new additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment." The Secretary's Standards recommend that "adjacent new construction be compatible with the historic character of the site and which preserves the historic relationship between the building or buildings and the landscape." Finally, the Standards also state that "introducing new construction onto the building site which is visually incompatible in terms of size, scale, design, materials, color, and texture, or which destroys historic relationships on the site…" is not recommended. This guidance is typically understood to mean that new construction adjacent to historic resources should be subordinate to those resources, allowing them to retain their visual prominence within their historic setting. The construction of this large, new facility may alter in an adverse manner the integrity of setting due to the potentially incompatible height, scale, and mass of the new structure in relation to nearby historic structures, such as the Westway Terminal Building and the transit shed at Berth 57. Moreover, because the wave tank would alter the setting of contributing resources to the potential Municipal Pier No. 1 Historic District, this portion of the proposed Project would also result in a significant adverse impact on the district as a historic resource. Standard # 10 states that "new additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired." Given the wave tank's relatively large size and scale compared to adjacent historic resources and its permanent construction type, this proposed project element would not be consistent with the guidance provided by the Secretary's Standards and, as such, may result in an adverse impact.

The building would incorporate materials and design that would be compatible with the historic materials, features, of existing historic structures, and its design would comply with the Secretary's Standards to the extent feasible within the context of is needed size. For example, the design of the wave tank would reference motifs, massing, and materials of other large-scale building in the immediate vicinity to help maintain the industrial maritime character of the district. However, due the wave tank building's size and massing, the impact of this new structure on the historic setting of individually significant buildings and contributors to the potential Municipal Pier No. 1 Historic District could not be reduced to a less-than-significant level, even with incorporation of mitigation (see discussion below of Mitigation Measure MM CR-1). As such, the impact of this portion of the proposed Project would be significant and unavoidable.

Project Effects on Historic Properties in the APE Determined to be Significant in Previous Historical Resources Surveys

Transit Shed at Berth 57

Phase I of the proposed Project would result in a number of changes to transit shed at Berth 57 for adaptive reuse by SCMI. Upon completion of the wharf improvements (see discussion below under Wharf Improvements and Associated Ground Improvements), work would begin on upgrading the existing 46,500-square-foot Berth 57 transit shed to current seismic and occupancy codes. Phase I would also include the demolition of an existing wood-frame addition to allow construction of a new 3,600-square-foot glazed entryway. The new entrance would present a contemporary, neutral, and visually prominent entrance into the SCMI facility, distinct from the existing historic transit shed façade; and may include large glass aquaria at the entranceway. The façade would be the same general shape and profile as the transit shed in terms of height and massing, and would include an area for public education and outreach. The remainder of Berth 57 would be utilized for research laboratories, lecture and classroom spaces, and storage.

According to the DPR inventory form's description of the addition proposed for demolition, it "sits in front of the original façade and covers the original architectural details of this elevation including an ornamental clock that was built into the frieze. This substantial modification, likely added to the building by the Navy during World War II, compromised the historic integrity of the building" (ICF Jones & Stokes 2008). Removal of a non-historic feature would be consistent with the guidance provided in the Secretary's Standards, and would have no adverse effect on the historic significance of the building.

The Secretary's Standards provide specific guidance with regard to new additions to historic properties. Standard # 9 states that, "[n]ew additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment." The "contemporary, neutral, and visually prominent entrance into SCMI facility, distinct from the existing historic transit shed façade," would be designed to meet the Secretary's Standards' requirement for new work to be architecturally differentiated from the old, including plan review by a qualified consulting architectural historian for compliance with the Secretary's Standards. The new entrance addition to the transit shed at Berth 57 would be no taller than the north end of the transit shed in order to be subordinate to the historical resource's primary façade.

The new entrance addition would integrate aesthetically with the transit shed at Berth 57 by referencing design motifs from the maritime industrial character of the historic building, such as its gable roof form, corrugated metal siding, rectilinear massing, and regularly punched openings. The new entrance addition will be designed so that character-defining features are not obscured, damaged, or destroyed.

The existing transit shed at Berth 57 would also require extensive renovations for occupancy by SCMI to convert it from warehouse use to its proposed new uses for research, education, office, and laboratory. The existing transit sheds would primarily serve as an "outer shell building" to provide basic shelter. The proposed SCMI facility would be in essence, a self-contained structure within the existing envelope of the transit shed, while the interior would be adaptively re-used to integrate state-of-the-art fire/life safety protection, seismic resistance, security features, and utility infrastructure as required by its change in use. Interior space would be used for office space for faculty, staff, and administration; laboratory space for teaching and research laboratories; lab support and building support spaces; and outdoor space for outdoor teaching, classrooms, and storage space. The exterior of the transit sheds would largely be maintained with the exception of necessary improvements to the siding, roof, cornices, etc. repair, retrofit, and rehabilitation of the transit shed to address structural deficiencies is expected to be additive and easily accessed because all structural elements are exposed. These include repairing rusted exterior corrugated metal siding with new panels, upgrading structural connections to meet established seismic and wind load resistance, retrofitting large openings (east and west façades) to ensure stability and water tight openings, sandblasting and repainting corroded steel members and gusset plates, and replacing deteriorated and damaged steel members, as required. In addition, it is anticipated that new traverse and longitudinal frames would be added, interior steel columns repaired, and new concrete encasements around the base of each column constructed. Installation of a continuous perimeter foundation wall, limited to shallow excavations (2 to 3 feet maximum) to inhibit water intrusion at the building perimeter and utility placement may be required.

- The transit shed at Berth 57's revisions and upgrades would be designed to meet the Secretary's Standards' requirement, including plan review by a qualified consulting architectural historian for compliance with the Secretary's Standards. The following discussion provides an evaluation of how this proposed project element would generally meet the guidance provided in the Secretary Standards.
- It is anticipated that some of the transit shed at Berth 57's existing metal roll-up style doors would be replaced with new glazed openings to provide more light, air, and egress into the interior spaces. This modification would not be inconsistent with the guidance provided by the Secretary's Standards, because they would maintain the repetitive punched openings along the structure's elevations, and most of the roll-up doors are non-original replacements. The design of the new glazing systems would reference the industrial maritime character of the building, with industrial metal sashes and clear glazing, as opposed to vinyl or wood sashes and reflective or opaque glazing.
- Deteriorated historic features would be repaired rather than replaced whenever feasible. Where the severity of deterioration requires replacement of a distinctive feature, the new feature would match the old in design, color, texture, and other visual qualities and, where possible, materials (Secretary's Standard #6). In the case of the transit shed at Berth 57, rusting corrugated metal siding, steel members, and gusset plates would be prepared, and those materials that cannot be repaired due to advanced deterioration would be replaced in-kind with similar metal materials.
- Correcting structural deficiencies in preparation for the new use is allowable by the Secretary's Standards assuming they are completed in a manner that preserves the structural system and individual character-defining features. In the case of the interior of the transit shed at Berth 57, the open trusses are character-defining features of the building's interior. Upgrading the structural connections would not obscure, remove, or otherwise significantly alter in an adverse manner the metal truss system.
- Removal and replacement of portions of the roof and western façade to accommodate the wharf improvements and associated ground improvements at the transit shed at Berths 57–60 would reuse the existing materials (corrugated metal roofing and siding) to the extent feasible. Where the severity of

deterioration requires replacement of a distinctive feature, the new feature would match the old in design, color, texture, and, where possible, materials (Secretary's Standard #7).

In the case of the transit shed at Berth 57, the new interior "buildings" would not obscure or destroy the interior truss work, allowing these features to read as original features of the building. The new interior structures would not reach the ceiling, thus allowing the open, floor-to-ceiling height of the interior spaces to read visually as they do today (i.e., not obscure the clerestories). The new construction would also retain a significant amount of open interior space, particularly in the center of the building, where long interior vistas are possible (i.e., new construction will be relegated to the side aisles of the structure). The buildings would be differentiated from the old but also compatible with the massing and scale of the building. Therefore, industrial shed-like architecture with exposed steel structures and metal siding would be an appropriate architectural motif for the new construction.

- New additions and adjacent or related new construction would be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired (Secretary's Standard #10).

As this project element would be generally consistent with the guidance provided by the Secretary's Standards, no significant impacts on the historic transit shed at Berth 57 are anticipated.

Transit Shed at Berths 58–60

Under Phase II, Berths 58–60 would be converted into approximately 120,000 square feet of marine research/laboratory/office space. The remaining portion would be retrofitted to accommodate up to 60,000 square feet of future research and/or marine-related business incubator space, or other similar institution. Adjacent to the transit sheds would be a waterfront café and a public plaza. Berthing space for two to three research vessels, up to 250 feet long, would be available at Berths 58–60.

In order to achieve the conversion of Berths 58–60, construction would first involve upgrading the wharf to current seismic code (see discussion below under Wharf Improvements and Associated Ground Improvements). Upon completion of the wharf, the next steps would involve upgrading and expanding the existing 180,000-square-foot transit shed at Berths 58–60 to meet current seismic code, as well as renovating the building in conformance with the Secretary's Standards. Conversion of Berths 58–60 would occur much as it would for the transit shed at Berth 57 in that tenant improvements would be constructed within the envelope of the existing warehouses. In addition, the south end of Berth 60 would be developed to accommodate a public viewing area for its views of the Main Channel and the harbor entrance, with a waterfront café and a viewing platform. Under the proposed Project, the water taxi service would remain but the maintenance operations would be relocated within the general vicinity of Berth 60 to better accommodate the public space.

The repairs and upgrades to the transit shed at Berths 58–60 would be designed to meet the Secretary's Standards' requirement for new work to be compatible with yet architecturally differentiated from the old, including plan review by a qualified consulting architectural historian for compliance with the Secretary's Standards. The building parameters discussed above for the transit shed at Berth 57 would be applicable to the transit shed at Berth 58–60 repairs.

As this proposed project element would be generally consistent with the guidance provided by the Standards, no significant impacts on historic resources are anticipated.

Learning Center (Berth 56)

The proposed Project would construct a two-story Learning Center at Berth 56 (150-seat lecture hall/auditorium and classrooms), approximately 11,500 square feet in size. Berth 56 is located within the potential Municipal Pier No. 1 Historic District. This new construction has the potential to indirectly affect the historic setting of the historic district. However, the Learning Center would be designed in accordance with the Secretary's Standards, including plan review by a qualified consulting architectural historian for compliance with the Secretary's Standards. The design parameters and considerations applicable to the proposed NOAA building at Berths 70–71 would also be applicable to the Learning Center building.

Given the relatively far distance (about 250 feet) between the proposed Learning Center and the former Pan-Am Terminal Facility at Berth 56 (California Fish and Game Building) no indirect impacts on the historic setting of this district contributor, in particular, is anticipated.

As this proposed project element would be generally consistent with the guidance provided by the Secretary's Standards, no significant impacts on historic resources are anticipated.

Wharf Improvements and Associated Ground Improvements (Berths 57–60)

The wharves on the west side of Pier 1 were constructed in multiple stages. The first structure was constructed circa 1913 and consists of a concrete pile–supported wharf approximately 36 feet wide and 2,540 feet long. A concrete retaining wall is located at the wall at the back, with hydraulically placed fill material behind the wall to create the backlands. This inshore wharf consists of hundreds of concrete piles that are octagonal in plan, about 16 inches square, have a 20-foot separation, and are arranged in rows of six. In 1938, the wharf was widened by constructing a new parallel concrete pile–supported wharf approximately 27 feet wide immediately in front of the original 1913 wharf. This outshore wharf consists of hundreds of concrete piles that are square in plan, about 16 inches square, have a 15-foot separation, and are arranged in rows of six. The outermost row of concrete piles and concrete deck soffit are visible from the water, while the inner rows are less visible. Both wharves have been found to be structurally deficient from a seismic standpoint, and many of the piles, beams, and caps are in poor condition.

In order to accommodate the proposed project elements at Berths 57–60, construction would involve first upgrading the adjacent wharf and the existing retaining wall to current seismic code. There are two potential options for the wharf improvements and associated ground improvements.

The first option involves installing 127 new 72-inch diameter steel pipe piles with 20 feet of spacing along the outside footprint of the existing building. The piles would be installed in-water and would carry virtually all of the seismic loads, leaving the existing structure to carry only gravity loads. Work would include removing the roof of the existing transit sheds, demolishing 18,288 square feet of existing concrete slab, installing silt curtains, driving the piles, pouring new pile caps and deck slab, and replacing the roof. Exterior façade removal and reinstallation along the entire length of the western edge of Berths 58–60 would be required.

The second option involves the installation of 252 new 60-inch diameter steel pipes (in groups of four), which would be located along the back face of the existing seawall, outside of the water, spaced 40 feet apart. The four pile groups would be installed with a 5-foot-thick concrete pile cap to minimize the displacement of the wharf structure during a seismic event. A 6-inch-thick topping slab acting as a "drag-slab" would extend across the existing deck to tie in the existing wharf structure to the new pile clusters. Work would include removing the roof of the existing transit sheds, demolishing 6,300 square feet of existing concrete slab, installing silt curtains, driving the piles, pouring new pile caps and deck slab, and replacing the roof.

Both options would require removal and replacement of both buildings' roofs and western façades. The roof and western façades of these buildings are considered character-defining features of these historic properties. Demolition of a character-defining feature would not be consistent with the guidance provided in the Secretary's Standards, which require retention of such features. As such, the original corrugated metal siding and roofing would be removed, stored, and reinstalled to the extent feasible and where such materials and features are currently in good condition, or would be replaced in-kind if such materials are deteriorated beyond repair/replacement. The repairs and upgrades to the transit shed at Berths 58–60 would be designed to meet the Secretary's Standards' requirement, including plan review by a qualified consulting architectural historian for compliance with the Secretary's Standards. As such, no significant impacts on the transit shed at Berths 58–60 resulting from the wharf improvements are anticipated.

Municipal Pier No. 1, inclusive of the entire 36-acre earth-filled pier plus the concrete pile - supported structure along its western edge beneath Berths 57–60, appears to be eligible for listing in the NRHP and CRHR, and as a City Monument both individually and as a contributor to a potential Municipal Pier No. 1 Historic District (see district discussion below). The outermost (western) edge of the wharf consists of approximately 16-inch-square concrete piles spaced about 15 feet apart with a concrete deck resting directly above. This is considered a character-defining feature of the pier. While both wharf improvement options would require wholesale demolition of this character-defining feature of Municipal Pier No. 1 and installation of new steel super piles and concrete decking, the outermost edge of the wharf would be reconstructed in a manner consistent with the Secretary's Standards to retain its original appearance. The Secretary's Standards (#6) states that where the severity of deterioration requires replacement of a distinctive feature, the new feature should match the old in design, color, texture, and, where possible, materials. Similar to the existing design, the first row of concrete piles, end caps, and decking along the westernmost edge of the wharf would be reconstructed using approximately 16-inch-square concrete piles spaced about 15 feet apart with a concrete deck resting directly above. As such, these new features would match the old in design, color, texture, and materials, and would conform to the guidance provided by the Secretary's Standards. Given that the new 60- to 72-inch super piles would be set back approximately 27 to 63 feet from the outer (western) edge of the wharf (depending on which option is selected), and would be screened from water- or land-based views by the compatible replacement piles described above, Municipal Pier No 1 would generally retain its original appearance after proposed project completion. As such, this proposed project component would have a less-than-significant impact on Municipal Pier No. 1 as a historic resource.

Potential Municipal Pier No. 1 Historic District

A potential Municipal Pier No. 1 Historic District was recommended eligible for listing in the NRHP and CRHR, and as a City Monument in a historical resources survey (Appendix E).

The proposed Project would include new construction within the potential district (NOAA building and wave tank), as well as alterations to contributing resources (Berths 57–60, and Westway Terminal Building/Pump House, and Municipal Pier No. 1 itself), all of which could adversely affect the historic integrity of the district. New buildings and repair and upgrade of structure eligible for listing would be designed to meet the Secretary's Standards, including plan review by a qualified consulting architectural historian for compliance with the Secretary's Standards, which would reduce the severity of the impact. However, as discussed above, the height and mass of the proposed wave tank cannot be mitigated. Therefore, this project element would result in a significant and unavoidable impact on the setting of adjacent historic structures, as well as the setting of the potential Municipal Pier No. 1 Historic District as a whole.

Impact Determination

An objective of the proposed Project is to adaptively re-use the historic transit sheds at Berths 57–60. The proposed new buildings and repair and upgrade of historic structures would be designed to meet the Secretary's Standards, including plan review by a qualified consulting architectural historian for compliance with the Secretary's Standards. The proposed rehabilitation of the degraded transit sheds and Berths 57–60 wharves would have a beneficial impact on those historic structures.

However, as discussed above, the size and massing of the proposed wave tank building would result in significant impacts on the setting of adjacent historic structures, as well as to the Municipal Pier 1 Historic District as a whole. As such, the proposed wave tank building would result in a significant and unavoidable impact on historic resources.

Mitigation Measures

MM CR-1. HABS/HAER Recordation of Municipal Pier No. 1 Historic District Setting. Prior to construction of the wave tank and undertaking the Berths 57–60 wharf upgrades and ground improvements, LAHD will record the existing setting of the Municipal Pier No. 1 Historic District, including recordation of the western elevation of the wharf, in accordance with the federal Historic American Building Survey/Historic American Engineering Record (HABS/HAER) program. This program consists of large-format, black and white photographs, preparation of a historic resources report, and archiving of both at local repositories of historical information.

Residual Impacts

Although Mitigation Measure MM CR-1 would reduce the impact of construction of the wave tank on the historic setting of individually eligible buildings and contributors to the potential Municipal Pier No. 1 Historic District, it would not sufficiently reduce the impact to a less-than-significant level. As such, this component of the proposed Project would remain significant and unavoidable.

After mitigation, the size of the proposed wave tank building would continue to result in significant impacts on adjacent historic structures, as well as on the potential Municipal Pier No. 1 Historic District as a whole.

3.4.4.3.2 Summary of Impact Determinations

Table 3.4-4 summarizes the impact determinations of the proposed Project related to cultural resources, as described in the detailed discussion in Section 3.4.4.3. Identified potential impacts may be based on State or 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 and impact determinations, describes any applicable mitigation measures, and notes the residual impacts (i.e., the impact remaining after mitigation). Impacts, whether significant or not, are included in this table.

Table 3.4-4. Summary Matrix of Potential Impacts and Mitigation Measures for Cultural Resources Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.4 CULTURAL			
CR-1: The proposed Project would not disturb, damage, or degrade a known prehistoric and/or historical archaeological resource resulting in a reduction of its integrity or	No impact	No mitigation is required.	No impact

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
significance as an important resource.			
CR-2: The proposed Project would not disturb, damage, or degrade an unknown prehistoric and/or historical archaeological resource resulting in a reduction of its integrity or significance as an important resource.	Less than significant	No mitigation is required.	Less than significant
CR-3: The proposed Project would not disturb, damage, or degrade unknown human remains.	Less than significant	No mitigation is required.	Less than significant
CR-4: The proposed Project would not result in the permanent loss of, or loss of access to, a paleontological resource of regional or statewide significance.	No impact	No mitigation is required.	No impact
CR-5: The proposed Project would result in a substantial adverse change in the significance of an historical resource, involving demolition, relocation, conversion, rehabilitation, alteration, or other construction that reduces the integrity or significance of important resources on the site or in the vicinity.	Significant	**MM CR-1. HABS/HAER Recordation of Municipal Pier No. 1 Historic District Setting.** Prior to construction of the wave tank and undertaking the Berths 57–60 wharf upgrades and ground improvements, LAHD will record the existing setting of the Municipal Pier No. 1 Historic District, including recordation of the western elevation of the wharf, in accordance with the federal Historic American Building Survey/Historic American Engineering Record (HABS/HAER) program. This program consists of large-format, black and white photographs, preparation of a historic resources report, and archiving of both at local repositories of historical information.	Significant and unavoidable

3.4.4.4 Mitigation Monitoring

Table 3.4-5. Mitigation Monitoring for Cultural Resources

CR-5: The proposed Project would result in a substantial adverse change in the significance of an historical resource, involving demolition, relocation, conversion, rehabilitation, alteration, or other construction that reduces the integrity or significance of important resources on the site or in the vicinity.	
Mitigation Measures	**MM CR-1. HABS/HAER Recordation of the Municipal Pier No. 1 Historic District Setting**
Timing	Prior to construction of the wave tank and undertaking the Berths 57–60 wharf upgrades and ground improvements.
Methodology	Review plans and ensure design is consistent with the Secretary of Interior Standards; document and record Municipal Pier No.1 setting prior to changes from construction activities.
Responsible Parties	LAHD and Project Applicant(s)
Residual Impacts	Significant and unavoidable

3.4.4.5 Significant Unavoidable Impacts

One significant unavoidable impact on cultural resources would occur during construction and operation of the proposed Project:

- Construction of the five-story, 100,000 square-foot wave tank building would have a significant impact on the historic setting of nearby historic resources, which are also contributors to the potential Municipal Pier No. 1 Historic District. Although mitigation is available to reduce the impact of this structure, the overall size and scale of this structure cannot be mitigated to a less-than-significant level. As such, this element of the proposed Project would be significant and unavoidable.

3.5

GEOLOGY AND SOILS

3.5

GEOLOGY AND SOILS

3.5.1 Introduction

This section describes the existing conditions and applicable regulations for geology and soils, and analyzes proposed project impacts related to: (1) seismic hazards, including surface rupture, ground shaking, liquefaction, tsunamis, and seiches; (2) other geologic issues, including subsidence, potentially unstable soils and slopes; and (3) mineral resources.

The existing conditions and subsequent analysis are based on published reports, both regional in scope and proximal to the proposed project site, as indicators of potential geologic hazards. During construction and operation, compliance with the applicable building codes would ensure the proposed Project would not result in a significant geology and soils impact. No mitigation is required.

3.5.2 Environmental Setting

This section describes the regional and local geologic conditions surrounding the proposed project site. The information is derived from regional and proposed project area-wide geologic maps and literature, as well as reports developed for projects within the Los Angeles Harbor.

The surface of the proposed project site varies from about 5 to 14 feet above mean sea level (AMSL; USGS 1981), and the adjacent Main and East Channels had a water depth of approximately 45 to 53 feet in 2003 (MXSOCAL 2011). Harbor depths increase to the south. This general configuration has been in place since at least 1925 (USGS 1925 [surveyed in 1923], Wilmington quadrangle).

3.5.2.1 Regional and Local Setting

The proposed project site is located near sea level in the coastal area of the Los Angeles Basin, a southward sloping plain bordered on the inland margins by the Santa Monica Mountains to the north, the Repetto and Puente Hills to the northeast, the Santa Ana Mountains to the east, and the San Joaquin Hills to the southeast. The Los Angeles Basin is bordered on the south and west by the Pacific Ocean/San Pedro

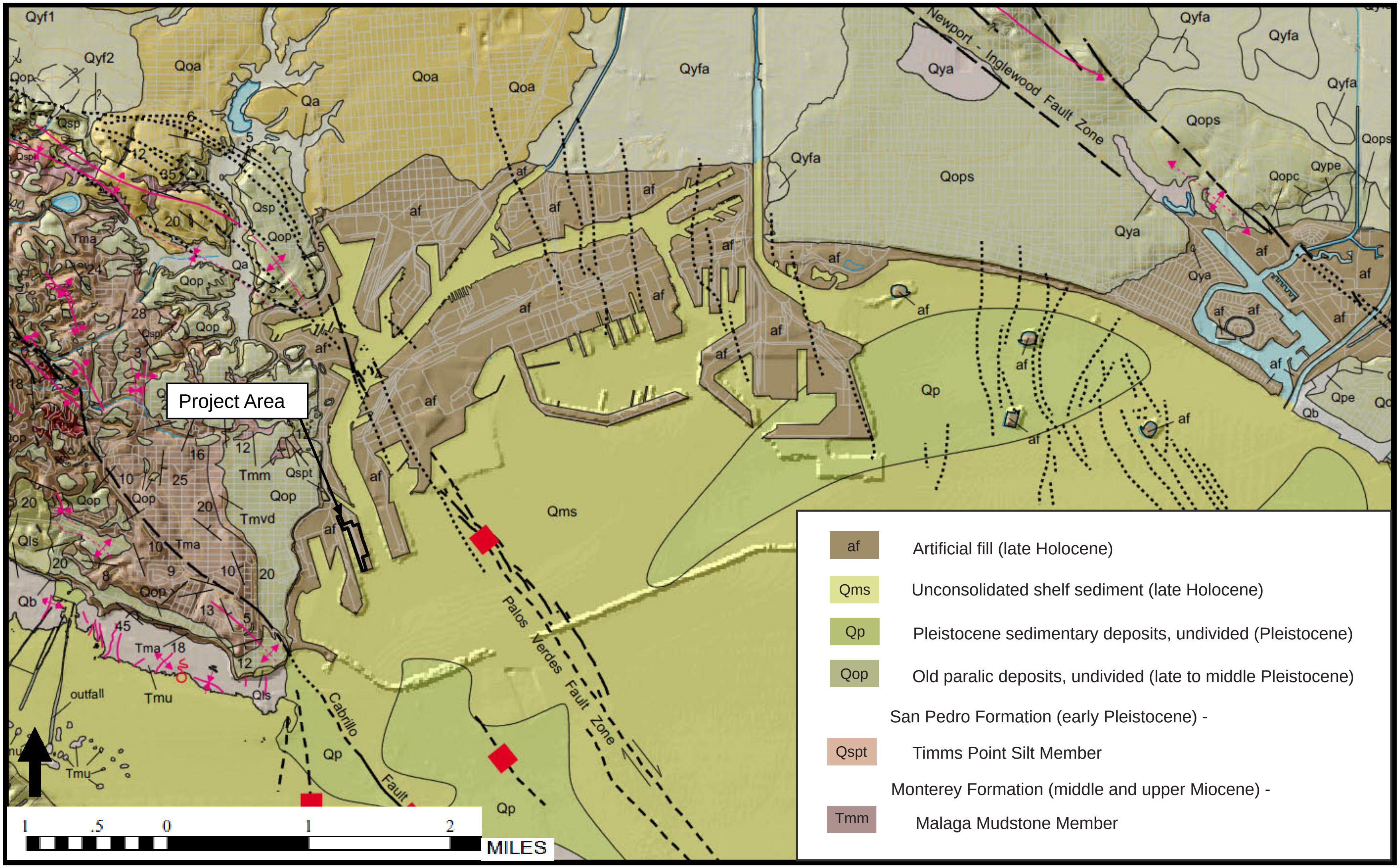
Shelf and the Palos Verdes Hills. The proposed project site is on the San Pedro Shelf, which was just offshore of the southeast Palos Verdes Hills prior to development of the Los Angeles Harbor.

The Los Angeles Basin is underlain by numerous crystalline and sedimentary bedrock formations and is filled with younger alluvial deposits varying from several tens to several hundreds of feet thick. Tertiary-age bedrock (e.g., Monterey Formation [map symbol Tm]) forms the Palos Verdes Hills west and north of the proposed project site, with Quaternary-age alluvial deposits (e.g., paralic deposits [Qop] and Timms Point silt [Qspt]) covering the lower-lying surfaces around the hills (Figure 3.5-1; Saucedo et al. 2003). Within the Los Angeles Harbor there are Holocene-age, near-shore and marine deposits (Qms), including beach, estuary, tidal flat, lagoon, shallow-water bay sediments, and Quaternary sedimentary deposits (Qp), both often overlain by anthropogenic (made or caused by humans) artificial fill (af).

Surficial geologic materials in the immediate vicinity of the proposed project site are characterized by Holocene-age, near-shore to shallow water marine deposits (map symbol Qms on Figure 3.5-1; Saucedo et al. 2003). Deposits likely include relatively fine-grained beach, estuary, tidal flat, lagoon, and shallow-water bay sediments underlain by older Quaternary deposits (Qspt and/or Qop). Quaternary alluvium deposits are a heterogeneous mixture of predominantly soft to hard silts and clays, intermixed with sandy soils (Diaz-Yourman & Associates 2004). Existing facilities are founded on anthropogenic artificial fill placed during dredging and filling operations within the Los Angeles Harbor area. The fill is a mix of the surrounding native Qms deposits that have suitable to very poor engineering properties. A majority of these hydraulically and conventionally placed fills should be considered non-engineered and uncertified. Such fills generally consist of loose to dense, coarse- to fine-grained sands, and soft to firm silts and clays (Diaz-Yourman & Associates 2004).

In addition to Diaz-Yourman & Associates' (2004) geotechnical assessment of the San Pedro Waterfront and Promenade, several other geotechnical reports were reviewed for earlier projects to the east and south of the proposed project site. These projects and the existing development at the proposed project site were completed in the same general time frame. This suggests that the placement of artificial fill materials and rip-rap/armor rock as described in the earlier projects would be very similar to what was done at the proposed project site. It is anticipated that, pending necessary proposed project area–specific studies, these earlier studies are representative of proposed project site conditions.

A geotechnical report (Lockwood-Singh & Associates 1985) for the "Proposed Yacht Club and Commercial Building, 22nd Street, Parcel F" approximately 1,500 feet west of the proposed project site encountered 7 to 30 feet of artificial fill over native alluvium. Fill consisted of moderately firm/stiff silty clay, sandy silt, and silty sand to depths of 40 to 60 feet below ground surface (bgs). Native alluvium consisted of soft (upper 4 to 5 feet) and firm to stiff clayey silt and silty clay with rock fragments and fine-grained sand lenses. Groundwater was measured at 7 to 17 feet bgs during the preparation of the 1985 report.



Source: USGS, Saucedo and others, 2003

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ICF INTERNATIONAL

Figure 3.5-1
Geologic Formations
City Dock No. 1 Marine Research Center Project

Berths 51 through 55 immediately west of the proposed project site were investigated in 1960 (Dames & Moore) for wharf reconstruction. The wharf was constructed on artificial fill contained by granitic rip-rap and on marine sediments; the rip-rap (encountered 8 to 17 feet thick) formed a 1.5:1 (horizontal to vertical) slope away from the wharf toward the channels. Marine sediments consisted of silts and sands over organic silt containing minor sand lenses, and some non-continuous basaltic gravel, cobble, and boulder layers at depths ranging from approximately 43 to 72 feet.

Due south of the earlier Dames & Moore investigation, Berth 49 was investigated in 1976 by Converse Davis Dixon Associates due to “land slippage” resulting in several feet of lateral (to 14 feet) and vertical (to 5 feet) movement at the site. It was determined that in general the subsurface units consisted of 30 feet of hydraulic fill (soft to stiff clayey silt and silty clay) contained by a “quarry muck dike” and armor rock, 5 feet of natural marine deposits (dense silty sand, possibly Qspt), and underlying Malaga Mudstone (Tmm) bedrock. The study concluded that soft Malaga Mudstone bedrock dipped generally to the east and that excessive stockpiling of iron ore on the wharf caused downward pressure on a weak bedding plane initiating a bedding plane failure and the slippage described.

Between the Lockwood-Singh study area and the Dames & Moore study area, Diaz-Yourman & Associates (2008) performed a geotechnical investigation for the Cabrillo Way Marina Development Project. Using borings and cone penetration testing methods it was determined that the site deposits consisted of fill material, possibly underlain by natural alluvial deposits, which in turn were underlain by the Malaga siltstone. Fill and natural alluvial materials could not be easily separated and consisted of a heterogeneous mixture of predominantly soft to firm silts and clays, with loose to medium dense sandy soils extending to depths of 20 to 30 feet bgs.

Diaz-Yourman & Associates reviewed of historic topographic/bathymetric maps and concluded that immediately west (shoreward) from the proposed project site, the Cabrillo Way Marina site was under water in 1859 and was filled to its present elevation by 1930. Based on this information and the drilling data from the three projects near the proposed project site, it is estimated that artificial fill materials beneath the proposed project site may be a minimum of 30 feet thick and should be contained by large granitic rip-rap materials. The fill is likely underlain by several feet (at least 4 to 5 feet) of native marine sediments. Underlying these materials is Malaga Mudstone (Tmm). Since specific soil descriptions and thicknesses are interpreted from geotechnical borings drilled in the studies near the proposed project site, these preliminary conclusions should be considered for planning (not design) purposes.

3.5.2.1.1 Geologic Hazards

Seismicity and Major Faults

An earthquake is classified by the magnitude of wave movement (related to the amount of energy released), which traditionally has been quantified using the Richter scale. This is a logarithmic scale, wherein each whole number increase in magnitude

(M) represents a tenfold increase in the wave magnitude generated by an earthquake. A M8.0 earthquake is not twice as large as a M4.0 earthquake; it is 10,000 times larger (i.e., 10^4, or 10 x 10 x 10 x 10). Structure damage typically begins at M5.0. A limitation of the Richter magnitude scale is that at the upper limit large earthquakes have about the same magnitude. As a result, the Moment Magnitude Scale, which does not have an upper limit magnitude, was introduced in 1979 and is often used for earthquakes greater than M3.5. Earthquakes of M6.0 to 6.9 are typically classified as moderate; those between M7.0 and M7.9 are classified as major; and those of M8.0 or greater are classified as great.

The southern half of California is recognized as one of the most seismically active areas in the United States. The region has been subjected to at least 50 earthquakes of M6 or greater since 1796. Ground motion in the region is generally the result of sudden movements of large blocks of the earth's crust along faults. Large earthquakes, such as the 1857 Fort Tejon earthquake on the San Andreas Fault, are rare in southern California. Earthquakes of M≥7.5 are expected to have an average probability of 37% in a 30 year period. This average probability is 97% for earthquakes of M≥6.5 (USGS Working Group on California Earthquake Probabilities 2008). Table 3.5-1 lists selected earthquakes that have caused damage in the Los Angeles Basin.

Table 3.5-1. Large Earthquakes in the Los Angeles Basin Area

Fault Name	*Place*	*Date*	*Moment Magnitude*
Palos Verdes	a	a	a
San Pedro Basin	a	a	a
Santa Monica-Raymond	a	1855	6.0
San Andreas	Fort Tejon Kern County	1857 1952	8.2b 7.7
Newport-Inglewood	Long Beach	1933	6.3
San Fernando/Sierra Madre-Cucamonga	San Fernando Sierra Madre	1971 1991	6.7 5.8
Whittier-Elsinore	Whittier Narrows	1987	5.9
Camp Rock/Emerson	Landers	1992	7.3
Blind Thrust Fault beneath Northridge	Northridge	1994	6.7

[a] No known earthquakes within the last 200 years.

[b] Approximate magnitude

Source: LAHD 2008 (modified with USGS 2011 and SCEC 2011)

Seismic analyses may include discussions of the maximum earthquakes that specific faults are considered capable of generating without considering the probability of occurrence. The concept of maximum probable earthquake indicates an earthquake having a 10% probability of being exceeded in 50 years, which corresponds to an earthquake return period of approximately 475 years. The Port uses a combination of probabilistic and deterministic seismic hazard assessments for seismic design. Probabilistic hazard assessments are required to define two design-level events, the Operational Level Earthquake (OLE) design event, which generates ground acceleration with a 50% probability of exceedance in 50 years, and the Contingency Level Earthquake (CLE), which generates ground acceleration with a 10% probability of exceedance in 50 years.

Numerous significant earthquake-generating active faults and fault zones are located within the general region, such as the Newport-Inglewood, Whittier-Elsinore, Santa Monica, Hollywood, Malibu Coast, Raymond, San Fernando, Sierra Madre, Cucamonga, San Jacinto, and San Andreas Faults. Table 3.5-2 lists these potentially significant faults in the Los Angeles Basin area and their estimated maximum moment magnitudes. Active faults, such as those noted in Table 3.5-2, are typical of southern California.

Table 3.5-2. Major Regional Faults

Fault		*Maximum Moment Magnitude (Mw)*	*Fault Type*	*Slip Rate (mm/yr)*	*Source Type*	*Approximate Distance from SPW in Miles (kilometers)*
Palos Verdes		7.3	SS	3	B	0 (0)
Newport-Inglewood		7.1	SS	1	B	6.7 (10.8)
Whittier-Elsinore		6.8	SS	2.5	A	22.0 (35.5)
Malibu-Santa Monica-Raymond Fault Zone	Santa Monica	6.6	DS	1	B	27.7 (36.7)
	Hollywood	6.4	DS	1	B	24.2 (39.0)
	Malibu Coast	6.7	DS	0.3	B	24.3 (39.2)
	Raymond	6.5	DS	1.5	B	25.8 (41.6)
Cucamonga		6.9	DS	5	A	40.7 (65.6)
San Jacinto		6.7	SS	12	A	55.7 (89.9)
San Andreas		7.4	SS	30	A	53.7 (86.7)

Notes: DS = Dip slip; NT = Normal-Thrust; RO = Reverse Oblique; and SS = Strike Slip
Source: LAHD 2008 (from CDMG 1998c)

Other nearby, but less active, seismic sources include the Cabrillo Fault, San Pedro Basin Fault, the Compton blind thrust, and the Los Alamitos Fault. These are considered in the overall assessment of potential ground shaking levels within the Port (Earth Mechanics, Inc. 2006).

In accordance with the Alquist-Priolo Act of 1974, the California Division of Mines and Geology (CDMG) was directed to delineate those faults deemed active and likely to rupture the ground surface. No faults within the area of the Port are currently zoned under the Alquist-Priolo Act; however, there is evidence that the Palos Verdes

Fault, which lies east of the proposed project site, is active and the potential for ground rupture cannot be ruled out (Fischer et al. 1987; McNeilan et al. 1996). The basis for the location of the Palos Verdes Fault Zone as shown within the Port (and its exclusion from other areas), as stated by Earth Mechanics, Inc. (2006), is that the fault zone is well defined to the south by seismic-reflection data, which suggests seafloor and shallow subsurface disruption of young sediments. Figure 3.5-2 presents the faults and geologic fold structures in the proposed project area.

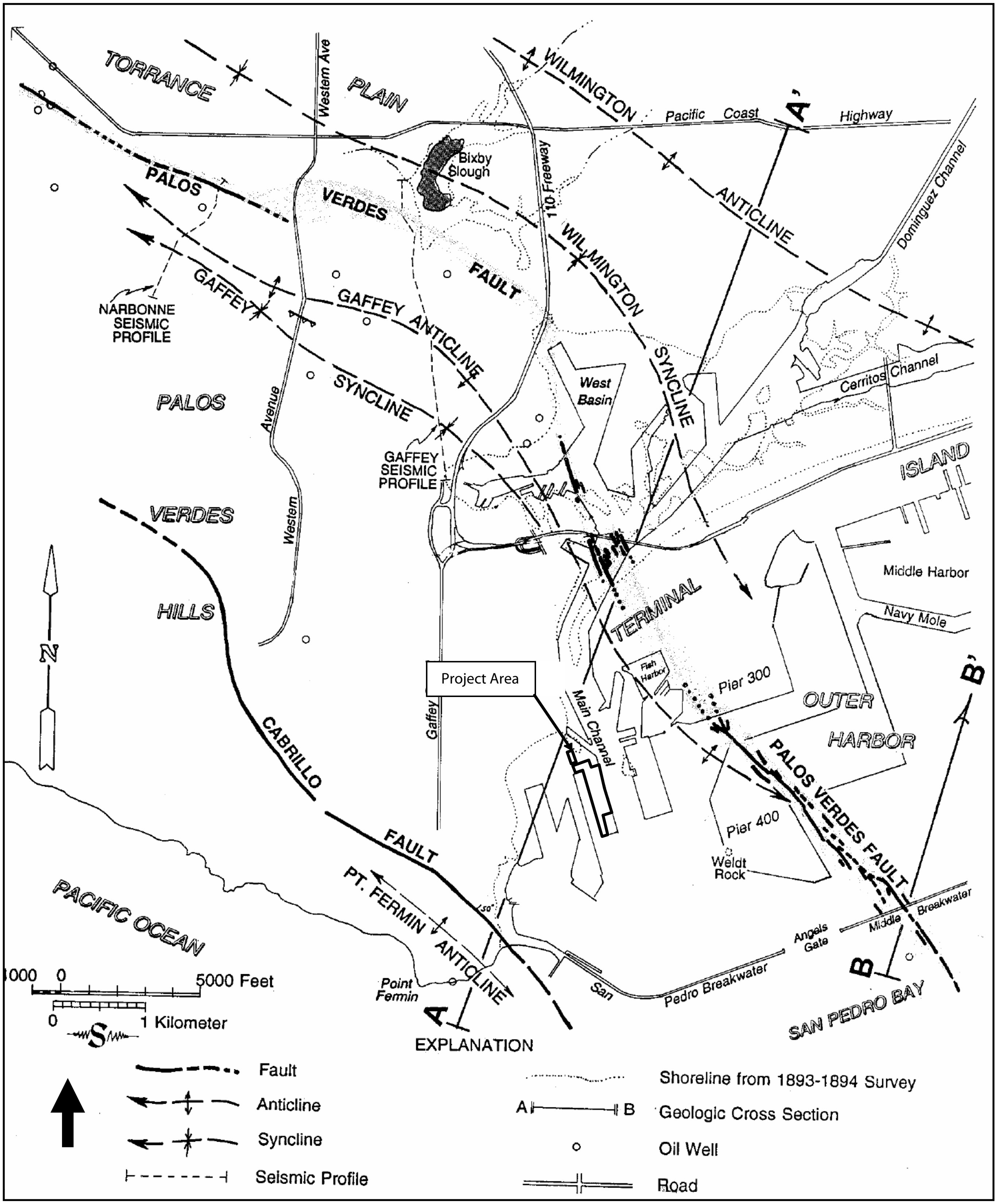
The active Palos Verdes Fault is the most important fault in terms of proposed project site development. Segments of the active Palos Verdes Fault Zone cross the Los Angeles Harbor east of the proposed project site. The presence and absence of the Palos Verdes Fault Zone in this general area of the harbor is based largely on numerous offshore seismic reflection geophysical profiles (Earth Mechanics, Inc. 2006) completed for various purposes. Current data suggest that segments of the fault may pass within approximately 0.7 mile east of the proposed project site (Earth Mechanics, Inc. 2006; Figure 3.5-3). Recent studies indicate that the Palos Verdes Fault Zone is capable of producing an earthquake of M6.7 to M7.2, and peak ground accelerations in the Port area of 0.23g (g = acceleration due to gravity) and 0.52g for the OLE and CLE, respectively. The potentially active Cabrillo Fault is located approximately 1 mile southwest of the proposed project site. It is also considered an important local fault because it may be a segment or branch of the Palos Verdes Fault and capable of producing an earthquake of M6.25 to M6.5 (Earth Mechanics, Inc. 2006).

Numerous active faults outside the Port are also capable of generating earthquakes that could affect the proposed project area (see Tables 3.5-1 and 3.5-2). The Newport-Inglewood Fault Zone, which was the source of the 1933 Long Beach M6.4 earthquake, is important due to its substantial length and relative proximity (7.3 miles) to the proposed project site. Large events could occur on more distant faults in the general area, but given their greater distance from the site, earthquakes generated on these faults are less significant with respect to ground accelerations.

Liquefaction and Lateral Spreads

Soil liquefaction describes a phenomenon whereby a saturated soil substantially loses strength and stiffness in response to an applied stress, usually earthquake shaking or other sudden change in stress condition, causing it to behave like a liquid as a consequence of the loss of grain-to-grain contact due to increased pore pressure. Seismic ground shaking is capable of providing the mechanism for liquefaction, usually in fine-grained, loose to medium dense, saturated sands and silts. The effects of liquefaction may be substantial settlement and/or differential settlement of structures that overlie liquefiable soils, or possibly a lateral spread landslide. Lateral spread is a liquefaction-induced landslide of a fairly coherent block of soil and sediment deposits that move laterally (along the liquefied zone) by gravitational force, sometimes on the order of 10 feet, often toward a topographic low such as a depression or valley.

Some authors (Tinsley and Youd 1985) have indicated that the liquefaction potential in the harbor area during a major earthquake on either the San Andreas or Newport-



Source: Earth Mechanics Inc., 2006.

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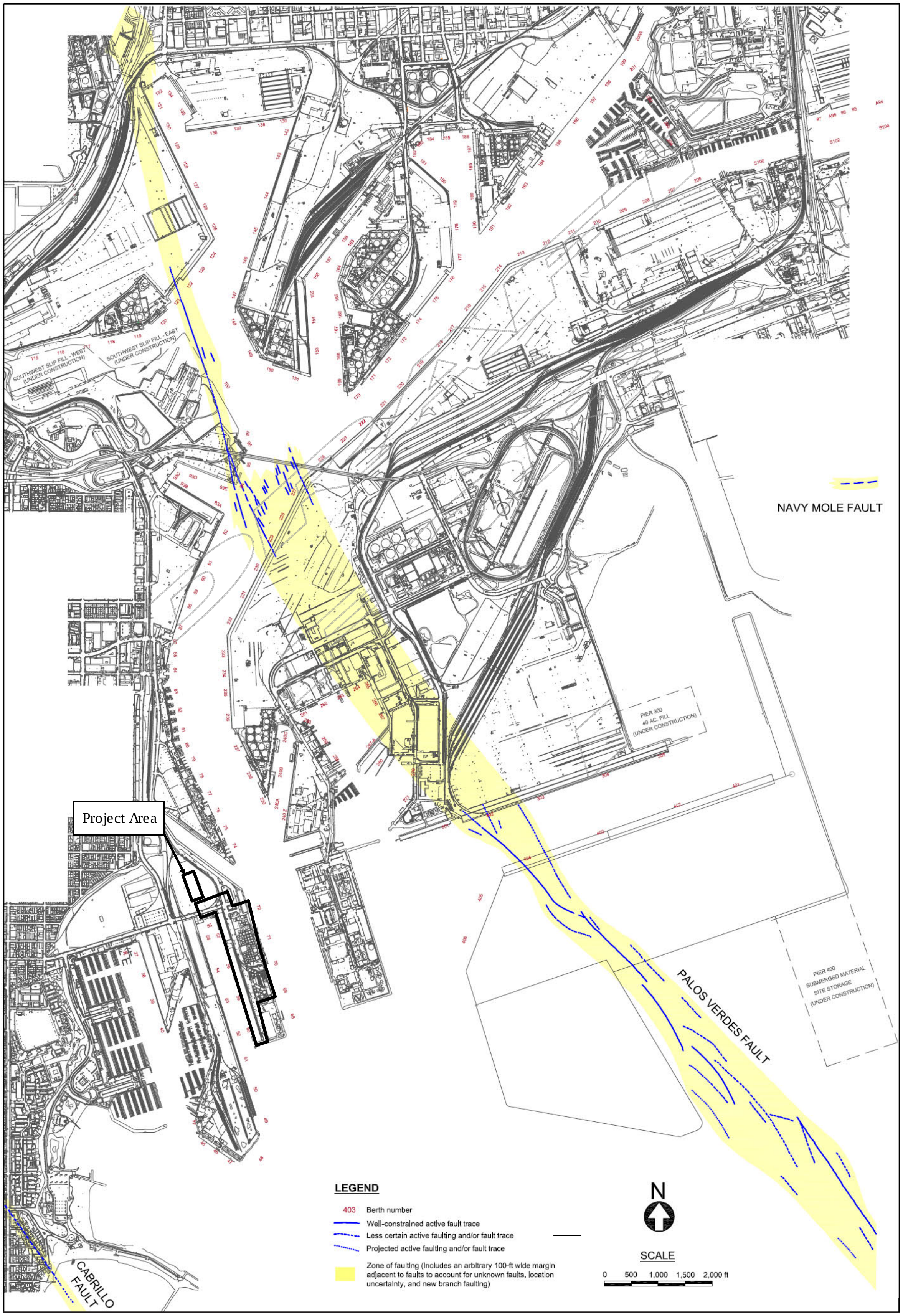
Figure 3.5-2
Geologic Structure Map of the POLA Area
City Dock No. 1 Marine Research Center Project



Source: Earth Mechanics Inc., 2006.

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Figure 3.5-3
Palos Verdes Fault Zone
City Dock No. 1 Marine Research Center Project

Inglewood Fault is high. The Seismic Hazards Zone Maps published by the State of California (Figure 3.5-4; CDMG 1999, 1998a, and 1998b) and the City of Los Angeles General Plan, Safety Element (City of Los Angeles 1996) show the site to be in an area susceptible to liquefaction because of the nature of the soils.

Former natural drainages and previous shallow bay/estuary environments at Port berths have been backfilled with non-engineered, uncertified artificial fill materials. Dredged materials from the Los Angeles Harbor area were spread across lower Wilmington from 1905 until 1910 or 1911 (Ludwig 1927). In many areas, rip-rap and armor rock were used to contain the fill to discrete areas, such as wharves. Natural alluvial deposits and marine sediments below the proposed project site are very likely unconsolidated, soft, and saturated, and contain varying amounts of sand, silt, and clay. Groundwater (seawater within the fill) is present at shallow depths beneath the proposed project site (depths ranging from 3 to 12 feet bgs). For more discussion of groundwater see Section 3.6, “Groundwater and Soils.” The condition of the anthropogenic and natural materials, the saturation, and the area earthquake ground shaking potential are conducive to liquefaction.

Expansive Soils

Expansive soils generally result from specific clay minerals that expand when saturated and shrink in volume when dry. These expansive clay minerals are common in the geologic units in the adjacent Palos Verdes Peninsula. Clay minerals in geologic units and previously imported fill soils at the proposed project site could have expansive characteristics.

Subsidence

Subsidence is the phenomenon where the soils and other earth materials underlying a site settle or compress, resulting in a lower ground surface elevation. Fill and native materials beneath a site can be water saturated, and a net decrease in the pore pressure and contained water will allow the soil grains to pack closer together. This closer grain packing results in less volume and the lowering of the ground surface.

Subsidence in the LA/LB Harbors was first observed in 1928 and has affected the majority of the harbor area. Based on extensive studies by the City of Long Beach and the California Division of Oil and Gas and Geothermal Resources, it has been determined that most of the subsidence was the result of oil and gas production from the Wilmington Oil Field (discussed below) following its discovery in 1936, and the extraction of large volumes of groundwater for dry dock construction in the early 1940s. By 1945 subsidence of more than 4 feet was noted in the area of Long Beach Harbor (City of Long Beach 2006). By 1962 subsidence had spread over a wide area and reached approximately 26 feet in the area of Terminal Island (Parks 1999). Today, water injection continues to be maintained at rates greater than the total volume of produced substances, including oil, gas, and water, to prevent further reservoir compaction and subsidence (City of Long Beach 2006). Subsidence in the vicinity of the proposed Project, due to previous oil extraction in the Port area, has been mitigated and no longer poses a risk at the proposed project site; therefore, it is not discussed further.

Landslides

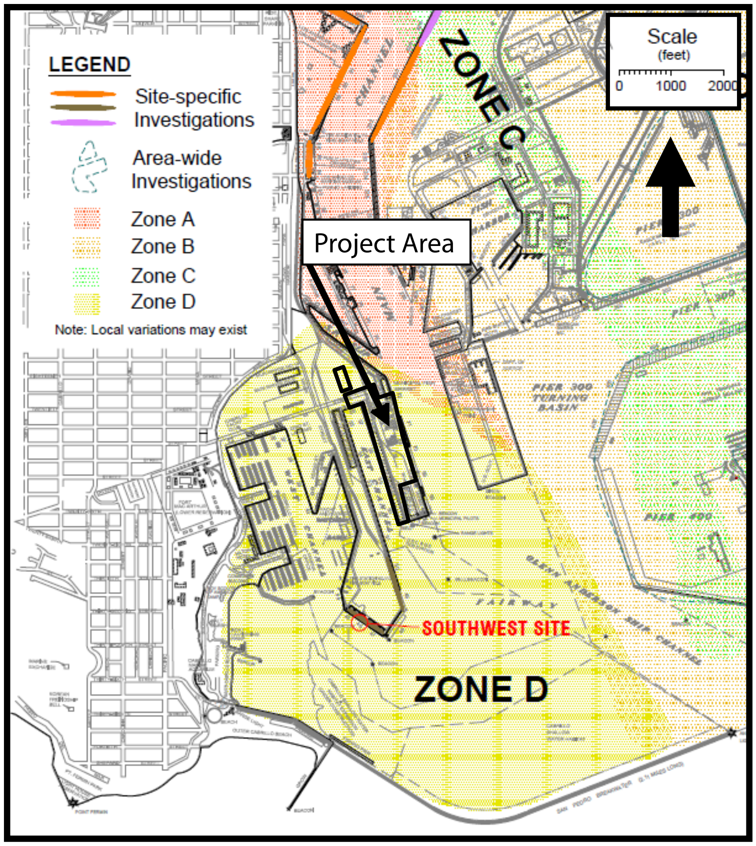
Generally, a landslide is defined as the downward and outward movement of loosened rock or earth on a hillside or slope. Landslides can occur either very suddenly or slowly, and frequently accompany other natural hazards such as earthquakes, floods, or wildfires. Most landslides are single events, but more than a third in the onshore environment are associated with heavy rains or the melting of winter snows. Landslides can also be triggered by ocean wave action or induced by the undercutting of slopes during construction, improper artificial compaction, saturation from sprinkler systems or broken water pipes, or surcharge of a landmass with potentially unstable conditions (e.g., out-of-slope bedding or weak materials). Immediate dangers from landslides include injuries or destruction of property on or above the landslide, and below the landslide from rocks, mud, and water sliding downhill. Other dangers include broken electrical, water, gas, and sewage lines. Due to its location offshore, no known or probable bedrock landslide areas have been identified at the proposed project site (City of Los Angeles 1996).

The 1976 geotechnical investigation by Converse Davis Dixon Associates at Berth 49 south and west of the proposed project site was prompted by "land slippage" resulting in several feet of lateral (to 14 feet) and vertical (to 5 feet) movement at the site. They concluded that soft, eastward dipping Malaga Mudstone weak bedding planes failed due to excessive downward pressure from stockpiling of iron ore on the wharf. Based on the nearby location of Berth 49, it is very possible that such a condition exists at the proposed project site and that a similar bedding plane failure is possible.

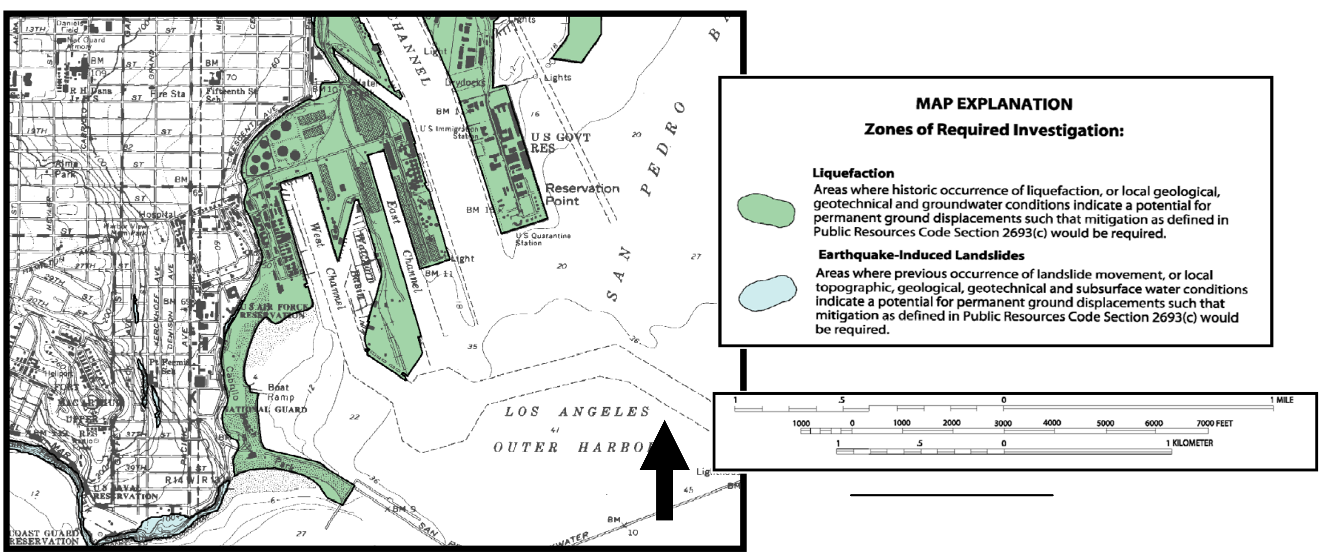
Tsunamis

A tsunami is a long wavelength ocean wave generated by sudden displacement of the seafloor normally by earthquake faulting, volcanism, or a large submarine landslide. Transoceanic waves may have wavelengths of up to 125 miles and periods generally from 5 to 60 minutes. Initially the tsunami creates a drop in water level at the shoreline, followed by a rapid rise with attendant run up on the shore, surges into and out of shallow coastal inlets and harbors, and a substantial rise of water levels in deeper water ports and harbor areas. In the process of bore/surge–type run-up, the onshore flow (up to tens of feet per second) can cause tremendous dynamic loads on the structures onshore in the form of impact forces and drag forces, in addition to hydrostatic loading.

Until the last several years, projected tsunami run-ups along the western U.S. were based on far-field events, such as submarine earthquakes or landslides occurring at great distances from the U.S. An example is the Chilean earthquake of May 1960 that caused local damages of over $1 million and harbor closure, with maximum water level fluctuations recorded by gauges of 5.0 feet at Berth 60 (Moffat and Nichol 2007). Based on such distant sources, tsunami-generated wave heights of between 6.5 and 8 feet above MLLW, at 100-year intervals, and between 10 and 11 feet, at 500-year intervals, were projected, including the effects of astronomical tides (Houston 1980).



Soil Zones Used for Seismic Response Analysis



Potential Liquefaction Areas

Source: Soil Zones - Earth Mechanics Inc., 2006; Liquefaction - CDMG, 1999.

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Figure 3.5-4
Soil Zones and Potential Liquefaction Areas
City Dock No. 1 Marine Research Center Project

Moffatt and Nichol (2007) developed the tsunami model for the Los Angeles/Long Beach Port Complex that incorporates consideration of the localized artificial fill configurations, bathymetric features (water depth and topography of the harbor bottom), and the interaction of the diffraction (bending of waves around obstacles), reflection (change in direction due to interference), and refraction (change in direction due to speed) of tsunami wave propagation in the predictions of tsunami wave heights. The Los Angeles/Long Beach Port Complex model uses a methodology similar to the above studies to generate a tsunami wave from several different potential sources, including local earthquakes, remote earthquakes, and local submarine landslides.

The model specifically examined seven different earthquake- and landslide-generated tsunami scenarios and considered local landfill configurations, bathymetric features, and the interaction of tsunami wave propagation to predict tsunami wave heights that could affect the harbor (Moffatt and Nichol 2007). The model predicts tsunami wave heights with respect to MSL rather than MLLW, which is a reasonable, average condition under which a tsunami might occur (Moffatt and Nichol 2007).

The tsunami study identified the lowest deck elevations throughout the Port using various sources of data. It is assumed that these elevations can be used as proxies for certain areas of the proposed Project that are not specifically identified in the tsunami report (i.e., the Outer Harbor area). The lowest deck elevations identified in the tsunami study in the proposed project area included Berths 56–60 along the East Channel with adjacent lowest deck elevations as low as 11.19 feet above MSL, and Berths 70–71 along the Main Channel with adjacent lowest deck elevations as low as 12.17 feet above MSL.

Based on the model, four out of the seven scenarios could result in tsunami-induced flooding in the proposed project area. Table 3.5-3 below shows the four scenarios that could lead to tsunami-induced flooding in the proposed project area. See Figures 3.5-5 through 3.5-8 for a depiction of the modeling results and the water level, in meters, above mean sea level.

Table 3.5-3. Modeled Conditions that Could Result in Tsunami-Induced Flooding

Model Scenario	*Description*	*Minimum Water Levels (meters above MSL) in the Proposed Project Area*	*Maximum Water Levels (meters above MSL) in the Proposed Project Area*
Catalina Fault (seven-segment scenario)	Tectonic tsunami source generated by a magnitude 7.6 earthquake located on the Catalina Fault, line segment 7	0.2	2.0
Catalina Fault (four-segment scenario)	Tectonic tsunami source generated by a magnitude 7.6 earthquake on the Catalina Fault, line segment 4	0.2	1.6
Palos Verdes Landslide I	Landslide tsunami sources generated by a submerged ocean slope failure	0.0	2.2

Model Scenario	*Description*	*Minimum Water Levels (meters above MSL) in the Proposed Project Area*	*Maximum Water Levels (meters above MSL) in the Proposed Project Area*
Palos Verdes Landslide II	Landslide tsunami sources generated by a submerged ocean slope failure	0.5	7.0
Source: Moffatt and Nichol 2007			

Based on these model results, there are certain areas of the proposed Project that not only could be exposed to tsunami-induced flooding but could also be exposed to overtopping of the existing deck elevation. Overtopping of the existing deck elevation is determined by identifying the maximum wave height above the MSL predicted by the model for the model locations (see Figures 3.5-5 through 3.5-8). If the maximum wave height above the MSL predicted by the model is greater than the adjacent lowest deck elevation, overtopping would occur at this location as predicted by the model. This provides a conservative estimate as to the locations within the proposed project area that would experience overtopping in the event of a tsunami generated under the conditions modeled, as indicated in Table 3.5-4 below. The modeled Palos Verdes Landslide II conditions clearly pose the most risk of overtopping in the proposed project area.

Table 3.5-4. Proposed Project Area Locations that Would Experience Overtopping by Tsunami-Induced Waves

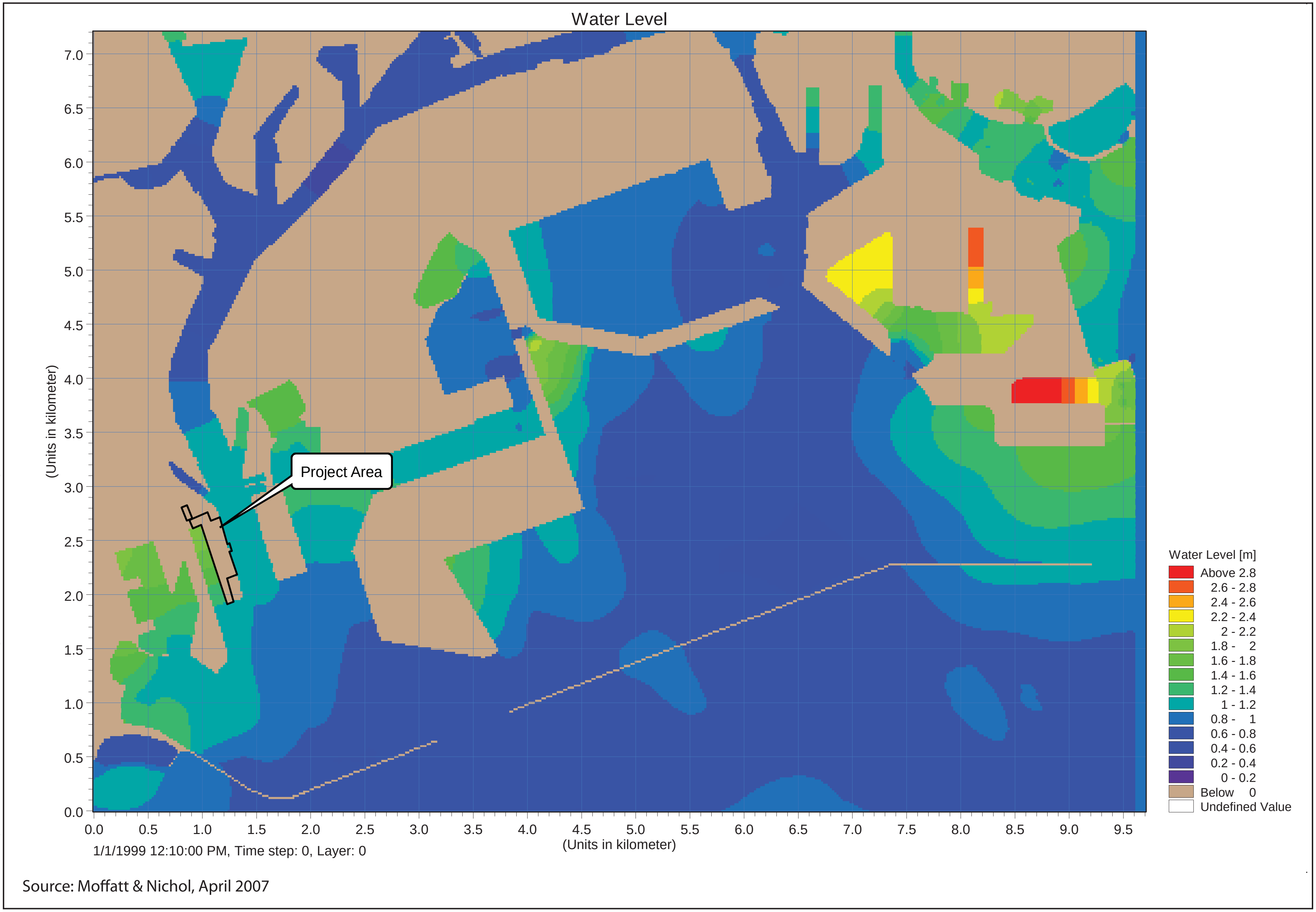
Model Locations	*Adjacent Lowest Deck Elevation*[a]	*Catalina Fault (seven- segment scenario)*	*Catalina Fault (four-segment scenario)*	*Palos Verdes Landslide I*	*Palos Verdes Landslide II*
East Channel	11.19	2.0	1.2	2.0	**3.5**[a]
Main Channel	12.17	1.2	1.0	1.0	3.5

[a] **Bold** text indicates areas that would experience overtopping

Source: Moffatt and Nichol 2007

Seiches

Seiches are seismically induced water waves that surge back and forth in an enclosed basin and may be expected in the harbor as a result of earthquakes. Any significant wave front could cause damage to seawalls and docks, and could breach sea walls at the proposed project site. Modern shoreline protection techniques are designed to resist seiche damage. Any significant wave front could cause damage to seawalls and docks; however, modern shoreline protection techniques are designed to resist seiche damage. The Los Angeles/Long Beach Port Complex model considered impacts from both tsunamis and seiches. In each case, impacts from a tsunami were equal to or more severe than those from a seiche.



Source: Moffatt & Nichol, April 2007

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Figure 3.5-5
Maximum Water Levels for the Catalina Fault - 7 Segments Scenario
City Dock No. 1 Marine Research Center Project

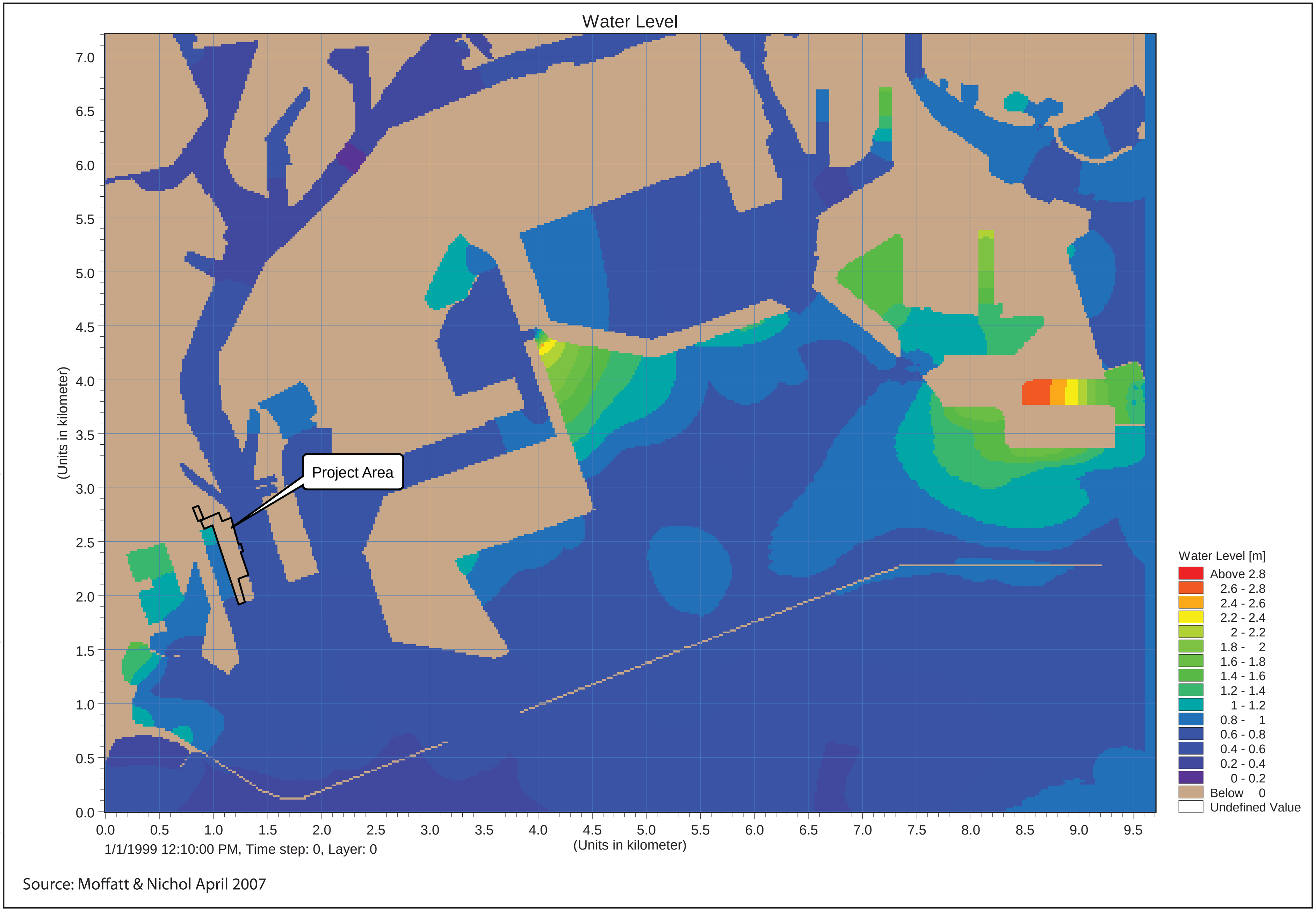

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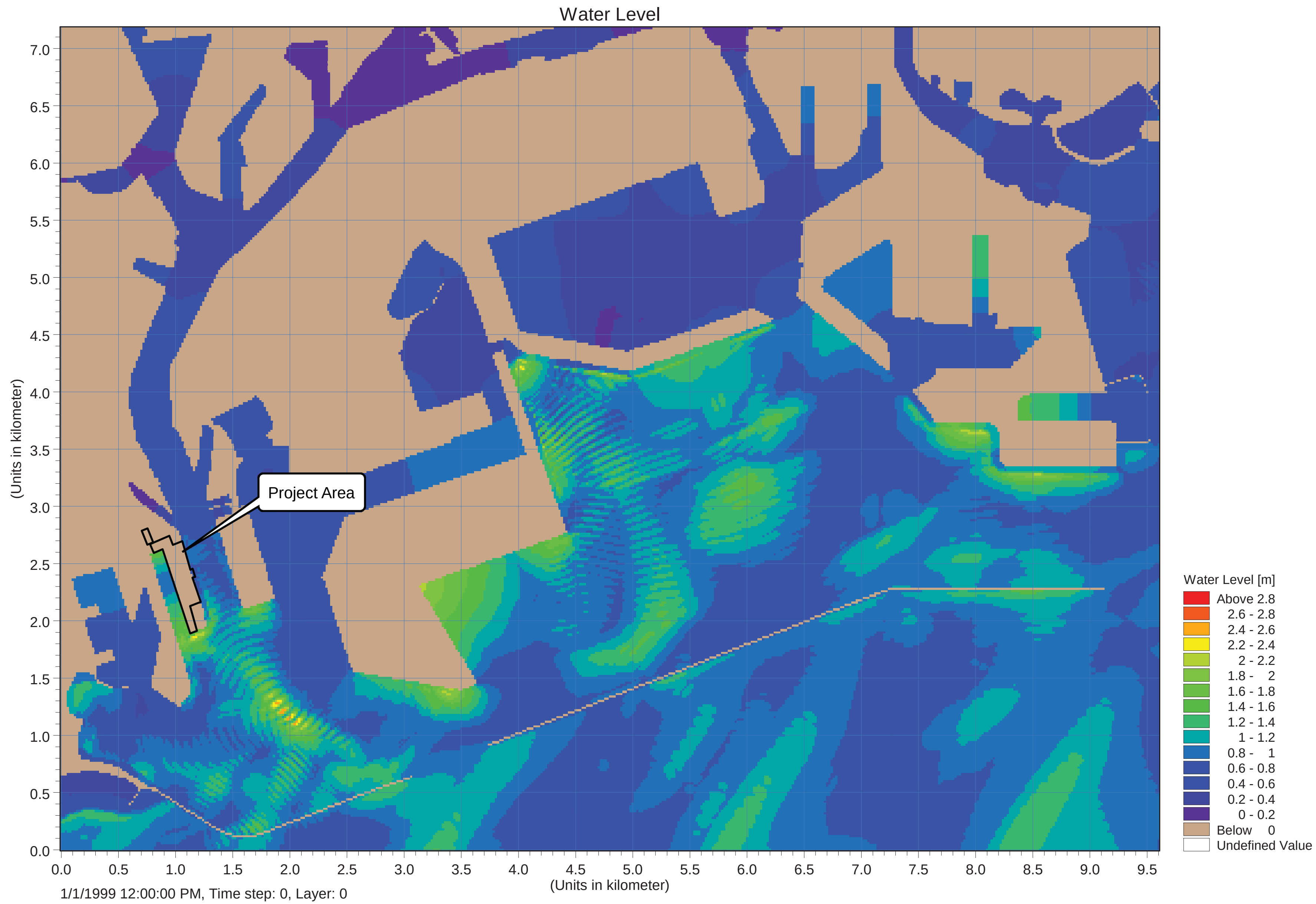
Figure 3.5-6
Maximum Water Levels for the Catalina Fault - 4 Segments Scenario
City Dock No. 1 Marine Research Center Project



Source: Moffatt & Nichol April 2007

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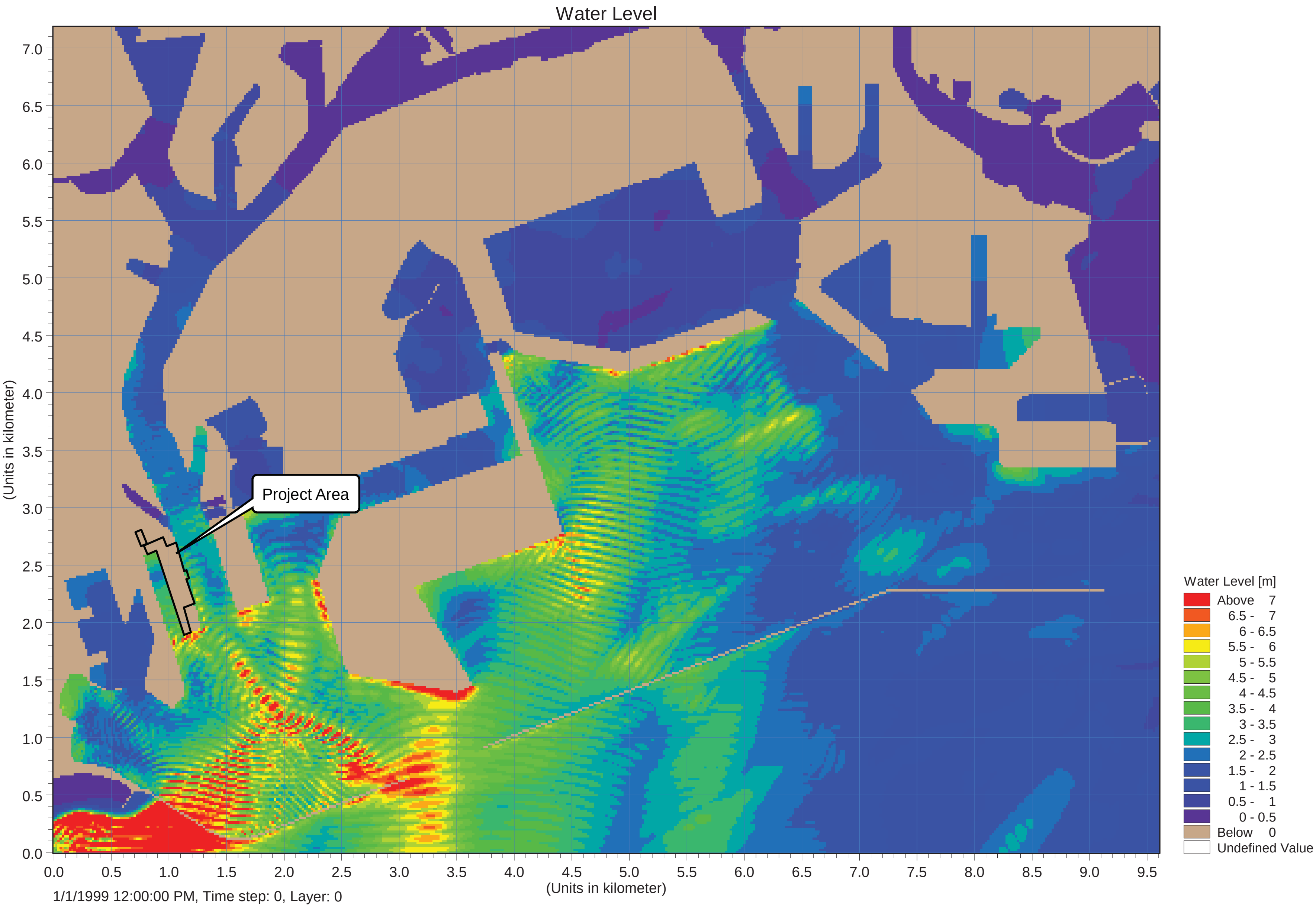
Figure 3.5-7
Maximum Water Levels for the Palos Verdes Landslide I Scenario
City Dock No. 1 Marine Research Center Project



Source: Moffatt & Nichol April 2007

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Figure 3.5-8
Maximum Water Levels for the Palos Verdes Landslide II Scenario
City Dock No. 1 Marine Research Center Project

3.5.2.1.2 Mineral Resources

The proposed project site is located to the southwest, and outside, of the approximately 11-mile-long and 3-mile-wide Wilmington Oil Field, which covers approximately 13,500 acres. The southwesterly edge of the field crosses the Los Angeles Harbor to the north of the Vincent Thomas Bridge approximately 1.8 miles northeast of the proposed project site. From January 1998 through October 2002, the field as a whole produced 84.4 million barrels (bbl) of oil, making it the 6th largest producing oil field in the state (California Department of Conservation 2002). The proposed project site is not within an active oil field and no oil production or exploration occurs within the generally vicinity; therefore, this potential resource is not discussed further.

The proposed project site is located primarily on dredged fill material overlying Holocene-age beach and/or shallow water marine sediments. According to the California Geological Survey (1987), the proposed project site is located in a Mineral Resource Zone (MRZ) area classified as "MRZ-1," which is defined as an area where adequate information indicates that no significant mineral deposits (i.e., aggregate deposits) are present or where it is judged that little likelihood exists for their presence; therefore, mineral resources are not discussed further in this section.

3.5.3 Applicable Regulations

3.5.3.1 Federal

3.5.3.1.1 Occupational Safety and Health Act of 1970: Part 1926 Safety and Health Regulations for Construction

Congress passed the Occupational and Safety Health Act to ensure worker and workplace safety. Their goal was to make sure employers provide their workers a place of employment free from recognized hazards to safety and health, such as exposure to toxic chemicals, excessive noise levels, mechanical dangers, heat or cold stress, or unsanitary conditions.

In order to establish standards for workplace health and safety, the Act also created the National Institute for Occupational Safety and Health (NIOSH) as the research institution for the Occupational Safety and Health Administration (OSHA). OSHA is a division of the U.S. Department of Labor that oversees the administration of the Act and enforces standards in all 50 states.

Part 1926 provides regulations to ensure the safety of construction workers. Subparts to Part 1926 include:

- Subpart E: Personal Protective and Life Saving Equipment
- Subpart L: Scaffolds
- Subpart M: Fall Protection

- Subpart N: Cranes, Derricks, Hoists, Elevators, and Conveyors
- Subpart P: Excavations
- Subpart Q: Concrete and Masonry Construction
- Subpart R: Steel Erection
- Subpart T: Demolition
- Subpart U: Blasting and the Use of Explosives

3.5.3.2 State

3.5.3.2.1 California Building Code

The State of California provides minimum standards for building design through the California Building Code (CBC). The CBC is based on the International Building Code (formerly known as the Uniform Building Code) established by the International Code Council (formerly known as the International Council of Building Officials), which is used widely throughout the United States (generally adopted on a state-by-state or agency-by-agency basis), and has been modified for conditions within California. In 2008, a revised version of the CBC took effect. In accordance with the CBC, a grading permit is required if more than 50 cubic yards of soil is moved during implementation of a project. Chapter 16 of the CBC contains definitions of seismic sources and the procedure used to calculate seismic forces on structures.

Building codes provide minimum standards regulating a number of aspects of construction that are relevant to geology and geologic hazards. These include excavation, grading, and fill placement; foundations; mitigation of soil conditions such as expansive soils; and seismic design standards for various types of structures.

3.5.3.2.2 Alquist-Priolo Act

California's Alquist-Priolo Act (PRC 2621 et seq.), originally enacted in 1972 as the Alquist-Priolo Special Studies Zones Act and renamed in 1994, is intended to reduce the risk to life and property from surface fault rupture during earthquakes. The Alquist-Priolo Act prohibits the location of most types of structures intended for human occupancy across the traces of active faults and strictly regulates construction in the corridors along active faults. It also defines criteria for identifying active faults, giving legal weight to terms such as "active," and establishes a process for reviewing building proposals in and adjacent to active faults.

Under the Alquist-Priolo Act, faults are zoned, and construction along or across them is strictly regulated if they are "sufficiently active" and "well-defined." A fault is considered sufficiently active if one or more of its segments or strands shows evidence of surface displacement during Holocene time (defined for the purposes of the act as within the last 11,000 years). A fault is considered well-defined if its trace can be clearly identified by a trained geologist at the ground surface or in the shallow subsurface, using standard professional techniques, criteria, and judgment.

3.5.3.3 Local

3.5.3.3.1 City of Los Angeles

Geologic resources and hazards in the proposed project vicinity are governed primarily by the City of Los Angeles. The Conservation and Safety Elements of the City of Los Angeles General Plan contain policies for the protection of geologic features and avoidance of geologic hazards (City of Los Angeles 1996). Local grading ordinances establish detailed procedures for excavation and earthwork required during construction. In addition, the City of Los Angeles Building Code establishes requirements for construction of building structures (City of Los Angeles 2011). LAHD uses the 2010 California Building Code (CBC) as a basis for seismic design for land-based structures.

LAHD, in conjunction with the City of Los Angeles, LAFD, Los Angeles Police Department (LAPD), Port Police, and USCG, is responsible for managing any emergency related to Port operations, depending on the severity of the emergency.

The City of Los Angeles Emergency Preparedness Department (EPD) provides citywide emergency leadership, continuity, and direction to enable the City and all of its various departments and divisions to respond to, recover from, and mitigate the impact of natural, human-made, or technological disasters upon its people or property. The EPD has prepared a City of Los Angeles Emergency Operations Organization Manual that describes the organization, responsibilities, and priorities of all City departments and local agencies in case of an emergency (EPD 2006). The manual is maintained by EPD and is organized by type of emergency as well as by the City departments that are responsible for responding to certain emergencies. The manual includes the following sections applicable to the Port area:

- LAHD Plan,
- Hazardous Materials Annex, and
- Tsunami Response Plan Annex.

Generally, these various plans established the following emergency operational priorities for the Port:

- provide Port security,
- evacuate vessels for the safety of crew members,
- evacuate Port facilities and the Port area,
- regulate the movement and anchorage of vessels,
- establish liaison with other City/government agencies,
- procure and maintain emergency supplies and equipment,

- establish damage assessment and prioritization procedures,
- identify shelter facilities, and
- provide employee emergency preparedness training.

Specifically, the LAHD Plan of the City of Los Angeles Emergency Operations Organization Manual identifies very general initial policies and procedures covering LAHD's response in the event of any emergency.

The Hazardous Materials Annex contains information regarding the chain of command and the general organization of any response to a hazardous material release anywhere in the City, including the Port area (EPD 1993). It includes an emergency checklist for LAHD to follow should a hazardous materials release occur within the Port area. The checklist identifies specific pre-event, response, and recovery action items and identifies the respective LAHD divisions (i.e., Port Police) that are responsible for carrying out the action items.

The Tsunami Response Plan Annex identifies the Port area as a Tsunami Inundation Zone and outlines policies and procedures of nine different City departments (including LAHD, LAPD, LAFD, and EMD) in the event of a tsunami (EPD 2008). The Tsunami Response Plan identifies evacuation routes for the San Pedro area and the harbor area and specifies evacuation locations to which evacuees should retreat. The plan identifies that the mission of LAHD with respect to a tsunami is to provide employees, tenants, and the public with a safe, well-planned, and organized method of evacuating the Port district. It outlines several actions that the Port Police are responsible for, including following the established evacuation checklist, evacuating the affected Tsunami Inundation Zone, and activating notification procedures. The divisional organization and basic functions that would support the Tsunami Response Plan for the Port area are consistent with LAHD's emergency plan and procedures.

The City and LAHD have adopted the Standardized Emergency Management System (SEMS) to manage responses to multi-agency and multi-jurisdiction emergencies and facilitate communications and coordination among all levels of the system and among all responding agencies. Additionally, the City currently uses a new emergency management process that incorporates Homeland Security's National Incident Management System (NIMS) and Incident Command System (ICS) and the application of standardized procedures and preparedness measures (Malin pers. comm. 2011).

In addition to the emergency response plans EPD maintains, LAHD maintains emergency response and evacuation plans. The Homeland Security Division of LAHD is responsible for maintaining and implementing LAHD's Emergency Procedures Plan. This plan was last revised in 2012. LAHD's Emergency Procedures Plan references LAHD's evacuation plan. The evacuation plan is maintained and implemented by the Port Police and in consultation with the Homeland Security Division and USCG. LAHD's evacuation plan was last updated in 2005.

Finally, each tenant at the Port is responsible for maintaining its own emergency response plan (Malin pers. comm. 2011). Tenants must comply with emergency and security regulations enforced by LAFD, Port Police, Homeland Security Division, and USCG.

3.5.4 Impact Analysis

3.5.4.1 Methodology

Geological impacts have been evaluated in terms of both impacts of the proposed Project on the local geologic environment, and impacts of existing geohazards on components of the proposed Project that may result in substantial damage to structures or infrastructure or expose people to substantial risk of injury. Impacts would be considered significant if the proposed Project meets any of the significance criteria listed in Section 3.5.4.2 below.

The environmental setting as described in Section 3.5.2 above was used as the baseline physical conditions by which significant potential impacts were evaluated. Some of the geologic maps and literature used to prepare the environmental setting are 10 to 20 years old. However, the geologic conditions did not change significantly over this time period, and therefore the use of these materials is considered appropriate for this study.

The IS/NOP determined that the proposed Project would have less-than-significant impacts on the following geology and soils issues; therefore, they will not be discussed in the geology impact analysis below:

- have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater;
- result in the permanent loss of availability of a known mineral resource of regional, state, or local significance that would be of future value to the region and the residents of the state; or
- result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

The IS/NOP determined that the Los Angeles Department of Public Works Bureau of Sanitation provides sewer service to all areas within its jurisdiction, including the proposed project site. The proposed Project would be connected to this system, and sewage would be sent to the Terminal Island Treatment Facility. Alternatively, ocean water used for aquaculture and research purposes may be treated either by (1) sending it to the Terminal Island Treatment Facility, (2) using a flow-through system that would treat on site and allow pass-through back into the bay, or (3) a combination of each. More details on both options are provided in Section 3.13, "Water Quality, Sediments, and Oceanography." There would be no use of septic tanks or other soil-based alternative wastewater disposal systems and hence no impact related to soils incapable of adequately supporting a septic or alternative wastewater system. Therefore, this criterion will not be discussed in the geology impact analysis below.

The proposed project area is not within a significant aggregate resource zone; the proposed project site is in a mineral resource zone area classified as MRZ-1, which is defined as an area where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence (California Department of Conservation, Division of Mines and Geology 1987). The proposed project site does not contain nor is it in close proximity to an oil, gas, or geothermal well. In addition, the proposed project site is not known to contain mineral resources that would be of value to the region or state. No quarrying operations are established in the vicinity of the proposed project site, and the nearest oil field and drilling areas include the Torrance Oil Field, located north of US 1, and the Wilmington Oil Field, located in the northern portion of the Port. The proposed project site is in an area that contains several recreational facilities and in which industrial operations would be limited or relocated, therefore reducing the potential for mining or drilling in the area. Consequently, no impacts to mineral resources would occur.

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

- LAHD or authorized developers within the proposed project area will design and construct upland improvements in accordance with Los Angeles Building Code, Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, to minimize impacts associated with seismically induced geohazards. These sections regulate construction in upland areas of the Port. Because there are no upland elements associated with the proposed Project, these building codes and requirements do not apply.
- LAHD will design and construct new wharf and related improvements in accordance with LAHD standards, to minimize impacts associated with seismically induced geologic, soils, and seismic hazards. Such construction will include, but not be limited to, completion of site-specific geotechnical investigations regarding construction and foundation engineering. Measures pertaining to temporary construction conditions, such as protecting adjacent structures, will be incorporated into the design. A licensed geologist or engineer will monitor construction to ensure that all building is consistent with the proposed project design.

3.5.4.2 Thresholds of Significance

The following significance criteria are based on the *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006) and are the basis for determining the significance of impacts associated with geology and soils resulting from development of the proposed Project.

Geologic hazard impacts are considered significant if the proposed Project causes or accelerates hazards that would result in substantial damage to structures or infrastructure, or exposes people to substantial risk of injury. Because the region is considered to be geologically active, most projects are exposed to some risk from geologic hazards, such as earthquakes. Geologic impacts are, therefore, considered significant if the proposed Project would result in any of the following:

GEO-1: Substantial damage to structures or infrastructure, or expose people to substantial risk of injury from fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure.

GEO-2: Substantial damage to structures or infrastructure, or expose people to substantial risk of injury from tsunamis or seiches.

GEO-3: Substantial damage to structures or infrastructure, or expose people to substantial risk of injury from land subsidence/settlement.

GEO-4: Substantial damage to structures or infrastructure, or expose people to substantial risk of injury from expansive soils.

GEO-5: Substantial damage to structures or infrastructure, or expose people to substantial risk of injury from landslides or mudflows.

GEO-6: Substantial damage to structures or infrastructure, or expose people to substantial risk of injury from unstable soil conditions from excavation, grading, or fill.

GEO-7: Destroy, permanently cover, or materially and adversely modify one or more distinct and prominent geologic or topographic features. Such features may include, but not be limited to, hilltops, ridges, hillslopes, canyons, ravines, rock outcrops, water bodies, streambeds, and wetlands.

3.5.4.3 Impacts and Mitigation

3.5.4.3.1 Construction Impacts

Impact GEO-1a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure.

The proposed project area lies in the vicinity of the Palos Verdes Fault Zone. Current data suggest that segments of the fault may pass within approximately 0.7 mile east of the proposed project site (Earth Mechanics, Inc. 2006; Figure 3.5-3), but no strands of the fault pass beneath the proposed project site. Strong-to-very strong ground shaking, severe ground settlement, and liquefaction could occur at the proposed project site because of the proximity of the fault and the presence of low relative density and water-saturated hydraulic fill and marine deposits. Projects in construction phases are especially susceptible to earthquake damage due to temporary conditions, such as temporary slopes and unfinished structures, which are typically not in a condition to withstand intense ground shaking. Strong ground shaking would potentially cause damage to unfinished structures resulting in injury to construction workers. There would be a temporary influx of construction crews to the proposed project site, which would slightly increase the exposure of workers to seismic hazards relating to the baseline condition.

With the exception of ground rupture, there would be similar seismic impacts on other regional faults. Earthquake-related hazards, such as fault rupture, severe ground settlement, liquefaction, and seismic ground shaking cannot be avoided in the Los Angeles region and in particular in the harbor area where the Palos Verdes Fault and low density or liquefaction-prone soils are present.

As described in Chapter 2, "Project Description," wharf improvements would be implemented during construction of the proposed Project. Currently, there are two options, both of which would use "super piles." Either option, once implemented, would stabilize the slope and repair the wharf structure over which the Berths 57 and 58–60 transit sheds are built. Furthermore, the transit sheds would be upgraded to current CBC and UBC standards. These upgrades would greatly enhance the existing structures' ability to withstand strong ground shaking, liquefaction, and other seismically induced ground failure. All new construction would also comply with CBC and City building and safety codes.

Construction would occur in accordance with established CBC and City Building Code, and worker safety would be regulated by the OSHA pursuant to the Occupational Safety and Health Act of 1970 (OSH Act) contained in Title 29 of the Code of Federal Regulations (29 CFR). Part 1926 specifically outlines regulations for construction. Under the OSH Act, employers are responsible for providing a safe and healthful workplace. OSHA's mission is to assure safe and healthful workplaces by setting and enforcing standards, and by providing training, outreach, education, and assistance. Additionally, the Port as an agency within the City of Los Angeles has several emergency plans in place that may be implemented in the event of an emergency in order to respond and evacuate Port facilities. Compliance with all applicable laws and regulations would minimize exposure to risk from seismic hazards, and impacts would be less than significant.

Mitigation Measure

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact GEO-2a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk involving tsunamis or seiches.

Because of the historic occurrence of earthquakes, tsunamis, and seiches along the Pacific Rim, placement of any development on or near the shore in southern California, including at the proposed project site, would always involve some measure of risk of impacts from a tsunami or seiche. Although relatively rare, should a large tsunami or seiche occur, it would be expected to cause some amount of damage and possibly injuries to most on- or near-shore locations. As a result, this is considered by LAHD as the average, or normal condition for most on- and near-shore locations in southern California.

Therefore, a tsunami- or seiche-related impact would be significant if it would exceed this normal condition and cause substantial damage and/or substantial injuries. Under a theoretical maximum worst-case scenario, construction of the proposed Project would expose people or property to substantial damage or injuries in the event of a tsunami or seiche.

Because tsunamis and seiches are derived from wave action, the risk of damage or injuries from these events at any particular location is lessened if the location is high enough above sea level, far enough inland, or protected by anthropogenic structures such as dikes or concrete walls. The height of a given site above sea level is either the result of an artificial structure (e.g., a dock or wall), topography (e.g., a hill or slope), or both; and a key variable related to the height of a site location relative to sea level is the behavior of tides. During high tide, for instance, the distance between the site and sea level is less. During low tide, the distance is greater. How high a site must be located above sea level to avoid substantial wave action during a tsunami or seiche depends upon the height of the tide at the time of the event and the height of the potential tsunami or seiche wave.

The harbor is subject to diurnal tides, meaning two high tides and two low tides during a 24-hour day. The average of the lowest water level during low tide periods each day is typically set as a benchmark of 0 feet and is defined as MLLW. For purposes of this discussion, all proposed project structures and land surfaces are expressed as height above (or below) MLLW. The MSL in the harbor is +2.82 feet above MLLW (NOAA 2008). This height reflects the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch (19 years) and, therefore, reflects the mean of both high and low tides in the harbor. The recently developed Los Angeles/Long Beach Port Complex probabilistic model described in Section 3.5.2.1.1 above predicts tsunami wave heights with respect to MSL, rather than MLLW and, therefore, can be considered a reasonable average condition under which a tsunami might occur (Moffatt and Nichol 2007).

The Los Angeles/Long Beach Port Complex study identified the lowest deck elevations throughout the Port using various sources of data. The deck elevations that are the lowest within the proposed project area are those surrounding the West

Channel and in the Cabrillo Marina. These elevations are based on an aerial survey performed in February 1999 and information from the LAHD. The lowest deck elevations within the proposed project site adjacent to the East Channel and Main Channel are approximately 11.2 and 12.2 feet above MSL, respectively (Moffatt and Nichol 2007).

The Los Angeles/Long Beach Port Complex model predicts maximum tsunami wave heights in the Port area of approximately 5.2 to 6.6 feet above MSL for the earthquake scenario and approximately 7.2 to 23.0 feet above MSL for the landslide scenario. The highest anticipated water levels from these scenarios would occur in the Outer Harbor area. For the Palos Verdes Landslide II scenario (Moffat and Nichol 2007), their Figure 4-6 indicates a 23-foot wave height at the south end of the proposed project site. Based on the lowest deck elevations presented above, tsunami-induced flooding would not occur at the proposed project site under most of the earthquake and landslide scenarios. Travel times vary for the Catalina fault scenarios (12 to 29 minutes) and the landslide scenarios (6 to 14 minutes).

Based on studies cited above, as a part of their Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS) (SLC 2011) tsunami run-up projections for the Port are 8 and 15 feet above MSL, at 100- and 500-year intervals, respectively. The 500-year interval tsunami would overtop the existing lowest elevations at the proposed project site.

All of the studies previously cited indicate that modeled worst-case tsunami scenarios for earthquake and landslide scenarios have long recurrence intervals. For the initiating events in offshore southern California, this is likely at least 5,000 to 10,000 years. Additionally, there is no certainty that any of these earthquake or landslide events would result in a tsunami, since only about 10% of earthquakes worldwide result in a tsunami.

Impact Determination

Because construction at portions of the proposed project site would be at lower elevations than predicted tsunami wave heights, there is a substantial risk of coastal flooding due to tsunamis and seiches. Designing new facilities based on existing building codes may not prevent substantial damage to structures from coastal flooding. In addition, projects in construction phases are especially susceptible to damage due to temporary conditions, such as unfinished structures, which are typically not in a condition to withstand coastal flooding. Impacts from tsunamis and seiches can occur at any time along the entire California coastline and would not be increased by construction of the proposed Project.

Emergency planning and coordination between the Port contractors and LAHD would contribute to reducing onsite injuries during a tsunami. Port engineers and LAHD police will work with contractors to develop earthquake and tsunami response training and procedures based on the Port's tsunami plan to ensure that construction and operations personnel will be prepared to act in the event of a large seismic event. These procedures will include immediate evacuation requirements in the event that a large seismic event is felt at the proposed project site. Compliance with all applicable laws and regulations would minimize exposure to risk from tsunami and seiche hazards, and impacts would be less than significant.

Mitigation Measure

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact GEO-3a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from land subsidence/settlement.

Subsidence in the vicinity of the proposed Project could occur in the absence of proper engineering, and proposed structures would potentially be cracked and warped as a result of saturated and/or unconsolidated/compressible sediments. During proposed project design, the geotechnical engineer would evaluate the settlement potential in areas where structures are proposed and provide measures to ensure acceptable (small) settlements would occur.

The settlement potential of existing onshore soils would be evaluated through a site-specific geotechnical investigation prior to final structural designs, which includes subsurface soil sampling, laboratory analysis of samples collected to determine soil compressibility, and an evaluation of the laboratory testing results by a geotechnical engineer. Recommendations of the engineer would be incorporated into the design specifications for the proposed Project, consistent with City design guidelines, including Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, in conjunction with criteria established by LAHD. Sections 91.000 through 91.7016 regulate construction in upland areas of the Port. These building codes and criteria provide requirements for construction, grading, excavations, use of fill, and foundation work, including type of materials, design, procedures, etc. These codes are intended to limit the probability of occurrence and the severity of consequences from geological hazards. Recommendations for soils subject to settlement typically include over excavation and recompaction of compressible soils, which would allow for construction of a conventional slab-on-grade; or alternatively, installation of concrete or steel. Such geotechnical engineering would substantially reduce the potential for soil settlement during and after construction, and would allow for construction that would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury.

Impact Determination

Settlement impacts at the proposed project site, particularly during construction, would be less than significant, because the proposed Project would be designed and constructed in compliance with the recommendations of the geotechnical engineer, consistent with Sections 91.000 through 91.7016 of the Los Angeles Municipal Code and in conjunction with criteria established by LAHD. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact GEO-4a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from expansive soils.

Expansive soil may be present in the proposed project area and in excavated or imported soils used for proposed project grading. Expansive soils beneath the foundations, pavement, or behind retaining structures would potentially result in cracking and distress of these structures. However, during the design phase, the geotechnical engineer would evaluate the expansion potential associated with onsite soils through a site-specific geotechnical investigation, which would include subsurface soil sampling, laboratory analysis of samples collected to determine soil expansion potential, and an evaluation of laboratory testing results. The engineer's recommendations would be incorporated into the design specifications for the proposed Project, consistent with City design guidelines, including Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, in conjunction with criteria established by LAHD. Recommendations for soils subject to expansion typically include over-excavation and replacement of expansive soils with sandy, non-expansive soils, which would allow for construction of a conventional slab-on-grade; construction of post-tensioned concrete slabs, which can accommodate movement of underlying expansive soils; or, alternatively, installation of concrete or steel foundation piles through the expansion-prone soils, to a depth of non-expansive soils. Therefore, required geotechnical site engineering would substantially reduce the potential for soil expansion and damage to overlying structures.

Impact Determination

Expansive soil impacts at the proposed project site would be less than significant because the proposed Project would be designed and constructed in compliance with the recommendations of the geotechnical engineer, consistent with implementation of Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, and in conjunction with criteria established by LAHD. Therefore, the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury, and the impact would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact GEO-5a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from landslides or mudslides.

Numerous ancient and recent landslides have occurred within the southerly portion of the Palos Verdes Hills, which includes the large Portuguese Bend landslide complex, several miles to the southwest of the proposed project site. The proposed project site is offshore, with a flat surface topography and no significant slopes in nearby inshore areas. The proposed project site and vicinity are not located in an area susceptible to earthquake-induced landslides (CDMG 1998a, 1998b).

A Converse Davis Dixon Associates 1976 geotechnical investigation at Berth 49 south determined that "land slippage" (lateral up to 14 feet and vertical up to 5 feet) occurred due to a landslide that moved on soft, eastward dipping Malaga Mudstone weak bedding planes offshore below the water surface. Such bedding plane conditions may exist at the proposed project site, and a similar bedding plane failure is possible. Therefore, there is a potential risk associated with landslides on site unless proper investigations, designs, and construction implementation/inspection take place. The landslide potential would be evaluated through a site-specific geotechnical investigation prior to final structural designs. Recommendations of the geotechnical engineer would be incorporated into the design specifications for the proposed Project, consistent with City design guidelines, including Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, in conjunction with criteria established by LAHD. Compliance with these requirements would avoid effects from landsliding.

Impact Determination

The subsurface bedrock and bathymetry in the vicinity of the proposed project site indicates a potential for landsliding. Appropriate geotechnical engineering would substantially reduce the impacts from potential landsliding, and would allow for construction that would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury. Therefore, impacts would be less than significant.

Mitigation Measure

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact GEO-6a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from unstable soil conditions from excavation, grading, or fill.

Natural alluvial and marine deposits, as well as anthropogenic artificial fill consisting of dredged deposits or imported soils, would be encountered during excavations for foundations, utility relocation, retaining structures, or other facilities at the proposed project site. Groundwater (seawater) is present at depths approximately equivalent to mean sea level or roughly 10 feet deep. Saturated materials near and below this level would be relatively soft and unstable for engineering purposes, requiring implementation of geotechnical remediation, such as installation of dewatering wells and/or temporary sheet pile shoring, to facilitate excavation and worker/equipment access. These methods would lower the water level and stabilize excavations, thus reducing the potential for impacts resulting from unstable soils.

A site-specific geotechnical evaluation would be performed during the design phase to provide recommendations for stability of foundations and slopes. Such recommendations would include specification of the material types to be used for fill, compaction specifications, slope inclination, removal of unsuitable material prior to placing fill, and slope armoring with rip-rap/rock to enhance overall stability and work area safety.

Contaminated material, if encountered, would be evaluated by an environmental professional. Handling of contaminated soil, including disposal at an appropriate facility, would be performed under the direction of the environmental professional. Further information regarding the handling and disposal of contaminated materials is provided in Section 3.6, "Groundwater and Soils."

Impact Determination

Groundwater (seawater) is present at depths approximately equivalent to mean sea level or roughly 10 feet deep. Saturated materials near and below this level would be relatively soft and unstable for engineering purposes, requiring implementation of geotechnical remediation, such as installation of dewatering wells and/or temporary sheet pile shoring, to facilitate excavation and worker/equipment access. Appropriate geotechnical engineering consistent with existing grading regulations would substantially reduce the impacts from unstable and saturated soil conditions, and would allow for construction that would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact GEO-7a: Construction of the proposed Project would not destroy, permanently cover, or materially and adversely modify one or more distinct and prominent geologic or topographic features. Such features may include, but not be limited to, hilltops, ridges, hillslopes, canyons, ravines, rock outcrops, water bodies, streambeds, and wetlands.

Because the proposed project area is relatively flat and previously disturbed and/or paved, there are no prominent geologic or topographic features. Therefore, proposed project construction would not result in any distinct and prominent geologic or topographic features being destroyed or permanently covered.

Impact Determination

Because there are no prominent geologic or topographic features at the proposed project site, no features would be destroyed, covered, moved, or modified. There would be no impacts.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

3.5.4.3.2 Operational Impacts

Impact GEO-1b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure.

With implementation of the proposed Project, there would be an increase in the exposure of people and property to seismic hazards compared to the baseline condition. The proposed project area lies in the vicinity of the Palos Verdes Fault Zone. Based on Earth Mechanics, Inc. (2006, Figure 3.5-3) no strands of the fault pass beneath the proposed project site or near vicinity. Strong-to-very strong ground shaking, severe ground settlement, and liquefaction could occur at the proposed project site during operations because of the proximity of the fault and the presence of low relative density and water-saturated hydraulic fill and marine deposits. With the exception of ground rupture, there would be similar seismic impacts on other regional faults. Earthquake-related hazards, such as fault rupture, severe ground settlement, liquefaction, and seismic ground shaking cannot be avoided in the Los Angeles region and in particular in the harbor area where the Palos Verdes Fault and low density or liquefaction-prone soils are present.

As described in Chapter 2, “Project Description,” wharf improvements would be implemented during construction of the proposed Project. Currently, there are two options, both of which would use “super piles.” Either option, once implemented, would ensure further damage to the wharf at Berths 57–60 would be eliminated and potential damage to the above structures (transit sheds) would be substantially reduced. Furthermore, the transit sheds would be upgraded to current CBC and UBC standards. These upgrades would greatly enhance the existing structures’ ability to withstand strong ground shaking, liquefaction, and other seismically induced ground failure during operation of the proposed Project. The OLE and CLE design criteria provide for levels of structural design that minimize injuries and severe earthquake damage. All new construction would also comply with CBC and City building and safety codes, thereby minimizing impacts to people and structures during operations.

Impact Determination

As discussed above under Construction Impacts, seismic activity along the Palos Verdes Fault Zone, or other regional faults, would potentially produce fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure. Seismic hazards are common to the Los Angeles region and would not be increased with implementation of the proposed Project. Because the proposed project site is potentially underlain by low density and liquefaction-prone hydraulic fill and marine sediments, and subject to substantial risk of seismic impacts, design and construction would be in accordance with modern construction engineering and safety standards. Additionally, the Port as an agency within the City of Los Angeles has several emergency plans in place that may be implemented in the event of an emergency in order to respond and evacuate Port facilities. Compliance with all applicable laws and regulations would minimize exposure to risk from seismic hazards, and impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact GEO-2b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk involving tsunamis or seiches.

See Impact GEO-2a above for a discussion of the probability and anticipated magnitude of a tsunami at the proposed project site. As discussed for Impact GEO-2a, designing new facilities based on existing building codes may not prevent substantial damage to structures from coastal flooding. Impacts that result from seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by operation of the proposed Project. However, because portions of the proposed project site are at elevations lower than the predicted tsunami wave heights, there is a substantial risk of coastal flooding in the event of a tsunami and seiche.

For onsite personnel and visitors, the risk of tsunami or seiche is a part of any ocean-shore interface; therefore, people working at or visiting the proposed project site cannot avoid some risk of exposure. Similarly, berth infrastructure would be subject to some risk of exposure. Initial tsunami-induced run-up would potentially cause substantial injury and damage to infrastructure, and the drawdown of water after run-up exerts an opposite force, washing loose/broken debris out to sea. Floating debris brought back on the next onshore flow has been found to cause significant and extensive damage.

Similarly, for vessels, the risk of tsunami or seiches is a part of any ocean-shore interface; therefore, vessels in transit or at berth cannot avoid some risk of exposure. A vessel destined for the proposed project berths would be under its own power and would likely be able to maneuver to avoid damage.

Port engineers have indicated that currents moving over 5 meters per second (m/s) could potentially render a ship out of control (LAHD 2008). Modeling indicates that tsunami-related currents created as a result of a large earthquake on the Santa Catalina Fault or submarine landslide off the coast of the nearby Palos Verdes Peninsula would not create currents in the harbor in excess of 5 m/s. The highest anticipated current speeds of 2 m/s would occur in the vicinity of the entrance to the Main Channel (LAHD 2008). Currents in the vicinity of the Vincent Thomas Bridge (northerly edge of the proposed project area) would be approximately 0.9 m/s (Moffatt and Nichol 2007).

During a tsunami or seiche, a vessel docked at one of the proposed project berths would be subject to the rising and falling of water levels and accompanying currents. Two scenarios could arise. Either the vessel would stay secured to the berth and ride out the tsunami, or its mooring lines would break and the ship would be set adrift. In the first scenario, the energy of a tsunami wave would be transmitted through the vessel and into the wharf. Forces transmitted through the vessel would be transferred to the fendering system of the wharf and then to the wharf structure (LAHD 2008).

The existing wharf fendering systems are designed with the assumption that, under a normal docking scenario, a berthing vessel will contact only one fender. In such scenarios, each fender is designed to absorb the berthing energy of the entire vessel. During a tsunami occurrence, the wave can be assumed to move the vessel against more than one of the existing fenders, so that the vessel would be contacting a minimum of four to five fenders, often simultaneously. In such cases, the force experienced by each fender would be less than the standard docking force for which the system is designed, because more than one fender would absorb the force simultaneously. Therefore, substantial damage is not expected to a vessel or the wharf in the event of a tsunami strike while a vessel is secured at berth (LAHD 2008).

Under the second scenario, a vessel set adrift in the harbor could create more serious situations with increased potential for collisions, including a potential hull breach and possible fuel spill (LAHD 2008).

Impact Determination

Designing new facilities based on existing building codes may not prevent substantial damage to structures from coastal flooding. Because portions of the proposed project site are at elevations lower than predicted tsunami wave heights, there is a substantial risk of coastal flooding from tsunamis and seiches. Impacts as a result of seismically induced tsunamis and seiches can occur at any time along the entire California coastline and would not be increased by operation of the proposed Project. Raising the elevation of the site or constructing a wall along the perimeter of the site of sufficient height would be the only way to mitigate potential impacts. However, elevating the proposed project site or building a wall around the entire perimeter would be cost-prohibitive and would significantly impact existing infrastructure, requiring extensive modification. Therefore, complete mitigation of the risk of a tsunami is not feasible. Port engineers and LAHD police would work with tenants to develop earthquake and tsunami response training and procedures based on the Port's tsunami plan to ensure that employees and visitors to the site would be prepared to act in the event of a large seismic event. These procedures would include immediate evacuation requirements in the event that a large seismic event is felt at the proposed project site. Compliance with all applicable laws and regulations would minimize exposure to risk from tsunami and seiche hazards, and impacts would be less than significant.

Mitigation Measure

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact GEO-3b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from land subsidence/settlement.

As discussed under Impact GEO-3a, the proposed project site is outside the subsidence area caused by previous oil extraction in the Port area and would not adversely impact the proposed Project. However, in the absence of proper engineering, proposed structures could be cracked and warped during proposed project operations as a result of saturated, unconsolidated/compressible sediments. During the proposed project design phases, a geotechnical engineer would evaluate the settlement potential in areas where structures are proposed, as discussed for Impact GEO-3a, to reduce the potential for soil settlement. The incorporation of these measures during design and construction would minimize the potential for exposure of damage to structures or risk of injury to people during operations at the project site.

Impact Determination

The proposed Project would be designed and constructed in compliance with the recommendations of a geotechnical engineer, consistent with implementation of Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, and in conjunction with criteria established by LAHD, and would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury during operations. Therefore, settlement impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact GEO-4b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from expansive soils.

As described under Impact GEO-4a, expansive soil may be present in the proposed project area and may be present in dredged or imported soils used for proposed project grading. Use of expansive soils beneath proposed project foundations, pavement, or behind retaining structures could result in cracking and distress of these structures during the proposed project operations. However, during the design phase, the proposed Project's geotechnical engineer would evaluate the expansion potential associated with onsite soils, as described in Impact GEO-4a to reduce the potential for soil expansion and damage to overlying structures. The incorporation of these measures during design and construction would minimize the potential for exposure of damage to structures or risk of injury to people during operations at the proposed project site.

Impact Determination

The proposed Project would be designed and constructed in compliance with the recommendations of the geotechnical engineer, consistent with Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, and in conjunction with criteria established by LAHD, and would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury during operations. Therefore, expansive soil impacts in upland areas would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact GEO-5b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from landslides or mudslides.

As described under Impact GEO-5a, a Converse Davis Dixon Associates 1976 geotechnical investigation at Berth 49 south determined that "land slippage" (lateral up to 14 feet and vertical up to 5 feet) occurred due to a landslide that moved on soft, eastward dipping Malaga Mudstone weak bedding planes. Such bedding plane conditions may exist at the proposed project site and a similar bedding plane failure is possible. As discussed under Impact GEO-5a, a geotechnical engineer would evaluate the potential for landslide areas where structures are proposed during the proposed project design phases, to reduce the potential for landslide occurrence during operation.

Impact Determination

The proposed Project would be designed and constructed in compliance with the recommendations of a geotechnical engineer, consistent with implementation of Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, and in conjunction with criteria established by LAHD, and would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury. Therefore, landslide potential at the proposed project site during operation would be less than significant.

Mitigation Measure

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact GEO-6b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from unstable soil conditions from excavation, grading, or fill.

As described under Impact GEO-6a, natural alluvial and marine deposits, as well as anthropogenic artificial fill consisting of dredged deposits or imported soils, would be encountered at the proposed project site. Groundwater (seawater) is present at depths approximately equivalent to mean sea level or roughly 10 feet. Saturated materials near and below this level would be relatively soft and unstable for engineering purposes, requiring implementation of geotechnical remediation to create a stable site configuration for the proposed Project.

A site-specific geotechnical evaluation would be performed during the design phase to provide recommendations for stability of foundations and slopes. Such recommendations would include specification of the material types to be used for fill, compaction specifications, slope inclination, removal of unsuitable material prior to placing fill, and slope armoring with rip-rap/rock to enhance overall stability and work area safety. The incorporation of these measures during design and construction would minimize the potential for exposure of damage to structures or risk of injury to people during operations at the project site.

Impact Determination

Groundwater (seawater) is present at depths approximately equivalent to mean sea level or roughly 10 feet deep. Saturated materials near and below this level would be relatively soft and unstable for engineering purposes, requiring implementation of geotechnical remediation to create a stable site configuration. Appropriate geotechnical engineering would substantially reduce the impacts from unstable and saturated soil conditions, and would allow for construction that would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury during operations. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact GEO-7b: Operation of the proposed Project would not destroy, permanently cover, or materially and adversely modify one or more distinct and prominent geologic or topographic features. Such features may include, but not be limited to, hilltops, ridges, hillslopes, canyons, ravines, rock outcrops, water bodies, streambeds, and wetlands.

As discussed under Impact GEO-7a, the proposed project area is relatively flat and previously disturbed and/or paved. Consequently, there are no prominent geologic or topographic features. Therefore, operation of the proposed Project would not result in any distinct and prominent geologic or topographic features being destroyed or permanently covered.

Impact Determination

Because there are no prominent geologic or topographic features at the proposed project site, no features would be destroyed, covered, moved, or modified. There would be no impacts.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

3.5.4.3.3 Summary of Impact Determinations

Table 3.5-5 summarizes the impact determinations of the proposed Project related to geology and soils. 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 potential impact, the table describes the impact, notes the impact determination, describes any applicable mitigation measures, and notes the residual impacts (i.e., the impact remaining after mitigation). All impact determinations, whether significant or not, are included in this table.

Table 3.5-5. Summary Matrix of Potential Impacts and Mitigation Measures for Geology and Soils Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.5 GEOLOGY AND SOILS			
Construction			
GEO-1a: Construction of the proposed Project would not result	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure.			
GEO-2a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk involving tsunamis or seiches.	Less than significant	No mitigation is required.	Less than significant
GEO-3a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from land subsidence/ settlement.	Less than significant	No mitigation is required.	Less than significant
GEO-4a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from expansive soils.	Less than significant	No mitigation is required.	Less than significant
GEO-5a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from landslides or mudslides.	Less than significant	No mitigation is required.	Less than significant
GEO-6a: Construction of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from unstable soil conditions from excavation, grading, or fill**.**	Less than significant	No mitigation is required.	Less than significant
GEO-7a: Construction of the proposed Project would not destroy, permanently cover, or materially and adversely modify one or more distinct and prominent geologic or topographic features. Such features may include, but not be limited to, hilltops, ridges,	No impact	No mitigation is required.	No impact

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
hillslopes, canyons, ravines, rock outcrops, water bodies, streambeds, and wetlands.			
Operations			
GEO-1b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure.	Less than significant	No mitigation is required.	Less than significant
GEO-2b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk involving tsunamis or seiches.	Less than significant	No mitigation is required.	Less than significant
GEO-3b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from land subsidence/settlement.	Less than significant	No mitigation is required.	Less than significant
GEO-4b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from expansive soils.	Less than significant	No mitigation is required.	Less than significant
GEO-5b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from landslides or mudslides.	Less than significant	No mitigation is required.	Less than significant
GEO-6b: Operation of the proposed Project would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from unstable soil conditions from excavation,	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
grading, or fill.			
GEO-7b: Operation of the proposed Project would not destroy, permanently cover, or materially and adversely modify one or more distinct and prominent geologic or topographic features. Such features may include, but not be limited to, hilltops, ridges, hillslopes, canyons, ravines, rock outcrops, water bodies, streambeds, and wetlands.	No impact	No mitigation is required.	No impact

3.5.4.4 Mitigation Monitoring

No mitigation is required.

3.5.4.5 Significant Unavoidable Impacts

All impacts would be less than significant.

3.6

GROUNDWATER AND SOILS

3.6

GROUNDWATER AND SOILS

3.6.1 Introduction

This section addresses groundwater and soils, including existing groundwater and soils conditions, applicable regulations, and the potential impacts associated with existing groundwater and soils on sensitive receptors associated with the proposed Project. Additionally, this section discusses the potential impacts on groundwater and soils that would be introduced by the proposed Project that could have an adverse effect on public health and safety. These potential impacts include the exposure of soils containing toxic substances and changes in the rate or direction of movement of existing contaminants associated with construction and operation of the proposed project facilities.

The impact analysis determined that construction and operation of the proposed Project would result in less-than-significant impacts related to the exposure of people to toxic substances and contaminants, including an increase in groundwater contamination. The analysis also concluded that there would be no impacts related to a reduction in potable groundwater recharge capacity or a violation of regulatory water quality standards at an existing production well. No mitigation is required.

3.6.2 Environmental Setting

The hazardous materials and site contamination information described in this section is based on the Preliminary Hazardous Materials Assessment, San Pedro Waterfront Project (HMA) prepared by Ninyo & Moore in 2008 for the San Pedro Waterfront Project EIS/EIR, which is herein incorporated by reference. Additionally, a records search was performed for Berth 260 to identify if there is any contamination on site that may be affected by the proposed demolition and grading activities.

3.6.2.1 Groundwater

Four major aquifers—the Silverado, Lynwood, Gage, and Gaspur—are present within the Los Angeles Basin and are used for industrial and municipal water supply outside the harbor area. The two major water-bearing zones that occur within the vicinity of the proposed project site are the Gaspur and Gage aquifers (LAHD and

USACE 2007). Both of these aquifers are composed of fine- to medium-grained sand and silty sand. According to the conceptual phasing plan for remediation of the Westway site prepared in 2010 (Tetra Tech 2010), the proposed project area is predominantly underlain by a shallow unconfined aquifer, which is present at a depth ranging from 3 to 12 feet bgs. Shallow groundwater beneath the site is saline, is not currently considered potable water, and would not likely be considered a potable or beneficial water source in the future. Drinking water is provided to the area by the LADWP.

3.6.2.2 Soils

Prior to development of the Los Angeles Harbor, extensive estuarine deposits were present at the mouth of Bixby Slough, Dominguez Channel, and the Los Angeles River. The organic tidal muds were dredged extensively and mostly covered with artificial fill. Underlying the surface soils are subsurface soils consisting of dredged fill material, underlain by naturally deposited alluvial soils that overlay the Malaga mudstone of the Miocene Monterey Formation.

Dredging and filling operations have modified these native sediments to create extensive land masses of dredged fill material that support numerous harbor facilities. The proposed project site is one such land mass that has been created with fill material. Both the fill and the native sediments overlie older late-Pleistocene age deposits. These older deposits are exposed in the bluffs that border the westerly side of the proposed project area and include the San Pedro Sand, comprised primarily of sand and pebbly gravel, and the San Timms Point Silt, consisting largely of siltstone.

3.6.2.3 Overview of Contamination Sources

Historical uses at the proposed project site date back to 1914 when Municipal Pier No. 1 was constructed. Transit sheds were constructed in 1915 and the Pan American Petroleum Company Marine Loading Station Facility at Berth 70 and the Westway Terminal Building were constructed in 1923 in response to the increase in worldwide commerce and the 1920s oil boom. As such, uses at the proposed project site and in the vicinity were predominantly heavy industrial uses, such as gas and oil facilities, garage and repair shops, engine repair, truck and diesel warehouses, ship yards, foundries, steel shops using marine solvents, machine shop/welding facilities, above-ground storage tanks (ASTs), and railroad rights-of-way. Chemicals that are used or would have been used include, but are not limited to, chemical bulk storage, warehousing, repair shops, engine service, and railroad right-of-way.

A 2003 investigation was conducted by LAHD to characterize the subsurface contamination; this was followed by a 2008 investigation to perform additional subsurface sampling. Between 1989 and 2007, there have been six reported releases in Berths 70–71 involving the release of methanol, Neutral 100 Lube Oil, 1,1,1-trichloroethane (1,1,1-TCA), tetrahydrofuran, tetrachloroethene, and caustic sodium hydroxide.

The subsurface soil, soil vapor, groundwater, and sediment have been impacted by the historical operations of GATX and Westway. There are several plumes of petroleum hydrocarbons and VOCs in the subsurface, which have comingled over time. Primary chemicals of concern on site include: tetrachloroethene, trichloroethene, cis-12, 20 dichloroethene, trans-1,2,-dichloroethene, vinyl chloride, 1,4-dioxane, 1,1- dichloroethene, gasoline-range petroleum hydrocarbons, and diesel range petroleum hydrocarbons. In addition, there are several areas with free phase product petroleum, light non-aqueous phase product, free-phase chlorinated solvents, dense-non-aqueous phase product, free-phase chlorinated solvents, and dense-non-aqueous phase product. The sediment has been impacted by chlorinated solvents.

The Westway site and surrounding areas near Berths 70–71 historically included varied industrial usage, such as chemical bulk storage, warehousing, repair shops, engine service, and railroad right-of-way. The demolition of the structures and the remediation of the site was analyzed in the 2009 SPW EIR/EIS. More recently, a conceptual phasing plan for remediation of the Westway site was prepared in 2010 (Tetra Tech 2010). Future development of the Westway site could begin after remediation activities are completed. Exact engineering control system(s) would be determined based on post-remediation sampling and would be dependent on future building placement on the site. Vapor barrier and/or passive or active vapor control could be required by the SCAQMD due to the presence of chlorinated solvents. Also, some areas would require additional monitoring (e.g., sampling); however, development would be allowed during monitoring periods. Lastly, indoor air sampling is recommended, including sub slab sampling to determine if any engineering controls should be implemented prior to long-term usage.

The HMA (Ninyo & Moore 2008) evaluated the likelihood that hazardous materials may be present in soil or groundwater beneath the proposed project site as a result of existing and former onsite construction and operation activities. The assessment methodology included review of historical aerial photographs, historical topographic maps, regulatory database searches, review of previous hazards material assessments prepared for the site and nearby surroundings, interviews with onsite operators, and a site reconnaissance. No active or abandoned oil or gas activities were identified on or adjacent to the proposed project site. The following sections summarize the review of historical sources including general photographs, Sanborn Fire Insurance maps, historical city directories, and topographic maps.

3.6.2.3.1 Contaminated Sites Database Review

A total of five known contaminated sites from the FirstSearch™ database reports within the study area have either a low, moderate, or high potential for soil and groundwater contamination. No sites were identified within an oil field and no contaminated sites were identified within Berth 260 or Berths 56–60:

1. **The Westway Terminal (Berths 70–71).** Berths 70–71 are listed on the Emergency Response Notification System (ERNS) database with several listings for unauthorized releases. A release was reported in 2005, when an AST was overfilled, releasing 638 gallons of tetrahydrofuron into a secondary containment area. A release of 100 gallons of perchloroethylene was reported in 2004, when a

rail car was being unloaded into a storage tank and the storage tank overflowed. A release of 50 gallons of tetrachoroethylene was reported in 1998 due to a valve leak on a storage tank.

2. **Hyctane Corporation (2186 Signal Place).** The Hyctane Corporation is listed on the ERNS database and had two listings for a single release discovered in 1994, when a storage tank was overfilled. The facility experienced an unauthorized release of 3,000 gallons of "oils, fuel, no. 2-D" to the soil. This site is adjacent to the proposed project site.

3. **The Pennzoil Company (2220 Signal Street).** The Pennzoil Company is listed on the ERNS database for an unauthorized release in January 1993 of 15,000 gallons of "neutral based oil – non hazardous," to the soil as a result of a "valve cracked on tank." This site is adjacent to the proposed project site.

4. **The Former GATX Terminal (Berths 70–71).** The GATX Terminal is listed on the ERNS database as having a release affecting soil and groundwater in 1995, and free product was found.

5. **Foss Maritime (Berths 70–71).** Foss Maritime was listed as having a release in 1998 that was contained on a barge.

3.6.2.3.2 Historical Information Review Results

Sanborn Maps were compiled by the Sanborn Fire Insurance Company from the late 1800s to the late 1960s for use by all insurance companies in setting fire insurance rates based on building construction types. Sanborn maps include a wealth of detail regarding site development features at a specific moment in time. They are particularly useful because in many cases they predate aerial photographs and environmental records and often provide the only source of information regarding site development and use. The results of the Sanborn Fire Insurance Map review are summarized below.

- **1921–1950.** The proposed project site and immediate surrounding areas appeared developed with a hospital, warehouses, U.S. Navy barracks and offices, and lumber companies. Groundwater contamination concerns included the following activities: engine maintenance and repair shops, carpenter shops, blacksmith, and printing shops; fuels, chemicals, and metals. Other concerns include a 50-foot, 30-barrel oil tank: fuels, steel gas and oil tanks; machine shops; open transformers; auto repair; sheet metal shop; storage tanks; and incinerator: fuels, lubricants, and metals.
- **1969.** The proposed project site and immediate surrounding areas appeared developed with loading docks, freight and cargo sheds, general warehouses, container storage yard, and maintenance shops. Groundwater contamination concerns included the San Pedro Boat Works (e.g., lead melting, battery shop, machine shop, paint stock room, and storage). Berths 70–71 show the current tank farm with the Pennzoil Company, Marine Tank Farm, Hyctane Corporation, and Chemical Bulk Plant. The tank farm includes steel chemical storage tanks, machine shops, carpenter shops, drum storage, naval fuel depot, transformers, fuels, lubricants, metals, PCBs, and chemicals.

3.6.2.3.3 Historic Aerial Photographs Review Results

Aerial photographs have been collected for the continental United States since the 1920s, with variable coverage and frequency (generally based on an area's importance to national defense). Aerial photographs offer an opportunity for direct observation of the proposed project conditions across a period of time. These observations may include the locations of tank pits, drums, pits, ponds, lagoons, stained/stressed vegetation, or other development features that can indicate potential contaminant sources.

Aerial photographs were reviewed for the following years: 1937, 1952, 1963, 1972, 1985, 1997, and 2004 with subsequent site visits in 2007 and 2011. The photographs varied in scale and clarity, and were taken from various altitudes. The review served to verify information gained from other sources, and in some cases, served as the primary source of information. Data gathered from aerial photography are summarized below and are limited primarily to parcels of potential concern as revealed by regulatory data or site reconnaissance.

- **1937.** Three structures appear in the GATX Annex Terminal. A tank farm appears along Signal Street. Warehouses also appear along Signal Street (currently Westway Terminal).
- **1952.** The GATX Annex Terminal appears similar to that observed in the 1937 photograph. The tanks seen in the 1937 photograph (within the current Westway Terminal) are no longer visible and have been replaced with rectangular storage or warehouse structures.
- **1963.** The GATX Annex Terminal appears similar to that observed in the 1952 photograph. The structure along Signal Street (in the current Westway Terminal) appears similar to the 1952 photograph.
- **1972.** The GATX Annex Terminal appears similar to that observed in the 1963 photograph. The structures along Signal Street (in the current Westway Terminal) appear similar to those observed in the 1963 photograph. Additional tanks appear. Because of the scale and quality of the photographs, it is hard to detect specific features.
- **1985.** The GATX Annex Terminal appears similar to that observed in the 1972 photograph. The structures along Signal Street (in the current Westway Terminal) appear similar to those observed in the 1972 photograph.
- **1997.** The GATX Annex Terminal to the east of Miner Street is now vacant. The tank farm and warehouses along Signal Street (at the Westway Terminal) appear similar to those observed during the site reconnaissance.
- **2004.** The site appears similar to that observed at the time of the 2007 site reconnaissance.

3.6.2.3.4 Historic Topographic Maps

Historical topographic maps were reviewed for 1896, 1925, 1951, 1964, 1972, and 1981 (Ninyo & Moore 2008). United States Geological Survey (USGS) 7.5-minute series maps for the San Pedro, Wilmington, and Long Beach vicinity included the proposed project area. The site is generally flat and has an approximate elevation ranging from 0 to 10 feet AMSL. Structures were noted in 1951 consistent with structures noted on the Sanborn maps. From 1964 through 1981, numerous tanks were noted on Berths 70–71, consistent with those shown on the Sanborn maps and with what was observed during the site reconnaissance.

3.6.2.3.5 Site Interview Results

Ninyo & Moore interviewed LAHD staff and reviewed previous reports regarding the status of properties of concern. Ninyo & Moore interviewed Chris Foley and Ken Ragland from the LAHD Environmental Management Division. According to Mr. Foley, the Westway Terminal is underlain by a plume resulting from the release of approximately 200,000 gallons of diesel. Both Mr. Foley and Mr. Ragland indicated that the nearby former GATX Annex Terminal is undergoing ongoing remediation and groundwater monitoring that is being overseen by the RWQCB.

3.6.2.3.6 Site Reconnaissance Results

A site reconnaissance was conducted to provide specific information about the proposed project area that was not obtainable through environmental records or aerial photograph review. The inspection included a reconnaissance of the proposed project area from public rights-of-way. The site reconnaissance involved observation of several indicators of potential groundwater and soils pollution including, but not limited to, chemical bulk storage, warehousing, repair shops, engine service, and railroad right-of-way. Table 3.6-1 provides a summary of the site reconnaissance.

Table 3.6-1. Summary of Site Reconnaissance

Address/ General Location	*Business Name*	*Site Use*	*Chemical Storage Areas*	*Dumped, Burned Material*	*Hydraulic Equipment (Lifts)*	*Bermed, Recessed, or Diked Areas*	*Chemical/Pesticide Mixing Areas*	*Sumps, Pits, Ponds, Lagoons, Clarifiers*	*Discharges/Disposal Areas*	*Groundwater Monitoring Wells or Other Wells*	*Remediation Equipment/Evidence or Remediation*	*Discolored or Polluted Water*	*Storage Tanks (Underground or Aboveground)*	*Drums*	*Stressed Vegetation*	*Discolored/Stained Soils*	*Degraded/Heavy Stained Pavement*
Northeast of the intersection of Signal Place and East 22nd Street (adjacent to the proposed project site)	Mike's Main Channel Chevron Lubricants	Refueling	Y[a]	N	N	N	N	N	N	U	U	N	Y[1]	U	N	N	Y
Southeast of the intersection of Signal Place and East 22nd Street (adjacent to the proposed project site)	Mike's Main Channel fueling station	Storage	Y	N	U	N	N	U	N	U	U	N	Y	Y[a]	N	N	N
Berths 70–71	Westway Terminal Company Inc.	Storage	Y	N	U	N	N	U	N	U	U	N	Y	Y[a]	N	N	N

Notes:
Y—Yes
N—No
U—Unknown
Y[a]—Not directly observed, but assumed to be present.
The existence of, for example, tanks or chemical storage areas alone is generally not cause to classify a property as moderate or high with regard to risk. Evidence of a release, such as significant staining, groundwater monitoring wells or remediation equipment, would be cause to classify a property as Moderate or High.

3.6.2.3.7 Specific Properties of Concern

Based on the results of historical research, review of the environmental databases, regulatory agency inquiries, and site reconnaissance, properties were evaluated and classified as high, moderate, or low with regard to the potential for detrimental impacts during construction and operation activities for the proposed Project. Specific properties of high or moderate risk are presented in Table 3.6-2. The likelihood of specific areas of the proposed project area being contaminated by hazardous materials was ranked as high, moderate, or low based on the following descriptions:

- **High**—Property with known or probable contamination within the proposed project area. An example of a property in this category would be leaking underground storage tank (UST) facilities where remediation had not been started or was not yet finished.
- **Moderate**—Property with potential or suspected contamination within the proposed project area. Examples of properties in this category would be leaking UST facilities in the final stages of remediation or in post-remediation monitoring. A second example would be a property with known use and storage of hazardous materials that had received violation notices from an inspecting agency or where visual evidence of inadequate chemical and storage practices (such as significant staining) was observed but where no environmental assessments had occurred. Also included in this category are facilities where USTs are likely present and/or facilities that have used significant quantities of hazardous materials but appear to be abandoned by their former operators.
- **Low**—Property that uses or stores hazardous materials but with no significant violations, known releases, or evidence of inadequate chemical handling practices. Example properties would be UST or dry cleaning facilities with no documented releases or where remediation of previous releases had been completed.

Properties categorized as high or moderate risk in the table were evaluated based on the information obtained and the likelihood that hazardous materials that might impact soil and/or groundwater are likely to be disturbed during construction.

Table 3.6-2. Identified Specific Properties of Concern within or adjacent to the Proposed Project Site

Property Name/Address	*Site Operations – Reason for Risk Class[a]*	*Data Source[b]*	*Risk Class[c]*
Mike's Main Channel Chevron Lubricants (adjacent to proposed project site)	TPH, lubricants	R	M
Westway Terminal Berths 70–71/ Signal Street	Chemical storage: TPH, lubricants, VOCs	R, D, H, I	H
Westway Terminal: Mike's Main Channel fueling station	Chemical storage: TPH	R	M
Westway Terminal: Hyctane Corporation, 2186 Signal	Release: oil, fuel, no2-D	R, D, H	H

Place			
Westway Terminal: Pennzoil Company, 2220 Signal Street	Release: oil	R, D, H	H
Westway Terminal: GATX Terminal, Berths 70–71	Release: fuels	R, D, H, I	H
Westway Terminal Foss Maritime, Berths 70–71	Release: unspecified	R, D, H, I	H
Former GATX Annex Terminal Facility (adjacent to proposed project site)	Chemical storage: TPH, metals, VOCs	D, H, I	H
Warehouse No. 12, 260 East 22nd Street	Known contamination: petroleum, SVOCs, TCE, VOCs	D	H
San Pedro Boat Works	TPH, metals, PAHs, VOCs (on-going remediation)	R, D, H, I	M

[a] Description of site operations/primary reasons for risk class.

[b] Indicates primary information sources for listing: R=Reconnaissance, D=Database, H=Historical Documentation, I= Interviews with LAHD staff

[c] Risk Class: H = high, M = moderate, L = low

PAH = polycyclic aromatic hydrocarbons; SVOCs = semi-volatile organic compounds; TCE = trichloroethylene; TPH = total petroleum hydrocarbon

3.6.3 Applicable Regulations

Applicable federal, state, and local laws contain lists of hazardous materials or hazardous substances that may require special handling in accordance with the regulations if encountered in soil or groundwater during construction of the proposed Project.

3.6.3.1 Federal Regulations

3.6.3.1.1 Resource Conservation and Recovery Act of 1976 (42 USC Sections 6901–6987)

The goal of the Resource Conservation and Recovery Act of 1976 (RCRA) is the protection of human health and the environment, the reduction of waste, the conservation of energy and natural resources, and the elimination of the generation of hazardous waste as expeditiously as possible. The Hazardous and Solid Waste Amendments of 1984 significantly expanded the scope of RCRA by adding new corrective action requirements, land disposal restrictions, and technical requirements. The corresponding regulations in 40 CFR 260–299 provide the general framework for managing hazardous waste, including requirements for entities that generate, store, transport, treat, and dispose of hazardous waste.

3.6.3.1.2 Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)

Proper site characterization and site remediation of hazardous materials is regulated by the federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the state Hazardous Substances Account Act (Health and Safety Code Section 25300, et seq.). Additional requirements for hazardous materials are specified under Health and Safety Code Section 25501, hazardous substances under Title 40 of the CFR, Part 116, and priority toxic pollutants under Part 122.

CERCLA, commonly known as Superfund, authorizes EPA to respond to releases, or threatened releases, of hazardous substances that may endanger public health, welfare, or the environment. CERCLA also enables EPA to force parties responsible for environmental contamination to clean it up or to reimburse the Superfund for response or remediation costs incurred by EPA. The Superfund Amendments and Reauthorization Act (SARA) of 1986 revised various sections of CERCLA, extended the taxing authority for the Superfund, and created a free-standing law, SARA Title III, also known as the Emergency Planning and Community Right-to-Know Act (EPCRA).

3.6.3.2 State Regulations

3.6.3.2.1 California Code of Regulations, Title 22, Chapter 11, Section 66260 et seq.

CCR Title 22, Chapter 11, Article 2, Section 66261 defines a hazardous material as a substance or combination of substances that, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either: (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed of or otherwise managed. According to CCR Title 22 (Chapter 11, Article 3), substances having a characteristic of toxicity, ignitability, corrosivity, or reactivity are considered hazardous.

Lastly, human health and safety impacts are often reduced by implementing ideas developed by the OEHHA. OEHHA is not a regulatory agency; however, they develop and provide state and local government agencies with toxicological and medical information relevant to decisions involving public health. State agency users of such information include all Boards and departments within the California Environmental Protection Agency (CalEPA), as well as the California Department of Public Health, the Department of Food and Agriculture, the Office of Emergency Services, the CDFG, and the Department of Justice. OEHHA also works with federal agencies, the scientific community, industry, and the general public on issues of environmental as well as public health.

3.6.3.2.2 Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5)

CalEPA DTSC is authorized by EPA to enforce and implement federal hazardous materials laws and regulations. Most state hazardous materials regulations are contained in Title 22 of the CCR. DTSC provides cleanup and action levels for subsurface contamination; these levels are equal to, or more restrictive than, federal levels. DTSC acts as the lead agency for some soil and groundwater cleanup projects, and has developed land disposal restrictions and treatment standards for hazardous waste disposal in California.

DTSC is responsible for the enforcement of the Hazardous Waste Control Law, which implements the federal RCRA cradle-to-grave waste management system in California. California hazardous waste regulations can be found in Title 22, Division 4.5, "Environmental Health Standards for the Management of Hazardous Wastes."

3.6.3.2.3 Hazardous Material Release Response Plans and Inventory Law (California Health and Safety Code, Chapter 6.6)

This state right-to-know law requires businesses to develop a Hazardous Material Management Plan or a business plan for hazardous materials emergencies if they handle more than 500 pounds, 55 gallons, or 200 cubic feet of hazardous materials. In addition, the business plan would include an inventory of all hazardous materials stored or handled at the facility above these thresholds. This law is designed to reduce the occurrence and severity of hazardous materials releases. The Hazardous Materials Management Plan or business plan must be submitted to the Certified Unified Program Agency (CUPA), which, in this case, is LACFD. In 1997, the Health Hazardous Materials Division (HHMD) within the LACFD became a CUPA to administer the following programs within Los Angeles County: the Hazardous Waste Generator Program, the Hazardous Materials Release Response Plans and Inventory Program, the California Accidental Release Prevention Program (Cal-ARP), the Aboveground Storage Tank Program, and the Underground Storage Tank Program. The state has integrated the federal EPCRA reporting requirements into this law; once a facility is in compliance with the local administering agency requirements, submittals to other agencies are not required.

3.6.3.2.4 Porter-Cologne Water Quality Control Act

Sites that have contaminated groundwater fall within the jurisdiction of the Los Angeles RWQCB and are subject to the requirements of the Porter-Cologne Water Quality Control Act. Contaminated groundwater that is proposed to be discharged to surface waters or to a publicly owned treatment works would be subject to the applicable provisions of the CWA, including permitting and possibly pretreatment requirements. An NPDES permit is required to discharge pumped groundwater to surface waters, including local storm drains, in accordance with California Water

Code Section 13260. Additional restrictions may be imposed upon discharges to water bodies that are listed as impaired under Section 303(d) of the CWA, including San Pedro Bay.

3.6.3.3 Local Regulations

In addition to the State and Federal definitions, hazardous materials are frequently defined under local hazardous materials ordinances, such as the Uniform Fire Code. Depending on the type and degree of contamination that is present in soil and groundwater, any of several governmental agencies may have jurisdiction over a proposed project site. Generally, the agency with the most direct statutory authority over the affected media is designated as the lead agency for purposes of overseeing any necessary investigation or remediation. Typically, sites that are nominally contaminated with hazardous materials remain within the jurisdiction of local hazardous materials agencies, such as LACFD, which is the local CUPA as mentioned above.

3.6.4 Impact Analysis

3.6.4.1 Methodology

The existing conditions, potential impacts, and mitigation measures related to contaminated sites described in this Draft EIR are based on the HMA (Ninyo & Moore 2008) and updated records searches performed in June 2011 for the entire proposed project site including Berth 260.

3.6.4.1.1 Analytical Framework

Groundwater and onshore soils impacts have been evaluated with respect to several general parameters, including groundwater quality, groundwater quantity, and soil contaminants. The impact of the proposed Project on each of these parameters has been evaluated with respect to the significance criteria listed below. The assessment of impacts is also based on regulatory controls and on the assumptions that the proposed Project would include the following:

- An individual NPDES permit for stormwater discharges or coverage under the General Construction Activity Storm Water Permit would be obtained for the proposed Project.
- All contaminated soil and groundwater occurring as a result of oil spills related to the proposed Project would be remediated, in accordance with LAHD lease conditions and all federal, state, and local regulations.

Potential impacts on surface water, off-shore sediments, and marine water quality are addressed in Section 3.13, “Water Quality, Sediments, and Oceanography.”

3.6.4.2 Thresholds of Significance

Significance criteria used in this assessment are based on the *L.A. CEQA Threshold Guide* (City 2006), LAHD criteria, and the scientific judgment of the report preparers. As noted in the IS/NOP for the proposed Project, the proposed project site is not within 0.25 mile of an existing or planned school, and, as such, potential impacts on schools are not included in the following groundwater and soils analysis. The effects on groundwater and soils resources are considered to be significant if the proposed Project would result in any of the following:

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

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

GW-3: Demonstrable and sustained reduction in potable groundwater recharge capacity or change in potable water levels sufficient to:

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

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

Note that GW-1 above considers the following questions contained in Appendix G of the CEQA Guidelines as they relate to groundwater and soil contamination. These questions include whether the proposed Project would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; or
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

3.6.4.3 Impacts and Mitigation

3.6.4.3.1 Construction Impacts

Impact GW-1a: Construction of the proposed Project would not encounter toxic substances or other contaminants associated with historical uses of the Port, resulting in short-term exposure (duration of construction) to construction/operations personnel and/or long-term exposure to future site occupants.

As noted in Table 3.6-2, soil and groundwater at Berths 70–71 have been impacted by hazardous substances and petroleum products from spills and accidents associated with industrial land uses and, consequently, the potential for toxic substances encounters exists at the proposed project site. Contaminated areas are in various stages of contaminant site characterization and remediation, as described in Section 3.6.2 above. As noted in the Environmental Setting, the demolition of the structures on the Westway Terminal site and the follow up remediation of the groundwater and soils at the site was analyzed under the 2009 SPW EIR/EIS. Moreover, a conceptual phasing plan for the Westway site was prepared in 2010 to address soil and groundwater remediation (Tetra Tech 2010). Future development of the Westway site could safely begin after remediation activities are completed. No other areas of the site were identified with recognized areas of environmental concern that would expose people to contamination.

The proposed Project would occur within two phases, with Phase I occurring between 2012 and 2016 and Phase II between 2013 and 2024. Construction would not involve the routine transport, use, or disposal of hazardous materials. The small amounts of petroleum, fuels, lubricants, paints and other common hazardous materials used in construction would not involve quantities that would result in harm to construction workers or other visitors to the area. The use and handling of these materials is regulated by the local City of Los Angeles Fire Department, DTSC, and RWQCB, and would not require any special considerations.

The proposed Project could result in the short-term or long-term exposure of onsite personnel, visitors, or recreational users of the Phase I facilities (e.g., the Learning Center or SCMI Research Facilities at Berths 56–57, respectively) to soils containing toxic substances and to petroleum hydrocarbons that could be disturbed during Phase II construction (e.g., removal of the existing rail line within Signal Street, and excavation for the proposed NOAA building, wave tank building, and opportunity site at Berths 70-71) if proper containment measures are not followed.[1] Compliance with applicable laws would ensure containment measures would be implemented as appropriate.

[1] Demolition activities within Berth 57 and 260 during Phase I could result in the exposure of toxic substances (e.g., asbestos and lead-based paint) to surrounding areas. This potential impact is addressed in Section 3.7, "Hazards."

Impact Determination

Any contaminated soil or groundwater encountered during construction of the proposed Project would be handled, transported, remediated, and/or disposed of in accordance with all applicable federal, state, and local laws and regulations and in accordance with the regulatory lead agency (e.g., DTSC, Los Angeles RWQCB) and LAHD lease measures pertaining to the development of a contamination contingency plan. Compliance with these measures would ensure that should contaminated materials be encountered on site, personnel on site would not have short-term and/or long-term exposure to toxic substances or other contaminants associated with historic uses at the proposed project site, and impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact GW-2a: Construction of the proposed Project would not result in changes in the rate or direction of movement of existing contaminants, expansion of the area affected by contaminants, or increased level of groundwater contamination, which would increase risk of harm to humans.

As discussed for Impact GW-1a, soil and groundwater in portions of the proposed project site have been affected by hazardous substances and petroleum products as a result of spills associated with historic industrial land uses; however, future development of the Westway site could safely begin after remediation activities are completed. Excavation and grading in contaminated soils could result in inadvertent spreading of such contamination to areas that were previously unaffected by spills of petroleum products or hazardous substances, and demolition activities within Berths 57 and 260 during Phase I could result in the exposure of toxic substances (e.g., asbestos and lead-based paint) to surrounding areas. However, these impacts would be avoided with compliance with existing state laws concerning contaminants and groundwater contamination accordance with the regulatory lead agency (e.g., DTSC, Los Angeles RWQCB) and LAHD lease measures pertaining to the development of a contamination contingency plan.

Impact Determination

Compliance with existing rules and regulations would avoid the movement of existing contaminants, expansion of the area affected by contaminants, or increased level of groundwater contamination, which would increase risk of harm to humans. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact GW-3a: Construction of the proposed Project would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity nor would construction result in a change in potable water levels.

Drinking water would continue to be provided to the proposed project area by LADWP. Although shallow groundwater may be locally extracted during construction dewatering, this perched groundwater is highly saline and non-potable. Localized groundwater withdrawal would have no impact on potential underlying potable water supplies. Water extracted during construction dewatering would be tested and disposed of in accordance with local and state water quality regulations, as described in Section 3.13, "Water Quality, Sediments, and Oceanography."

Impact Determination

Because drinking water is provided to the proposed project area by LADWP, no impacts would occur under CEQA with respect to changes in potable water levels beneath the site.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact GW-4a: Construction of the proposed Project would not result in a violation of regulatory water quality standards at an existing production well, as defined in CCR, Title 22, Division 4, Chapter 15 and in the Safe Drinking Water Act.

Impact Determination

Drinking water is provided to the proposed project area by LADWP. No existing production wells are located in the vicinity of the proposed project site as the underlying groundwater is not suitable for drinking.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

3.6.4.3.2 Operational Impacts

Impact GW-1b: Operation of the proposed Project would not result in exposure of soils containing toxic substances and petroleum hydrocarbons associated with prior operations, which would be deleterious to humans based on regulatory standards established by the lead agency for the site.

Soil and groundwater in limited portions of the proposed project site have been affected by hazardous substances and petroleum products as a result of spills during historic industrial land uses. These areas are in various stages of contaminant site characterization and remediation, as described above under the discussion of Impact GW-1a. Compliance with all applicable federal, state, and local laws and regulations and in accordance with the regulatory lead agency (e.g., DTSC, Los Angeles RWQCB) and LAHD lease measures pertaining to the development of a contamination contingency plan would reduce onsite contamination to levels acceptable by the applicable lead regulatory agency prior to proposed project operations.

Impact Determination

No excavating of potentially contaminated soils would occur during proposed Project operation. Furthermore, because soils would have been remediated prior to construction activities in accordance with the regulatory lead agency (e.g., DTSC, Los Angeles RWQCB) and LAHD lease measures pertaining to the development of a contamination contingency plan, no contaminants would be present on-site at the point of proposed Project operations. Therefore, impacts during operation would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

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

As discussed for Impact GW-1b, soil and groundwater in limited portions of the proposed project site have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses. These areas are in various stages of contaminant site characterization and remediation, as described above. However, once the proposed Project is operational, soils under portions of the proposed project site under development would have been remediated or determined not to contain contaminants that would pose a risk to construction workers and future site occupants.

Impact Determination

No excavating of potentially contaminated soils would occur during proposed Project operation. Furthermore, because soils would have been remediated prior to construction activities in accordance with the regulatory lead agency (e.g., DTSC, Los Angeles RWQCB) and LAHD lease measures pertaining to the development of a contamination contingency plan, no contaminants would be present on-site at the point of proposed Project operations. Therefore, impacts during operation would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact GW-3b: Operation of the proposed Project would not result in a change to potable water levels.

Drinking water is provided to the proposed project area by LADWP, which does not obtain water from any wells within the proposed project area.

Impact Determination

Because drinking water is provided to the proposed project area by LADWP, and not from wells within the proposed project area, no impacts would occur with respect to changes in potable water levels beneath the proposed project site.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact GW-4b: Operation of the proposed Project would not result in a violation of regulatory water quality standards at an existing production well, as defined in CCR, Title 22, Division 4, Chapter 15 and in the Safe Drinking Water Act.

As discussed under Impact GW-3b, drinking water is provided to the proposed project area by LADWP. No existing production wells are located in the vicinity of the proposed project site.

Impact Determination

Because no existing production wells are located in the vicinity of the proposed project site, no impacts would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

3.6.4.3.3 Summary of Impact Determinations

Table 3.6-3 summarizes the impact determinations of the proposed Project related to groundwater and soils, as described in the detailed discussion in Sections 3.6.4.3.1 and 3.6.4.3.2. Identified impacts may be based on federal, state, or City and LAHD significance criteria.

For each type of potential impact, the table describes the impact, notes the 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 3.6-3. Summary Matrix of Potential Impacts and Mitigation Measures for Groundwater and Soils Associated with the Proposed Project

Environmental Impacts	*Significance of Impact before Mitigation*	*Mitigation Measures*	*Impacts after Mitigation*
3.6 Groundwater and Soils			
Construction			
GW-1a. Construction of the proposed Project would not encounter toxic substances or other contaminants associated with historical uses of	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Significance of Impact before Mitigation*	*Mitigation Measures*	*Impacts after Mitigation*
the Port, resulting in short-term exposure (duration of construction) to construction/operations personnel and/or long-term exposure to future site occupants.			
GW-2a. Construction of the proposed Project would not result in changes in the rate or direction of movement of existing contaminants, expansion of the area affected by contaminants, or increased level of groundwater contamination, which would increase risk of harm to humans.	Less than significant	No mitigation is required.	Less than significant
GW-3a: Construction of the proposed Project would not result in a demonstrable and sustained reduction in potable groundwater recharge capacity nor would construction result in a change in potable water levels.	No impact	No mitigation is required.	No impact
GW-4a: Construction of the proposed Project would not result in a violation of regulatory water quality standards at an existing production well, as defined in CCR, Title 22, Division 4, Chapter 15 and in the Safe Drinking Water Act.	No impact	No mitigation is required.	No impact
Operations			
GW-1b: Operation of the proposed Project would not result in exposure of soils containing toxic substances and petroleum hydrocarbons associated with prior operations, which would be deleterious to humans based on regulatory standards established by the lead agency for the site.	Less than significant	No mitigation is required.	Less than significant
GW-2b: Operation of the proposed Project would not result in expansion of the area affected by contaminants.	Less than significant	No mitigation is required.	Less than significant
GW-3b: Operation of the proposed Project would not result in a change to potable water levels.	No impact	No mitigation is required.	No impact
GW-4b: Operation of the proposed Project would not result in a violation of regulatory water quality standards at an existing production well, as defined in CCR, Title 22, Division 4, Chapter 15 and in the Safe Drinking Water Act.	No impact	No mitigation is required.	No impact

3.6.4.4 Mitigation Monitoring

No mitigation is required.

3.6.4.5 Significant Unavoidable Impacts

The proposed Project would not result in any significant unavoidable impacts regarding groundwater and soils. Compliance with applicable laws, regulations, and the LAHD leasing policy would ensure that contaminated sites would pose no significant risks to soil, groundwater, worker exposure, or public exposure.

3.7

HAZARDS AND HAZARDOUS MATERIALS

3.7

HAZARDS AND HAZARDOUS MATERIALS

3.7.1 Introduction

This section addresses hazards and hazardous materials, including existing hazardous conditions, applicable regulations, and the potential impacts on sensitive receptors associated with the proposed Project. Additionally, this section discusses the potential hazards and hazardous materials impacts that could be introduced by the proposed Project that could have an adverse effect on public health and safety. These potential impacts include fires, explosions, and releases of hazardous materials, as well as the environmental consequences of terrorism actions, associated with construction and operation of the proposed facilities. For impacts associated with known or suspected soil or groundwater contamination in the area of the proposed Project, please refer to Section 3.6, "Groundwater and Soils." For impacts associated with health risks from air contaminants please refer to Section 3.2, "Air Quality and Greenhouse Gases."

The impact analysis determined that construction and operation of the proposed Project would result in less-than-significant impacts as a result of non-compliance with federal, state, regional, and local security and safety regulations, as well as emergency response or evacuation plans. Also, the proposed Project would not result in public health and safety concerns as a result of the accidental release, spill, or explosion of hazardous materials due to a tsunami, an accidental spill, release, or explosion of hazardous material(s) due to a terrorist action or as a result of proposed project activities. Mitigation Measure MM RISK-1 would be required to reduce hazards-related changes that could introduce the general public to hazard(s) defined by the EPA and the Port RMP associated with offsite facilities to a level below significance.

3.7.2 Environmental Setting

3.7.2.1 Hazardous Materials

Hazardous materials are generally the raw materials for a product or process that may be classified as toxic, flammable, corrosive, or reactive. Hazardous materials that may be stored, handled, or transported within the study area are classified by the following:

- corrosive materials—solids, liquids, or gases that can damage living material or cause fire;
- explosive materials—any compound that is classified by the National Fire Protection Association (NFPA) as an A, B, or C explosive;
- oxidizing materials—any element or compound that yields oxygen or reacts when subjected to water, heat, or fire conditions;
- toxic materials—gases, liquids, or solids that may create a hazard to life or health by ingestion, inhalation, or absorption through the skin;
- unstable materials—those materials that react from heat, shock, friction, contamination, etc., and are capable of violent decomposition or autoreaction but are not designed primarily to be explosives;
- radioactive materials—those materials that undergo spontaneous emission of radiation from decaying atomic nuclei; and
- water-reactive materials—those materials that react violently or dangerously upon exposure to water or moisture.

3.7.2.2 Existing Onsite Operational Hazards

Within the proposed project site, the Westways Terminal comprises 14.3 acres located at Berths 70–71 on Signal Street. The site contains 134 liquid bulk storage tanks and appurtenant facilities. In 2009, the Westways facility was closed, and decommissioning of the storage tanks was approved by the Board of Harbor Commissioners pursuant to LAHD's RMP. When in operation, the terminal was served by rail, truck, and ship and handled oils, lubricant base, fuel additives, glycols, ketones, acetates, and phthalates, which are chemical compounds commonly used in manufacturing. Remediation planning and investigations are ongoing to determine the requirements for demolition and cleanup of the facility. See Section 3.6, "Groundwater and Soils," for a description of the remediation actions that were previously analyzed in the 2009 San Pedro Waterfront EIS/EIR.

3.7.2.3 Offsite Operational Hazards

Mike's Main Channel (Mike's) fueling station is located at Berth 72 just north of the Westways Terminal and south of the Municipal Fish Market, adjacent to the proposed project site. Mike's occupies less than 1 acre, including waterfront and wharf, and currently has five aboveground storage tanks, with capacities ranging from 500 to 200,000 gallons. The existing operations provide fuel to recreational boaters within Los Angeles Harbor. Mike's fueling station, which employs two people, handles clear diesel, lube oil, red dye diesel, and waste lube oil.

Since Mike's fueling station currently handles and stores hazardous materials, defined by LAHD as materials with flashpoints below 140 degrees Fahrenheit (°F), it has an existing hazardous footprint per the RMP. However, the RMP does not identify any currently existing vulnerable resources within the vicinity of the existing hazardous materials footprint for Mike's fueling station. As part of the San Pedro

Waterfront Project, the waterfront promenade was approved to be extended adjacent to Mike's with the condition that hazardous materials with flashpoints below 140°F be removed from the facility prior to operation of the waterfront promenade at this location (see Mitigation Measure MM RISK-1 in the San Pedro Waterfront EIR). LAHD provided a letter to Mike Albano (operator of Mike's) dated June 16, 2008, regarding the successor permit to revocable permit (RP) No. 98-14, which stated that products with a flashpoint (i.e., the temperature at which a particular organic compound gives off sufficient vapor to ignite in air) below 140°F will not be permitted within the project area (i.e., San Pedro Waterfront Project area). The successor permit to RP No. 98-14 to allow the operation for Mike's fueling station and continued lease of Mike's fueling station will only allow handling of products above said threshold.

3.7.2.4 Existing Public Emergency Services

Emergency response/fire protection for the Port is provided by LAFD; landside and waterside security is provided primarily by the Port Police, in addition to USCG. Two large fireboats and three small fireboats are strategically placed within Los Angeles Harbor. There are also fire stations equipped with fire trucks located within the Port and nearby in San Pedro. Public services are discussed in detail in Section 3.10, "Public Services and Recreation."

Additionally, the West Coast and Alaskan Tsunami Warning Center (WCATWC) operates the federal data collection and warning system for tsunami hazards in its area of responsibility (AOR), which includes the West, Alaskan, Atlantic, and Gulf coasts of the United States as well as the east and west coasts of Canada. WCATWC collects seismic data from various seismic networks throughout its AOR. This data is processed, automatically and interactively, to quickly determine the tsunami potential of an earthquake, and bulletins are issued based initially on this first analysis of seismic data. If a tsunami could have been generated, sea level data, tsunami models, and historical tsunami information are analyzed to estimate impact level (NOAA National Weather Service 2011).

WCATWC issues tsunami warnings within 10 minutes of an earthquake occurrence when a potentially tsunami-producing earthquake is greater than 7.0 on the Richter scale in the Pacific AOR. Warnings also may be issued when potentially tsunami-producing earthquakes (greater than 7.5) outside the AOR occur and are likely to affect the AOR. The geographic extent of the warning is based on the size of the earthquake, tsunami travel times throughout the AOR, and expected impact zones (NOAA National Weather Service 2011).

Tsunami bulletins and warnings are broadcast by WCATWC through standard National Weather Service (NWS) dissemination methods such as NOAA Weather Radio All Hazards, the Emergency Alert System, and the Emergency Managers Weather Information Network. State emergency service agencies receive the message through the Federal Emergency Management Agency's (FEMA's) National Warning System and the NOAA Weather Wire Service. The states immediately pass warnings to local jurisdictions (NOAA National Weather Service 2011). The USCG also relays the message via radio.

The City of Los Angeles General Plan Public Safety Element identifies the entire Port as an area that could be affected by a tsunami and inundation (City of Los Angeles Planning Department 1996). As of May 2011, LAHD is in the process of creating a port-wide emergency notification system to warn of tsunamis and other emergency situations (EMD 2011). Currently, there is a notification system for Port employees and Facility Security Officers that allows for text messaging, email, and phone messages to be relayed during an emergency. Also, a mass loudspeaker system is currently in the design phase (Malin pers. comm. 2011).

3.7.2.5 Homeland Security of the Port

3.7.2.5.1 Terrorism

Prior to the events of September 11, 2001, the prospect of a terrorist attack on a U.S. port facility or a commercial vessel in a U.S. port would have been considered highly speculative under CEQA and not analyzed. The climate of the world today has added an additional unknown factor for consideration (i.e., terrorism). There are limited data available to indicate the likelihood of a terrorist attack aimed at the Port or the proposed Project; therefore, the probability component as it relates to terrorism contains a considerable amount of uncertainty. Nonetheless, this fact does not invalidate the analysis contained herein. A terrorist action could be the cause of events described in this section such as hazardous materials release and/or explosion. The potential impact of a hazardous materials release, explosion, or spill would remain as described herein.

Terrorism risk can be generally defined by the combined factors of threat, vulnerability, and consequence. In this context, terrorism risk represents the expected consequences of terrorist actions, taking into account the likelihood that these actions will be attempted and the likelihood that they will be successful. Of the three elements of risk, the threat of a terrorist action cannot be directly affected by activities in the Port. The vulnerability of the Port and of individual cargo terminals can be reduced by implementing security measures. The expected consequences of a terrorist action can also be affected by, or reduced by, certain actions, such as implementing security measures and emergency response preparations.

3.7.2.5.2 Existing Security Measures/Initiatives

Numerous security measures have been implemented in the Port in the wake of the terrorist attacks of September 11, 2001. Federal, state, and local agencies, as well as private industry, have implemented and coordinated many security operations and physical security enhancements. The result is a layered approach to Port security that includes LAHD's security program. The Port has a number of security initiatives under way, including significant expansion of the Port Police, which will result in additional police vehicles on the streets and police boats on the water. The applicable initiatives in this area identified for implementation in fiscal year 2010–2011 include:

- completing one of the last major phases of the new Port Police Headquarters,

- installation of state-of-the-art surveillance and emergency operations centers at the new Port Police headquarters and elsewhere in the Port,
- installation of a Port-wide fiber optic network,
- improvements to the Port Police tactical radio communications system,
- acquisition of a computer aided dispatch and records management system,
- acquisition of a Port Police integrated command and control system, and
- security enhancements at the Port's main administration building on Palos Verdes Street.

In the area of homeland security, LAHD will continue to embrace technology while focusing its efforts on those areas of particular interest to the Port. Current applicable Port homeland security initiatives include:

- expanding the Port's waterside camera system,
- establishing restricted areas for noncommercial vehicles and vessels,
- installing additional shoreside cameras at critical locations,
- updating long-range security plans for the Port,
- developing a security awareness training program, and
- enhancing outreach to constituents.

3.7.2.6 Tsunami Hazards

As discussed in Section 3.5, "Geology and Soils," there is the potential for a large tsunami to affect the Port. The Port is subject to diurnal tides, meaning two high tides and two low tides during a 24-hour period. The average of the lowest water level during low-tide periods each day is typically set as a benchmark of 0 feet (0 meters) and is defined as the MLLW Level. A model has been developed specifically for the LA/LB Harbors complex to predict tsunami wave heights. The model specifically examined seven different earthquake- and landslide-generated tsunami scenarios and considered local landfill configurations, bathymetric features, and the interaction of tsunami wave propagation to predict tsunami wave heights that could affect the harbor (Moffatt and Nichol 2007). The model predicts tsunami wave heights with respect to MSL rather than MLLW, which is a reasonable, average condition under which a tsunami might occur (Moffatt and Nichol 2007).

The lowest deck elevations identified in the tsunami study in the proposed project area included Berths 56–60 along the East Channel with adjacent lowest deck elevations as low as 11.19 feet above MSL, and Berths 70–71 along the Main Channel with adjacent lowest deck elevations as low as 12.17 feet above MSL.

Based on the model, four out of the seven scenarios could result in tsunami-induced flooding in the proposed project area. Tables 3.5-3 and 3.5-4 in Section 3.5, "Geology and Soils," show the four scenarios that could lead to tsunami-induced flooding in the proposed project area and the locations within the proposed project area that would experience overtopping in the event of a tsunami generated under the conditions modeled. Figures 3.5-5 through 3.5-8 in Section 3.5, "Geology and Soils," depict the modeling results and the water level, in meters, above mean sea level.

3.7.3 Applicable Regulations

Regulations applicable to the proposed Project are designed to govern hazardous materials and prevent their accidental release, and to ensure the security of the Port area. These regulations also are designed to limit the risk of upset during the use, transport, handling, storage, and disposal of hazardous materials. Additionally, numerous security measures have been implemented in the Port area in the wake of the terrorist actions of September 11, 2001. Federal, state, and local agencies, as well as private industry, have implemented and coordinated many security operations and physical security enhancements. The result is a layered approach to Port security that includes LAHD's security program. The proposed Project is located within the Port but does not include any cargo or passenger handling facilities. Although LAHD is responsible for the overall protection of the proposed project area, as well as reviewing tenant security operations, each tenant is individually and specifically required to comply with federal and state security and emergency regulations, which are enforced by agencies such as the USCG and LAFD. The proposed Project would be subject to numerous federal, state, and local laws and regulations, including, but not limited to, those described below.

3.7.3.1 Federal Regulations

3.7.3.1.1 Emergency Planning and Community Right-to-Know Act (42 USC 11001 et seq.)

Also known as Title III of the SARA, the EPCRA was enacted by Congress as the national legislation on community safety. This law was designated to help local communities protect public health, safety, and the environment from chemical hazards. To implement EPCRA, Congress required each state to appoint a State Emergency Response Commission (SERC). The SERCs were required to divide their states into Emergency Planning Districts and to name a Local Emergency Planning Committee (LEPC) for each district. EPCRA provides requirements for emergency release notification, chemical inventory reporting, and toxic release inventories for facilities that handle chemicals.

3.7.3.1.2 U.S. Coast Guard, Navigation and Navigable Waters (33 CFR)

The USCG, through Title 33, "Navigation and Navigable Waters," is the federal agency responsible for vessel inspection, marine terminal operations safety, coordination of federal responses to marine emergencies, enforcement of marine pollution statutes, marine safety (navigation aids, etc.), and operation of the National Response Center for spill response, and is the lead agency for offshore spill response.

Several sections of 33 CFR guide USCG activities within the Port. However, regulations regarding terminal and cruise facilities would not be applicable to the proposed Project. 33 CFR 6 defines the security zones within the harbor. *Security zone* means all land, water, or land and water so designated by the USCG Captain of the Port and deemed necessary to prevent damage to any vessel or waterfront facility and safeguard ports, harbors, territories, or waters of the U.S. To ensure the security of waterfront facilities at the Port, the USCG Captain of the Port may prescribe conditions and restrictions relating to the safety of waterfront facilities and vessels in port found necessary under existing circumstances.

3.7.3.2 Regional and Local Regulations

3.7.3.2.1 Port Master Plan

Intended to guide development within the Port, the PMP was certified in 1979 and was most recently amended in August 2011. The PMP was certified by the California Coastal Commission and approved by the Board of Harbor Commissioners. The PMP divides the Port into nine individual planning areas (PAs). The proposed project site is located entirely in PA2 (West Bank). The PMP identifies land use compatibility guidelines for PA2, as well as short- and long-term plans for the area. The long-range goal for PA2 is to relocate hazardous and potentially incompatible cargo operations to Terminal Island. This area would then be oriented to commercial, recreational, commercial fishing, and nonhazardous cargo and support activities. The PMP acknowledges that the preferred long-range uses for PA2 would necessitate the phasing-out and relocation of the existing deep water oil terminal and petroleum and petrochemical storage tanks. See Section 3.8, “Land Use and Planning,” for a detailed discussion regarding the PMP and its applicability to the proposed Project.

3.7.3.2.2 Port Risk Management Plan

The RMP, an element of the PMP, was adopted in November 1983, pursuant to the California Coastal Act of 1976 (LAHD 1983). The purpose of the RMP is to provide siting criteria related to vulnerable resources,[1] and handling and storage guidelines

[1] Vulnerable resources are defined as resources within and around the Ports that may be damaged by the effects of casualty. Vulnerable resources are, for this RMP, divided into the two prime categories of people and facilities. People are further subdivided into the two groupings of: (1) residential, recreation, and visitor; and (2) 2orking. For decision-making purposes, LAHD and the Los Angeles Fire Department will define and approve, on an individual basis, future vulnerable resources that are identified as significant residential, recreational, visitor, and high-density working populations that may be unwittingly or unwillingly placed at high risk and direct high economic impact facilities. Existing vulnerable resources have been identified in the RMP and will be used as criteria in identifying future vulnerable resources. Developments whose concepts are not included in the PMP involving significant residential, recreational, visitor, or high-density working populations are defined as *New Vulnerable Resources*.

for potentially hazardous liquid bulk materials. Vulnerable resources are described as high density populations in the Port and adjacent areas and critical impact facilities in the Port, which if damaged or destroyed would have a significant impact on Port operations. There are four types of vulnerable populations: residential, recreational, visitor, and the working populations at the Port. Working populations in the Port are protected under the specific risk management plans and emergency policies related to the handling, storage, and use of hazardous materials of the businesses that employ them.

The RMP and supporting documents outline the criteria to determine whether a facility is considered hazardous and the appropriate methodology to calculate the hazardous footprint if needed. The hazardous footprint of a hazardous facility is defined by the RMP as the area wherein a specified level of adverse effect would be exceeded against a specified vulnerable resource.

The siting criteria for locating vulnerable resources and hazardous facilities stipulate that no new vulnerable resources will be permitted to be located within the hazardous footprint areas of existing or approved facilities handling hazardous liquid bulk cargoes except where overriding considerations apply.

The RMP provides guidance for existing activities and future development of the Port to minimize or eliminate impacts on vulnerable resources from accidental releases. The overall policy of the RMP has as its objective to minimize or eliminate the overlaps of hazardous footprints and areas of substantial residential, visitor, recreational, and high density working populations and direct high economic impact facilities identified as hazardous.

3.7.3.2.3 Los Angeles Municipal Code (Fire Protection—Chapter 5, Section 57, Divisions 4 and 5)

Chapter 5, Section 57, Divisions 4 and 5 of the municipal code regulate the construction of buildings and other structures used to store flammable hazardous materials and the storage of such materials. These regulations ensure that a business is properly equipped and operates in a safe manner and in accordance with all applicable laws and regulations. Permits are issued by LAFD.

3.7.3.2.4 Los Angeles Municipal Code (Public Property—Chapter 6, Article 4)

Chapter 6, Article 4 of the municipal code regulates the discharge of materials into sanitary sewer and storm drains. It requires the construction of spill-containment structures to prevent the entry of forbidden materials, such as hazardous materials, into sanitary sewers and storm drains.

3.7.3.2.5 Emergency Response and Evacuation Plans

LAHD, in conjunction with the City of Los Angeles, LAFD, LAPD, Port Police, and USCG, is responsible for managing any emergency related to Port operations, depending on the severity of the emergency.

The City of Los Angeles EPD provides citywide emergency leadership, continuity, and direction to enable the City and all of its various departments and divisions to respond to, recover from, and mitigate the impact of natural, human-made, or technological disasters upon its people or property (EMD 2012). The EPD has prepared a City of Los Angeles Emergency Operations Organization Manual that describes the organization, responsibilities, and priorities of all City departments and local agencies in case of an emergency (EOO 2006). The manual is maintained by EPD and is organized by type of emergency as well as by the City departments that are responsible for responding to certain emergencies. The manual includes the following sections applicable to the Port area:

- LAHD Plan,
- Hazardous Materials Annex, and
- Tsunami Response Plan Annex.

Generally, these various plans established the following emergency operational priorities for the Port:

- provide Port security,
- evacuate vessels for the safety of crew members,
- evacuate Port facilities and the Port area,
- regulate the movement and anchorage of vessels,
- establish liaison with other City/government agencies,
- procure and maintain emergency supplies and equipment,
- establish damage assessment and prioritization procedures,
- identify shelter facilities, and
- provide employee emergency preparedness training.

Specifically, the LAHD Plan of the City of Los Angeles Emergency Operations Organization Manual identifies very general initial policies and procedures covering LAHD’s response in the event of any emergency.

The Hazardous Materials Annex contains information regarding the chain of command and the general organization of any response to a hazardous material release anywhere in the City, including the Port area (EOO 1993). It includes an emergency checklist for LAHD to follow should a hazardous materials release occur within the Port area. The checklist identifies specific pre-event, response, and recovery action items and identifies the respective LAHD divisions (i.e., Port Police) that are responsible for carrying out the action items.

The Tsunami Response Plan Annex identifies the Port area as a Tsunami Inundation Zone and outlines policies and procedures of nine different City departments (including LAHD, LAPD, LAFD, and EMD) in the event of a tsunami (EOO 2007). The Tsunami Response Plan identifies evacuation routes for the San Pedro area and the harbor area and specifies evacuation locations to which evacuees should retreat. The plan identifies that the mission of LAHD with respect to a tsunami is to provide employees, tenants, and the public with a safe, well-planned, and organized method of evacuating the Port district. It outlines several actions that the Port Police are responsible for, including following the established evacuation checklist, evacuating the affected Tsunami Inundation Zone, and activating notification procedures. The divisional organization and basic functions that would support the Tsunami Response Plan for the Port area are consistent with LAHD's emergency plan and procedures.

The City and LAHD have adopted the SEMS to manage responses to multi-agency and multi-jurisdiction emergencies and facilitate communications and coordination among all levels of the system and among all responding agencies. Additionally, the City currently uses a new emergency management process that incorporates Homeland Security's NIMS and ICS and the application of standardized procedures and preparedness measures (Malin pers. comm. 2011).

In addition to the emergency response plans EPD maintains, LAHD maintains emergency response and evacuation plans. The Homeland Security Division of LAHD is responsible for maintaining and implementing LAHD's Emergency Procedures Plan. This plan was last revised in 2012. LAHD's Emergency Procedures Plan references LAHD's evacuation plan. The evacuation plan is maintained and implemented by the Port Police and in consultation with the Homeland Security Division and USCG. LAHD's evacuation plan was last updated in 2005 and subsequent reviews by LAHD have concluded an update is not needed at this time.

Finally, each tenant at the Port is responsible for maintaining its own emergency response plan (Malin pers. comm. 2008). Tenants must comply with emergency and security regulations enforced by LAFD, Port Police, Homeland Security Division, and USCG.

3.7.3.2.6 Hazardous Material Release Response Plans and Inventory Law (California Health and Safety Code, Chapter 6.6)

This state right-to-know law requires businesses to develop a Hazardous Material Management Plan or a business plan for hazardous materials emergencies if they handle more than 500 pounds, 55 gallons, or 200 cubic feet of hazardous materials. In addition, the business plan would include an inventory of all hazardous materials stored or handled at the facility above these thresholds. This law is designed to reduce the occurrence and severity of hazardous materials releases. The Hazardous

Materials Management Plan or business plan must be submitted to the CUPA, which, in this case, is LACFD. In 1997, the HHMD within the LACFD became a CUPA to administer the following programs within Los Angeles County: the Hazardous Waste Generator Program, the Hazardous Materials Release Response Plans and Inventory Program, the Cal-ARP, the Aboveground Storage Tank Program, and the Underground Storage Tank Program. The state has integrated the federal EPCRA reporting requirements into this law; once a facility is in compliance with the local administering agency requirements, submittals to other agencies are not required.

3.7.3.2.7 Other Regional and Local Requirements

The Safety Element of the City of Los Angeles General Plan addresses the issue of protection of residents from unreasonable risks associated with natural disasters (e.g., fires, floods, and earthquakes). The Safety Element provides a contextual framework for understanding the relationship among hazard mitigation, response to a natural disaster, and initial recovery from a natural disaster.

3.7.4 Impacts Analysis

3.7.4.1 Methodology

CEQA guidelines require identifying any adverse change in any of the physical conditions in the area affected by the proposed Project, including a change in the probability of spills or releases. The potential impacts from proposed project–related emergency preparedness procedures and releases of hazardous materials into the environment, which could affect public health and safety, are qualitatively evaluated using the context of existing federal, state, regional, and local regulations and policies.

3.7.4.1.1 Upset Resulting from Terrorism

Analysis of the risk of upset is based primarily on potential frequencies of occurrence for various events and upset conditions as established by historical data. The state of the world today has added an additional unknown factor for consideration, i.e., terrorism. There are limited data available to indicate the likelihood of a terrorist attack aimed at the Port or the proposed Project; therefore, the probability component of the analysis contains a considerable amount of uncertainty. Nonetheless, this fact does not invalidate the analysis contained herein. Terrorism can be viewed as a potential trigger that could initiate events such as hazardous materials release and/or explosion. The potential impact of those events, once triggered by whatever means, would remain as described herein.

3.7.4.2 Thresholds of Significance

The proposed Project would have a significant impact related to emergency preparedness and the release of hazardous material(s) if it would:

RISK-1: Not comply with applicable federal, state, regional, and local security and safety regulations, and LAHD policies guiding Port development;

RISK-2: Substantially interfere with an existing emergency response or evacuation plan or require a new emergency or evacuation plan, thereby increasing the risk of injury or death;

RISK-3: Increase public health and safety concern as a result of an accidental spill, release, or explosion of hazardous material(s) due to a tsunami.

RISK-4: Substantially increase the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action; and,

RISK-5: Substantially increase the likelihood of an accidental spill, release, or explosion of hazardous material(s) as a result of proposed project–related modifications.

RISK-6: Introduce the general public to hazard(s) defined by the EPA and the Port RMP associated with offsite facilities.

Note that RISK-1, RISK-3, RISK-4, RISK-5, and RISK-6 above all consider the following questions contained in Appendix G of the CEQA Guidelines as they relate to exposing the public or environment to significant hazards. These questions include whether the proposed Project would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; or
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

3.7.4.3 Impacts and Mitigation

3.7.4.3.1 Construction Impacts

Impact RISK-1a: Construction of the proposed Project would comply with applicable federal, state, regional, and local security and safety regulations, and LAHD policies guiding Port development.

The consequences of construction-related spills are generally reduced in comparison to other accidental spills and releases because the amount of hazardous material released during a construction-related spill is small. Still, the construction of the proposed Project would potentially result in a conflict with applicable safety and security regulations and policies guiding the development within the Port if safety and security regulations are not followed.

Moreover, there are several listings for unauthorized releases in the ERNS database at the Westways site, and remediation activities are ongoing in response to historic contamination of subsurface soil, soil vapor, groundwater, and sediment. As such, redevelopment of the Westways tanks site under the proposed Project would first require remediation under the oversight of the RWQCB in compliance with applicable federal, state, regional, and local security and safety regulations, which would preclude the potential for significant impacts related to remediation of the existing site contamination. This is discussed further in Section 3.6, “Groundwater and Soils.” Additionally, it should be noted that demolition of the Westways’ tanks, piping, and related structures at Berths 70–71 has been analyzed under the San Pedro Waterfront EIS/EIR and is not considered a component of the proposed Project.

As discussed above, several regulations cover the construction that would occur as part of the proposed Project: the RCRA, Hazardous and Solid Waste Act (HSWA), CERCLA, CCR 22 and 26, and the California Hazardous Waste Control Law. These would govern proper containment, spill control, and disposal of hazardous waste generated during demolition and construction. Implementing increased inventory accountability, spill prevention controls, and waste disposal controls associated with these regulations would limit both the frequency and severity of potential hazardous materials releases during demolition and construction activities. Potential releases of hazardous substances during demolition and/or construction would be addressed through EPCRA, which is administered in California by SERC and the Hazardous Material Release Response Plans and Inventory Law.

In addition, demolition and construction would be completed in accordance with the Los Angeles Municipal Fire Code, which regulates the construction of buildings and other structures used to store flammable hazardous materials, and the Los Angeles Municipal Public Property Code, which regulates the discharge of materials into the sanitary sewer and storm drain. The latter requires the construction of spill-containment structures to prevent the entry of forbidden materials, such as hazardous materials, into sanitary sewers and storm drains. LAHD maintains compliance with these federal, state, and local laws through a variety of methods, including internal compliance reviews, preparation of regulatory plans, and agency oversight. These regulations must be adhered to during design and construction of the proposed Project.

Standard BMPs would also be used during construction and demolition activities to minimize runoff of contaminants and air pollutants, in compliance with the State General Permit for Stormwater Discharges Associated with Construction Activity (Order No. 2009-0009-DWQ, amended by Order No. 2010-0014-DWQ) and the project-specific SWPPP (see Section 3.13, “Water Quality, Sediments, and Oceanography,” for more information). Construction/demolition activities would be conducted using BMPs in accordance with City guidelines, as detailed in the *Development Best Management Practices Handbook* (City 2004), and the *LAHD Sustainable Construction Guidelines* (LAHD 2008). During construction, contractors would employ management controls to minimize potential impacts presented by the use of hazardous materials during the construction phase of the proposed Project. These controls include: (1) developing required management plans, e.g., a Spill Prevention, Control, and Countermeasure (SPCC) Plan; (2) secondary containment; (3) separate storage of incompatible materials; and (4) proper training of personnel.

In addition, construction personnel would be trained in safety and defensive emergency response procedures. Construction personnel would also receive hazardous-waste–related training that focuses on recognition of potentially hazardous materials that may be encountered during subsurface excavations for proposed structures. If such hazardous material is suspected, contingency procedures would be followed to protect worker safety and public health. All vehicles and construction equipment would be inspected to ensure that no fluids are leaking (e.g., oil, hydraulic fluid, lubricants, or brake fluid) and that all fuels and fluids are stored in proper, clearly labeled containers. Hazardous materials that must be disposed of would be treated as hazardous waste in accordance with the appropriate regulations for storage, transportation, and disposal of hazardous waste.

Furthermore, per state regulations, prior to construction, a Solid Waste Management Plan would be prepared and approved. During construction, the onsite management and offsite disposal procedures for solid waste would be adhered to as defined in the Solid Waste Management Plan for the proposed Project. Waste would be stockpiled temporarily before disposal off site. Hazardous wastes generated during construction would be collected in hazardous waste accumulation containers near the point of generation and moved daily to the construction contractor's 90-day hazardous waste storage area on site. The accumulated waste would be delivered to or collected by an authorized waste management facility.

Existing buildings within the proposed project site, including buildings to be demolished within Berths 57 and 260, could contain lead-based paint (LBP) and ACM. There are existing regulations and requirements for demolition and conversion of buildings that could potentially contain LBP or ACM (i.e. SCAQMD Rule 1403—Asbestos Emissions from Demolition/Renovation Activities). The proposed Project would abide by the following per local and state regulations:

- Prior to demolition of the site, the Port would retain a qualified engineer/geologist to assess the building to be demolished to determine the presence, or lack, of PCB (polychlorinated biphenyls)-containing materials, ACM, and LBP per state law. Should it be deemed necessary, remediation would be implemented in accordance with the recommendations of these assessments and in compliance with agency regulations. The following measures would occur as part of testing and demolition of the structure on site:
    - Structural materials would be tested for potentially hazardous materials through a state-certified laboratory.
    - Documentation would include a description of field procedures, tabulations of analytical results, and maps of sample locations. An evaluation of the levels and extent of contaminants found, and conclusions and recommendations regarding the handling and removal of potentially hazardous substances would be provided.

- Removal of ACM and LBP would be conducted by ACM- and LBP-certified removal contractors and trained workers. Appropriate dust monitoring would occur in conjunction with ACM and LBP removal activities.
- PCB-containing light ballasts and other PCB-containing materials found on site would be removed by a hazardous materials removal contractor.
- LAHD would prepare a site Health and Safety Plan for work involving the removal of ACM-, LBP-, and PCB-containing materials.
- The disposal process would include transport by a state-certified hazardous material hauler to a state-certified disposal or recycling facility licensed to accept and treat hazardous waste generated by demolition of the onsite structure.

Impact Determination

Construction and demolition for the proposed Project would involve the handling and use of hazardous materials. However, the consequences of construction-related spills are generally reduced in comparison to other accidental spills and releases because the amount of hazardous material released during a construction-related spill is small—volume in any single piece of construction equipment is generally less than 50 gallons, and fuel trucks are limited to 10,000 gallons or less. Construction-related spills of hazardous materials are not uncommon, but the enforcement of construction and demolition standards, including BMPs by appropriate local and state agencies, would minimize the potential for an accidental release of petroleum products and/or hazardous materials or explosions during construction.

Moreover, potential release of ACM and LBP would be avoided through the required implementation of local and state regulations, including SCAQMD Rule 1403. Impacts related to the release of ACM or LBP would be less than significant.

Therefore, because construction of the proposed Project would comply with applicable security and safety regulations and/or LAHD policies guiding Port development, construction impacts under threshold RISK-1 would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact RISK-2a: Construction of the proposed Project would not substantially interfere with an existing emergency response or evacuation plan or require a new emergency or evacuation plan, thereby increasing the risk of injury or death.

Emergency response and evacuation planning is the responsibility of LAHD's Homeland Security Division, LAPD, LAFD, and USCG. The proposed Project's construction and demolition activities would be subject to emergency response and evacuation systems implemented by the LAPD and LAFD. Prior to commencement of construction/demolition activities, standard protocol would be followed, and all plans would be reviewed by LAFD to ensure adequate emergency access is maintained throughout the process.

During construction and/or demolition activities, as required by the municipal fire code, LAFD would require that adequate vehicular access to the proposed project area be provided and maintained. This would be ensured and enforced via the construction traffic control plan required for the proposed Project (for further discussion of the construction traffic control plan, refer to Section 3.11, "Transportation and Circulation—Ground and Marine," Impact TC-1a and Mitigation Measure MM TC-1).

Additionally, LAFD would be responsible for waterside first response in the event of an emergency. USCG, Port Police, and LAPD would also support LAFD in the event of a waterside emergency.

Impact Determination

Proposed project contractors would be required to adhere to all Homeland Security, LAPD, and LAFD emergency response and evacuation regulations discussed above in Section 3.7.2.4, "Existing Public Emergency Services," ensuring compliance with existing emergency response plans. Therefore, construction/demolition activities would not substantially interfere with an existing emergency response or evacuation plan or increase the risk of injury or death. Construction impacts under threshold RISK-2a would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact RISK-3a: Construction of the proposed Project would not result in a substantial increase in public health and safety concerns as a result of the accidental release, spill, or explosion of hazardous materials due to a tsunami.

As discussed in Section 3.5, "Geology and Soils," and under Section 3.7.2.6, "Tsunami Hazards" above, there is the potential for a large tsunami to affect the Port. Impacts from seismically induced tsunamis and seiches are possible for the entire California coastline. A model has been developed specifically for the LA/LB Harbors to predict tsunami wave heights (Moffatt and Nichol 2007).

For the Palos Verdes Landslide II scenario, Moffat and Nichol (2007) indicate a potential 23-foot wave height at the south end of the proposed project site. Based on studies cited above, as a part of their MOTEMS (SLC 2011) tsunami run-up projections for the Port are 8 and 15 feet AMSL, at 100- and 500-year intervals, respectively. The proposed Project is located between 4.9 and 11.2 feet above MSL; therefore, there is a risk of coastal flooding and deck overtopping during a 500-year interval tsunami. This, in turn, could lead to an accidental release, spill, or explosion of hazardous material(s) during construction activities. Designing new facilities based on existing building codes may not prevent substantial damage to structures from coastal flooding. In addition, projects in construction phases are especially susceptible to damage due to temporary conditions, such as unfinished structures, which are typically not in a condition to withstand coastal flooding. However, construction of the proposed Project would not handle or store substantial amounts of hazardous materials, and the potential for a major tsunami is very low during the period of construction for the proposed Project (see Section 3.5, "Geology and Soils," for additional information on the probability of a major tsunami). The combination of these factors would result in a remote risk and consequence related to health and safety concerns as a result of the accidental release, spill, or explosion of hazardous materials due to a tsunami.

Impact Determination

Although impacts due to seismically induced tsunamis and seiches are typical for the entire California coastline, these impacts would not be increased by the construction of the proposed Project. The potential is very low for a major tsunami to occur that would cause the kind of results predicted in the tsunami model study (see Section 3.5, "Geology and Soils," for additional information on the probability of a major tsunami). Additionally, the potential consequences of such accidents would be small due to the localized, short-term nature of the releases. The volume of spilled fuel is also expected to be relatively low. Although there would be fuel-containing equipment present during construction, most equipment would be equipped with watertight tanks, with the most likely scenario being the infiltration of water into the tank and fuel combustion chambers and very little fuel spilled. Thus, the volume spilled in the event of a tsunami would likely be less than 10,000 gallons, which is a manageable amount to clean up that would not result in significant environmental impacts. Emergency planning and coordination between the Port contractors and LAHD would contribute to reducing onsite injuries during a tsunami. Port engineers and LAHD police will work with contractors to develop earthquake and tsunami response training and procedures based on the Port's tsunami plan to ensure that construction and operations personnel will be prepared to act in the event of a large seismic event. These procedures will include immediate evacuation requirements should a large seismic event affect the proposed project site. Compliance with all applicable laws and regulations would minimize exposure to risk from tsunami and seiche hazards, and impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact RISK-4a: Construction of the proposed Project would not substantially increase the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action.

As discussed in Section 3.7.2.5, "Homeland Security of the Port," the risk of terrorism can be generally measured by a combination of three factors:

- threat of a terrorist action (which includes the likelihood of action),
- vulnerability of a particular facility to a terrorist action, and
- consequence(s) of a terrorist action.

Of the three elements of risk, the threat of a terrorist action cannot be reduced during construction activities within the Port. LAHD has no control over the capability, decision-making, or intentions of a terrorist organization that is planning to inflict damage and harm on the Port; therefore, LAHD cannot control the threat of a terrorist action against the construction activities of the proposed Project. However, simply because the threat of a terrorist action cannot be quantified does not mean it does not exist. In fact, the possibility of a terrorist action against the Port exists as part of the baseline because of the Port's maritime operations and the existing cruise facilities and cruise vessels. However, the threat of a terrorist action is not likely to appreciably change over the existing baseline during construction or demolition activities of the proposed Project.

Construction and demolition activities for the proposed Project would involve the handling and use of certain amounts of hazardous materials including vehicle fuels and other flammable chemicals. The potential consequence of a terrorist action on such activities would mainly concern relatively small potential targets such as construction vehicles and elements undergoing construction. Fuel volume in any single piece of construction equipment is generally less than 50 gallons, and fuel trucks are limited to 10,000 gallons or less. Construction does not include any sensitive elements (e.g., a significant power source or high-profile target) that would be considered a likely target for terrorist activities. The tanks at the existing Westways site and associated onsite pipelines have been emptied, minimizing the amount of material that could be released, spilled, or exploded during a terrorist act. Therefore, these tanks would not likely be targeted for terrorist activity, and if they were, the consequences of a hazardous spill, release, or explosion would not be substantially increased through the construction of the proposed Project. The enforcement of construction and demolition standards, including BMPs by appropriate local and state agencies (i.e., LAPD, Port Police, LAFD, LAHD), would minimize the potential for a spill, release, or explosion of hazardous materials due to a terrorist action. Furthermore, the enforcement of these standards would reduce the impact should a spill, release, or explosion of hazardous material occur due to a terrorist action.

Consequences associated with a terrorist attack during general construction would be low. Similarly, impacts related to the vulnerability of the proposed Project during construction and consequences of having sensitive receptors on site during construction activities would be negligible because the damage and general effect would be limited. Impacts related to the likelihood of sensitive receptors being exposed to a significant health hazard through a spill, release, or explosion due to a terrorist action during general construction would be less than significant.

Impact Determination

The construction of the proposed Project would comply with applicable security and safety regulations discussed under Impact RISK-1a and above under Section 3.7.2.5, “Homeland Security of the Port,” and Section 3.7.3, “Applicable Regulations,” and/or LAHD policies guiding Port development, reducing the vulnerability of construction activities to terrorist actions. Therefore, construction and/or demolition activities would not result in an increase in vulnerability or consequence of a terrorist action leading to a greater likelihood of a spill, release, or explosion of hazardous material(s). Impact RISK-4a, related to a substantial increase in the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action, would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact RISK-5a: Construction of the proposed Project would not substantially increase the likelihood of an accidental spill, release, or explosion of hazardous material(s) as a result of proposed project–related modifications.

Potential short-term hazards that could potentially increase the likelihood of an accidental spill, release, or explosion include construction activities that involve the handling, storage, and/or transport of fuels, lubricating fluids, solvents, and other potentially hazardous material. Additionally, construction equipment could spill oil, gas, or fluids during operation or refueling, resulting in potential health and safety impacts on construction personnel and others.

Although construction-related spills of hazardous materials are not uncommon, the potential consequences of such accidents are generally small due to the localized, short-term nature of the releases. The volume of the spills would be relatively small because the volume in any single vehicle is generally less than 50 gallons, and fuel trucks are limited to 10,000 gallons or less. Additionally, quantities of hazardous materials that exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code would be subject to a Release Response Plan (RRP) and a Hazardous Materials Inventory (HMI). BMPs and Los Angeles Municipal Code regulations (Chapter 5, Section 57, Divisions 4 and 5; Chapter 6, Article 4) would also govern construction and demolition activities. Federal and state regulations that govern the storage of hazardous materials in containers (i.e., the types of materials and the size of packages containing hazardous materials) and the separation of containers holding hazardous materials would limit the potential adverse impacts of contamination to a relatively small area. As such, all hazardous materials used during construction of the proposed Project would be used and stored in compliance with applicable state and federal requirements.

Standard BMPs would also be used during construction and demolition activities to minimize runoff of contaminants, in compliance with the State General Permit for Stormwater Discharges Associated with Construction Activity (Water Quality Order 2009-0009-DWQ, amended with Order 2010-0014-DWQ) and the proposed project-specific SWPPP (see Section 3.13, "Water Quality, Sediments, and Oceanography," for more information). These may include, but would not be limited to, temporary sediment basins, spill prevention and control, solid waste management, contaminated soil management, concrete waste management, sanitary-septic waste management, and other construction practices implemented by LAHD. Therefore, compliance with applicable laws and regulations governing the use, storage, and transportation of hazardous materials would minimize the potential for significant accidental spills, releases, or explosions of hazardous materials to occur and affect public health and safety during construction of the proposed Project.

The construction of the proposed Project includes the demolition of the entry building at Berth 57; removal of several commercial buildings located within Berth 260; the conversion of several transit sheds within Berths 56-60; and the construction of a wave tank building and government building within Berths 70–71, which would succeed remediation of the Westway site.

There would be potential for hazardous materials spills, releases, or explosions during the demolition and/or conversion of these buildings. However, the removal and conversion activities at these sites would require adherence to all standards and regulations discussed above under Impact RISK-1a (i.e., EPCRA, LAFD regulations, DTSC, SCAQMD, and other state and federal regulations and guidelines) governing the decommissioning and remediation of hazardous materials and release of air contaminants during demolition. Additionally, the removal and conversion would include remediation efforts to remove the known or suspected hazardous groundwater and soil contamination at the site. As mentioned in RISK-1a, demolition of the Westway tanks, piping, and related structures at Berths 70–71 has been analyzed under the San Pedro Waterfront EIS/EIR and is not considered a component of the proposed Project. Remediation activities are ongoing in response to historic contamination of subsurface soil, soil vapor, groundwater, and sediment. As such, redevelopment of the Westway tanks site under the proposed Project would continue to require remediation activities in compliance with the RWQCB and other applicable federal, state, regional, and local security and safety regulations, which would preclude the potential for significant impacts related to remediation of the existing site contamination. This is discussed further in Section 3.6, "Groundwater and Soils."

As discussed under Impact RISK-1a, the existing buildings could contain LBP and ACM, which could be released upon demolition or conversion. There are existing regulations and requirements for demolition and conversion of buildings that could potentially contain LBP or ACM (i.e., SCAQMD Rule 1403—Asbestos Emissions from Demolition/Renovation Activities). See the discussion under Impact HAZ-1a.

Impact Determination

General construction and demolition/conversion activities for the proposed Project would not involve the handling of significant amounts of hazardous materials beyond those needed for construction vehicle operations and typical construction activities. Furthermore, implementation of construction and demolition standards, including BMPs, and compliance with the state and federal requirements for the transport, handling, and storage of any hazardous materials during construction and demolition phases, as described in Impact RISK-1a, would minimize the potential for an accidental release of petroleum products and/or hazardous materials and/or explosion during the construction/demolition activities. Therefore, general construction would not substantially increase the likelihood of an accidental spill, release, or explosion of hazardous materials as a result of modifications related to the proposed Project.

The demolition/conversion of any existing buildings would require adherence to EPCRA, LAFD regulations, DTSC, and the California Division of Occupational Safety and Health (Cal/OSHA) and other state and federal regulations and guidelines governing the decommissioning of buildings potentially containing asbestos and lead, as well as regulating the handling, storage, and use of hazardous materials during the demolition of the existing buildings. Therefore, the demolition of existing buildings within Berth 57 and 260; the conversion of transit sheds within Berths 56–60; and the construction of a wave tank building and government building (possible NOAA building) within Berths 70–71 would not substantially increase the likelihood of an accidental spill, release, or explosion of hazardous materials as a result of modifications related to the proposed Project.

Therefore, construction of the proposed Project would not substantially increase the likelihood of an accidental spill, release, or explosion of hazardous material(s) as a result of proposed project–related modifications. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

RISK-6a: Construction of the proposed Project would introduce the general public to hazard(s) defined by the EPA and the Port RMP associated with offsite facilities.

During construction of the proposed Project, Mike's fueling station would continue to operate in its existing location. Mike's currently handles several different types of hazardous materials including clear diesel, lube oil, red dye diesel, and waste lube oil and includes five aboveground storage tanks. Although the facility would remain in its existing location, it would not continue to handle hazardous materials with flashpoints below 140°F per Mitigation Measure MM RISK-1 of the San Pedro Waterfront Project EIS/EIR. The risk of an accidental spill, release, or explosion at Mike's fueling station would not increase over the existing baseline, and the risk has been reduced by the San Pedro Waterfront Project EIS/EIR. Therefore, with incorporation of the same mitigation, the proposed Project would not substantially increase the likelihood of an accidental spill, release, or explosion of hazardous materials during construction activities of the proposed Project.

Impact Determination

Mike's fueling station currently meets all safety and environmental standards for the handling and storing of hazardous materials, and would not expand or increase its inventory of materials. Per Mitigation Measure MM RISK-1 of the San Pedro Waterfront Project EIS/EIR, products with a flashpoint below 140°F will not be permitted and Mike's fueling station will cease to handle hazardous materials with flashpoints below 140°F. Therefore, the proposed Project would not result in a substantial increase in the potential for a hazardous materials spill, release, or explosion at Mike's fueling station with incorporation of Mitigation Measure MM RISK-1 identified in the San Pedro Waterfront Project EIS/EIR.

Mitigation Measures

MM RISK-1. Remove all hazardous materials with flashpoints below 140°F from Mike's fueling station. Mike's fueling station will cease to handle hazardous materials with flashpoints below 140°F per the letter sent from LAHD to Mike Albano dated June 16, 2008, regarding the successor permit to revocable permit No. 98-14 prior to the operation of the proposed waterfront promenade. Products with a flashpoint below 140°F will not be permitted within the project area (i.e., San Pedro Waterfront Project area). The successor permit to RP No. 98-14 to allow the operation for Mike's fueling station and continued lease of Mike's fueling station will only allow handling of products above said threshold. Prior to the operation of the waterfront promenade, Mike's fueling station will submit written confirmation identifying the complete removal of all hazardous materials on site with a flashpoint below 140°F as directed by the letter dated June 16, 2008. At the time of the written confirmation, Mike's fueling station will also provide copies of all Material Safety Data Sheets (MSDS) for each product stored in bulk on site.

Residual Impacts

Impacts would be less than significant.

3.7.4.3.2 Operational Impacts

Impact RISK-1b: Operation of the proposed Project would comply with applicable federal, state, regional, and local security and safety regulations, and LAHD policies guiding Port development.

Operation of the proposed Project would comply with the applicable safety and security regulations and policies guiding the development of the Port. The proposed Project does not include operation of cargo, cruise, or liquid bulk facilities or other industrial uses or hazardous facilities that would be inconsistent with security and safety regulations and LAHD policies.

The proposed Project would be required to comply with the PMP, including LAHD's RMP. The PMP calls for the long-range plans for PA2 to include the relocation of hazardous and potentially incompatible cargo operations to Terminal Island and its proposed southern extension. The development of PA2 is anticipated to focus primarily on commercial, recreational, and commercial fishing, and nonhazardous cargo and support activities. The removal of the Westway terminal supports this long-range plan for PA2 by relocating an industrial area and opening up the site to potential reuse with commercial activity. The RMP provides further guidance for existing activities and future development of the Port to minimize or eliminate impacts on vulnerable resources from accidental releases. The proposed Project does not include any operations that would pose a significant risk of hazardous release on the vulnerable resources. A consistency analysis with the PMP is provided in Section 3.8, "Land Use and Planning," which determined that the proposed Project would be consistent.

The marine research laboratories and marine science business park/incubator operations would likely use small amounts of materials that could be considered hazardous, such as chemicals, fuels, and cleaning supplies, in the normal course of operation. Saltwater and life support systems could utilize ozone in water treatment. The wave tank would require chemical treatment, such as potentially chlorination, to eliminate marine growth in the tank. These operations would be required to follow all local, state, and federal regulations regarding the use, storage, and handling of these hazardous materials. These regulations are enforced by agencies such as LAFD, Cal/OSHA, CalEPA, and EPA.

Impact Determination

Operation of the proposed Project would comply with applicable safety and security regulations and policies guiding development within the Port. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact RISK-2b: Operation of the proposed Project would not substantially interfere with an existing emergency response or evacuation plan or require a new emergency or evacuation plan, thereby increasing the risk of injury or death.

The following emergency plans apply to the Port area:

- LAHD’s Emergency Operations and Organization Manual (September 2006),
- Tsunami Response Plan Annex of the Emergency Operations and Organization Manual (January 2008),
- Hazardous Materials Annex of the Emergency Department Master Plan and Procedures (July 2008),
- LAHD’s Emergency Procedures Plan (January 2011), and
- LAHD’s evacuation plans.

The City’s LAHD Emergency Operations and Organization Manual, the Tsunami Response Plan Annex, and the Hazardous Materials Annex provide general emergency response guidance to all City departments, including LAHD. In the event of an emergency, LAHD is responsible for following this guidance. Furthermore, LAPD, LAFD, and the Port Police would be able to provide adequate emergency response services during operation of the proposed Project (see Section 3.10, “Public

Services and Recreation," for more information regarding police and fire response capabilities). The proposed project components would also be subject to emergency response and evacuation systems implemented by LAFD. In addition, all plans would be reviewed by LAFD to ensure that adequate access to the proposed project vicinity is maintained. Therefore, the proposed Project would not substantially interfere with the existing LAHD Emergency Operations and Organization Manual, Tsunami Response Plan, or Hazardous Materials Annex.

The Homeland Security Division for the Port maintains control of LAHD's Emergency Procedures Plan and is responsible for the current update of the plan. This plan is designed to provide overall guidance on how LAHD responds to general emergencies, including guidance for LAHD employees. The plan identifies procedures and organizes operations for general emergencies at locations where LAHD employees work. The proposed Project does not include any specific locations for LAHD employees to work; therefore, the plan is not applicable to the proposed Project.

Tenants of the Port are required to have their own emergency management plans. Therefore, all new tenants under the proposed Project would be required to have unique emergency response plans (Malin pers. comm. 2008). These requirements and the adequacy of the tenant emergency plans would be enforced by LAFD, Port Police, Homeland Security Division of the Port, and USCG. Therefore, the proposed Project would not substantially interfere with existing emergency response plans for existing tenants, but would require new emergency response plans for new tenants.

LAHD evacuation plans are maintained and managed by the Area Maritime Security Evacuation Committee (AMSEC) and apply to all areas covered by the Ports of Los Angeles and Long Beach, which include the proposed project area. These plans are being revised and are updated on an as-needed basis by AMSEC. Additionally, LAHD is currently developing an Emergency Notification System that would support evacuation plans. Port Police is responsible for implementing the evacuation plans. Because these plans contain sensitive security material, they are not available to the general public (Malin pers. comm. 2008).

Impact Determination

Although the proposed Project is designed to bring new tenants and visitors to the waterfront area, the current emergency preparedness plans would accommodate the operation of the proposed Project. The proposed project elements would not materially change the access patterns to and from the site. Additionally, new tenants would be required to implement and follow their own emergency management plans, which would be enforced by LAHD and LAFD. Furthermore, LAHD is in the process of updating its evacuation plan and establishing an Emergency Notification System, which would include the proposed project area.

Therefore, operation of the proposed Project would not substantially interfere with an existing emergency response or evacuation plan or require a new emergency response or evacuation plan. Impact RISK-2b would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact RISK-3b: Operation of the proposed Project would not result in a substantial increased public health and safety concern as a result of the accidental release, spill, or explosion of hazardous materials due to a tsunami.

As discussed above under Impact RISK-3a, there is the potential for a large tsunami to affect the Port, and specifically a risk of flooding and deck overtopping during a tsunami at the proposed project site. However, operation of the proposed Project would not contain likely sources for accidental release, spills, or explosions in the event of a tsunami.

Impact Determination

Designing new facilities based on existing building codes may not prevent substantial damage to structures from coastal flooding as a result of tsunamis or seiches. Impacts from seismically induced tsunamis and seiches would be the same for the entire California coastline and would not increase through operation of the proposed Project. However, because the proposed Project would be located between 4.9 and 11.2 feet above MSL, there is a risk of coastal flooding during a tsunami, which could rise between 3.8 and 10.1 feet above the proposed project elevation during a 500-year seismic event. Operation of the proposed Project would involve research uses but releases, spills, or explosions of a hazardous material in the event of a tsunami would be minor because generally only small amounts of chemicals, fuels, and cleaning supplies would be on site. Additionally, saltwater and life support systems could utilize ozone in water treatment and the wave tank would require chemical treatment. These operations would be required to follow all local, state, and federal regulations regarding the use, storage, and handling of these hazardous materials. These regulations are enforced by agencies such as LAFD, Cal/OSHA, CalEPA, and EPA. As such, operations would avoid or minimize any potential to result in a public health and safety concern. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact RISK-4b: Operation of the proposed Project would not substantially increase the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action.

As discussed above under Impact RISK-4a, the Port is subject to potential terrorist threats. The proposed Project would increase the number of public amenities in the Port and would bring more workers and visitors to City Dock No. 1, as stated in the proposed Project's objectives. However, increasing the number of employment opportunities, public amenities (i.e., the public plaza at Berth 57 and public plaza/viewing platform at Berth 60), and recreational opportunities (i.e., waterfront promenade) would not appreciably change the likelihood of a terrorist action at the Port, because the likelihood of a terrorist action is dependent on the motivation and decision-making of a terrorist organization and LAHD has no control over these factors. Additionally, the proposed Project does not contain any significant targets (e.g., emergency major power source or high profile target) for terrorist activities that would increase the likelihood of an attack. Therefore, the likelihood of a terrorist action would remain a possibility for the proposed Project, just as it does under existing conditions at the Port.

Impact Determination

Although the proposed Project would increase the number of visitors to the area, it would not ultimately change the vulnerability of the proposed project area or the seriousness of the consequences from the existing baseline. The environmental consequences of a terrorist action, including threats to human health arising from the action and from the release, explosion, or spill of hazardous materials, would not substantially change. Therefore, operation of the proposed Project would not result in a substantial increase in the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action. Impact RISK-4b would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact RISK-5b: Operation of the proposed Project would not substantially increase the likelihood of an accidental spill, release, or explosion of hazardous material(s) as a result of proposed project–related modifications.

The proposed Project would include the infrastructure improvements and enhancements to existing transit sheds within Berths 56–60 (including research, teaching, and meeting spaces, and a marine science business park/incubator space with offices and research laboratory space) and the area within Berths 70–71 (e.g., a wave tank and government offices). The operation of the SCMI and related research facilities under the proposed Project would be subject to state and federal hazardous material laws. The operation of the newly planned structures associated with the proposed Project would also use similar hazardous materials during the normal course of business and would be required to comply with local, state, and federal regulations on the use, handling, and storage of these materials. Enforcement of these regulations would be performed by LACFD, Cal/OSHA, DTSC, and EPA. As mentioned in Impact RISK-1a, demolition of the Westway tanks, piping, and related structures at Berths 70–71 has been analyzed under the San Pedro Waterfront EIS/EIR and is not considered a component of the proposed Project. Remediation activities are ongoing in response to historic contamination of subsurface soil, soil vapor, groundwater, and sediment. As such, redevelopment of the Westway tanks site under the proposed Project would continue to require remediation activities in compliance with RWQCB and other applicable federal, state, regional, and local security and safety regulations, which would preclude the potential for significant impacts related to remediation of the existing site contamination. This is discussed further in Section 3.6, "Groundwater and Soils."

Impact Determination

The proposed project modifications to the existing area would not substantially increase the likelihood of an accidental hazardous material spill, release, or explosion involving people or property. The existing facilities would continue to comply with state and federal regulations regarding the use, storage, and handling of hazardous materials. Although commercial land use square footage would increase under the proposed Project, it is anticipated that daily use of hazardous materials would include small amounts of chemicals, fuels, and cleaning supplies, as well as ozone related to water treatment for the saltwater and life support systems, and other chemical treatment associated with the wave tank. All businesses operating within the proposed project boundaries would be required to comply with all applicable regulations for any hazardous material used, stored, transported, or disposed of during operations. Any accidental spill, release, or explosion would be short-term and localized due to the enforcement of these regulations. Therefore, the new and adaptive reuse development in City Dock No. 1 would not result in a substantial increase of the likelihood of a hazardous materials spill, release, or explosion due to proposed project modifications.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

RISK-6b: Operation of the proposed Project would introduce the general public to hazard(s) defined by the EPA and the Port RMP associated with offsite facilities.

Under the proposed Project, Mike's fueling station would continue operating in its existing location. It currently has five aboveground storage tanks with capacities ranging from 500 to 200,000 gallons and handles several different types of hazardous materials including clear diesel, lube oil, red dye diesel, and waste lube oil. Mike's fueling station was recently upgraded and meets all current safety codes and environmental regulations for the handling, storage, and distribution of hazardous materials (Grzesick pers. comm. 2007). These regulations are intended to reduce the risk and the consequences associated with an accidental hazardous materials release, spill, or explosion.

Furthermore, the risk associated with Mike's fueling station would continue to be less than significant. Although the facility would remain in its existing location, it would not handle hazardous materials with flashpoints below 140°F per Mitigation Measure MM RISK-1 of the San Pedro Waterfront Project EIS/EIR. The risk of an accidental spill, release, or explosion at Mike's fueling station would not increase over the existing baseline, and the risk has been reduced by mitigation required from the San Pedro Waterfront Project EIS/EIR. Therefore, with incorporation of the same mitigation, the proposed Project would not substantially increase the likelihood of an accidental spill, release, or explosion of hazardous materials.

Impact Determination

Mike's fueling station currently meets all safety and environmental standards for the handling and storing of hazardous materials and would not expand or increase its inventory of materials. Per Mitigation Measure MM RISK-1 of the San Pedro Waterfront Project EIS/EIR, products with a flashpoint below 140°F will not be permitted and Mike's fueling station will cease to handle hazardous materials with flashpoints below 140°F. With implementation of this mitigation measure, the proposed Project would not result in a substantial increase in the potential for a hazardous materials spill, release, or explosion at Mike's fueling station.

Mitigation Measures

Implement Mitigation Measure MM RISK-1.

Residual Impacts

Impacts would be less than significant.

3.7.4.3.3 Summary of Impact Determinations

Table 3.7-1 summarizes the impact determinations of the proposed Project related to hazards and hazardous materials, as described in the detailed discussion in Sections 3.7.4.3.1 and 3.7.4.3.2 above. Identified impacts may be based on federal, state, and

City significance criteria, LAHD criteria, and the conclusions of the technical reports created for the proposed Project.

For each type of impact, the table describes the impact, notes the impact determinations, describes any applicable mitigation measures, and lists the residual impacts (i.e., the impact remaining after mitigation). All impacts, both significant and less than significant, are included in this table.

Table 3.7-1. Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.7 HAZARDS AND HAZARDOUS MATERIALS			
Construction			
RISK-1a: Construction of the proposed Project would comply with applicable federal, state, regional, and local security and safety regulations, and Port policies guiding Port development.	No impact	No mitigation is required.	Less than significant
RISK-2a: Construction of the proposed Project would not substantially interfere with an existing emergency response or evacuation plan or require a new emergency or evacuation plan, thereby increasing the risk of injury or death.	Less than significant	No mitigation is required.	Less than significant
RISK-3a: Construction of the proposed Project would not result in a substantial increase in public health and safety concerns as a result of the accidental release, spill, or explosion of hazardous materials due to a tsunami.	Less than significant	No mitigation is required.	Less than significant
RISK-4a: Construction of the proposed Project would not substantially increase the likelihood of an accidental spill, release, or explosion of hazardous material(s) due to a terrorist action.	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
RISK-5a: Construction of the proposed Project would not substantially increase the likelihood of an accidental spill, release, or explosion of hazardous material(s) as a result of proposed project–related modifications.	Less than significant	No mitigation is required.	Less than significant
RISK-6a: Construction of the proposed Project would introduce the general public to hazard(s) defined by the EPA and the Port RMP associated with offsite facilities.	Significant	**MM RISK-1. Removal of all hazardous materials with flashpoints below 140°F from Mike's fueling station.** Mike's fueling station will cease to handle hazardous materials with flashpoints below 140°F per the letter sent from LAHD to Mike Albano dated June 16, 2008, regarding the successor permit to revocable permit No. 98-14 prior to the operation of the proposed waterfront promenade. Products with a flashpoint below 140°F will not be permitted within the project area (i.e., San Pedro Waterfront Project area). The successor permit to RP No. 98-14 to allow the operation for Mike's fueling station and continued lease of Mike's fueling station will only allow handling of products above said threshold. Prior to the operation of the waterfront promenade, Mike's fueling station will submit written confirmation identifying the complete removal of all hazardous materials on site with a flashpoint below 140°F as directed by the letter dated June 16, 2008. At the time of the written confirmation, Mike's fueling station will also provide copies of all Material Safety Data Sheets (MSDS) for each product stored in bulk on site.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
Operations			
RISK-1b: Operation of the proposed Project would comply with applicable federal, state, regional, and local security and safety regulations, and LAHD policies guiding Port development.	No impact	No mitigation is required.	No impact
RISK-2b: Operation of the proposed Project would not substantially interfere with an existing emergency response or evacuation plan or require a new emergency or evacuation plan, thereby increasing the risk of injury or death.	Less than significant	No mitigation is required.	Less than significant
RISK-3b: Operation of the proposed Project would not substantially increase the likelihood of a spill, release, or explosion of hazardous material(s) due to a tsunami.	Less than significant	No mitigation is required.	Less than significant
RISK-4b: Operation of the proposed Project would not substantially increase the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action.	Less than significant	No mitigation is required.	Less than significant
RISK-5b: Operation of the proposed Project would not substantially increase the likelihood of an accidental spill, release, or explosion of hazardous material(s) as a result of proposed project–related modifications.	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
RISK-6b: Operation of the proposed Project would introduce the general public to hazard(s) defined by the EPA and the Port RMP associated with offsite facilities.	Significant	Implement MM RISK-1.	Less than significant

3.7.4.4 Mitigation Monitoring

Table 3.7-2. Mitigation Monitoring for Hazards and Hazardous Materials

RISK-6a: Construction of the proposed Project would introduce the general public to hazard(s) defined by the EPA and the Port RMP associated with offsite facilities.	
Mitigation Measure	**MM RISK-1.** Removal of all hazardous materials with flashpoints below 140°F from Mike's fueling station.
Timing	Prior to occupancy of any buildings
Methodology	Remove hazardous materials at Mike's fueling station with flashpoints below 140°F
Responsible Parties	Mike's Marine and LAHD
Residual Impacts	None
RISK-6b: Operation of the proposed Project would introduce the general public to hazard(s) defined by the EPA and the Port RMP associated with offsite facilities.	
Mitigation Measure	Implement Mitigation Measure MM RISK-1.
Timing	Same as above
Methodology	Same as above
Responsible Parties	Same as above
Residual Impacts	None

3.7.4.5 Significant Unavoidable Impacts

No significant unavoidable impacts on hazards and hazardous materials would occur during construction or operation of the proposed Project.

3.8

LAND USE AND PLANNING

3.8

LAND USE AND PLANNING

3.8.1 Introduction

This section describes the existing environmental and regulatory settings for land use and planning, analyzes the potential impacts on land use and planning that would result from the implementation of the proposed Project, and identifies the significance of those impacts.

Land use and planning issues refer to the compatibility of the physical land uses of a project with adjacent or surrounding land uses, as well as a project's consistency with plans and policies that have regulatory jurisdiction over the project. This section describes existing land uses that could be affected by the proposed Project, and the proposed Project's compliance with land use plans, policies, and ordinances of the City of Los Angeles, regional planning and regulatory agencies, and LAHD. The proposed project impacts related to inconsistency with a land use plan would potentially be significant, but mitigation is proposed to reduce the impact to less than significant.

3.8.2 Environmental Setting

The proposed project site is located at the southern end of the City within the boundaries of the Port at Berths 56–60 and 70–71, which comprise City Dock #1. The proposed project site lies within the San Pedro Waterfront Project area. The proposed project boundaries also include Berth 260, which is where the existing SCMI facility is located. Onsite and surrounding land uses are described separately below.

3.8.2.1 Onsite Land Uses

LAHD administers the Port of Los Angeles, which includes 28 miles of waterfront and 7,500 acres of land and water area. LAHD leases property for automobile, container, omni (mixed-use), lumber, cruise ship, liquid and dry bulk terminals, and commercial fishing facilities. Port facilities include slips for 3,700 pleasure craft, sport fishing boats, and charter vessels, as well as community facilities, such as a waterfront youth center, the Cabrillo Aquarium, and the Maritime Museum. Major

Port activities include commercial shipping and transfer of containerized cargo, liquid bulk cargo, breakbulk, and dry bulk cargo; commercial fishing; recreation; and tourism.

As described fully in Section 2.2, “Existing Environmental Setting,” there are a variety of onsite land uses. The existing site comprises eight berths, including Berths 56 through 60, 70 and 71 (former Westway Terminal Site), and 260 (the existing SCMI facility). Figure 2-3 shows the existing conditions of the proposed project site and surrounding area.

Existing land uses within the proposed project area are listed and described in Table 3.8-1. Several of the buildings on site have been determined to be eligible for listing as historical resources in the NRHP individually and as part of a historic district, including the Pan-Am Terminal Facility Building at Berth 56, the transit sheds at Berths 57–60, and the pier/wharf at Berths 57–60 itself. For further discussion of these refer to Section 3.4, “Cultural Resources.”

Table 3.8-1. Existing Land Uses in the Proposed Project Area

Location	*Existing Uses*	*Building SF or Parcel Surface Area*
Sampson Way and 22nd Street	Parking lot	409 spaces
Berth 56	Parking lot	43 spaces
Berth 56	Vacant land	0.65 acre
Berth 57	Transit shed (Crescent Warehouse and San Pedro Bait Company)	50,140 square feet
Berths 58–60	Transit shed (Vacant)	180,000 square feet
End of Berth 60	Water taxi Facility	1,200 square feet
Berths 70–71	Former Westway Terminal site with liquid bulk storage and Pan American Oil Company Pump House	14.3 acres
Berth 260	SCMI facilities	1.32 acres

3.8.2.2 Surrounding Land Uses

The proposed project site is bounded by the East Channel to the west, the Main Channel to the east, 22nd Street to the north, and the open water of the San Pedro Bay to the south. The site and surrounding area are largely industrial with a mix of other uses.

The Municipal Fish Market is located just north of the proposed project site, at the eastern terminus of 22nd Street. Mike’s fueling station is located at Berth 72 just north of the Westway Terminal and south of the Municipal Fish Market, adjacent to the proposed project site. Mike's occupies less than 1 acre, including waterfront and wharf, and currently has five aboveground storage tanks, with capacities ranging from 500 to 200,000 gallons. The existing operations provide fuel to recreational boaters within Los Angeles Harbor. Mike's fueling station, which employs two people, handles clear diesel, lube oil, red dye diesel, and waste lube oil. Further north is the SP Slip, which accommodates berthing for an active commercial fishing fleet.

The Port of Los Angeles Pilot Station and Warehouse No. 1 are located south of the proposed project site, adjacent to the Westway Terminal. Warehouse No.1 is a six-story building that is listed as a historic building on the NRHP. Occasionally it is used as warehouse space for the Port and Crescent Warehouse, and provides filming locations for television shows and other media.

Across the East Channel from City Dock No. 1 there are additional transit sheds at Berths 54 and 55 (which include fruit storage space for SSA). Additionally, there are plans for Berths 45 through 47 and 49 through 50 to be used for future cruise terminals as part of the San Pedro Waterfront Project. Cabrillo Way Marina is located opposite Miner Street from SSA, and Phase II was completed in November 2011.

22nd Street Park, an 18-acre park that opened in January 2010, is located to the west and southwest, and offers walking and biking trails, shade trees, a bocce ball court, restrooms, parking, and more than 4 acres of flat grassy recreational space.

3.8.3 Applicable Regulations

State, regional, and local governments provide regulatory guidance for land use decisions. No federal land use planning regulations are applicable to the proposed Project. Land use plans and policy documents set forth regulations pertaining to allowed development. For a description of applicable regulations associated with historical structures, please refer to Section 3.4, "Cultural Resources." Project-related plans are discussed below.

3.8.3.1 State

3.8.3.1.1 Los Angeles Tidelands Trust Grant

The State of California granted the submerged lands and tidelands comprising the Port in trust to the City of Los Angeles in 1929 by statute, commonly referred to as the "Los Angeles Tidelands Trust Grant" (Chapter 651 of the Statutes of 1929, as amended). The grant provides that the submerged lands and tidelands be used in connection with, or for the promotion and accommodation of, commerce, navigation, and fishery, and that any harbor constructed on the lands always remain a public harbor for all purposes of commerce and navigation. Subsequent amendments to the Los Angeles Tidelands Trust Grant broadened uses of the tidelands to include commercial and industrial buildings, public buildings, public parks, convention centers, playgrounds, small harbors, restaurants, motels, hotels, and the protection of wildlife habitats and open space.

The State Lands Commission (SLC) has oversight responsibility for all submerged lands and tidelands. With respect to submerged lands and tidelands that have been granted in trust to municipalities, the SLC is authorized to ensure that all revenues received from trust lands and trust assets are expended only for those uses and purposes consistent with the public trust for commerce, navigation and fisheries, and the applicable statutory grant (PRC Section 6306.)

3.8.3.1.2 California Coastal Act of 1976

The California Coastal Act of 1976 (Coastal Act; PRC Section 30000 et seq.) was enacted to establish policies and guidelines that provide direction for the conservation and development of the California coastline. The Coastal Act established the California Coastal Commission and created a state and local government partnership to ensure that public concerns regarding coastal development are addressed. The following are the basic goals of the state for the coastal zone:

- Protect, maintain, and where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources.
- Assure orderly, balanced utilization and conservation of coastal zone resources taking into account the social and economic needs of the people of the state.
- Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources, conservation principles, and constitutionally protected rights of private property owners.
- Assure priority for coastal-dependent and coastal-related development over other development on the coast.
- Encourage state and local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the coastal zone. (PRC Div 20 30001.5.)

The Coastal Act also influences Port operations, and the California Coastal Commission has made a series of recommendations for its implementation. The commission has been charged to protect regional, state, and national interests in assuring the maintenance of the long-term productivity and economic vitality of coastal resources necessary for the well being of the people of the state; to avoid long-term costs to the public and a diminished quality of life resulting from the misuse of coastal resources; and to provide continued state coastal planning and management through the state coastal commission (PRC 30004).

The California Coastal Commission is responsible for assisting in the preparation, review, and certification of LCPs. The LCPs are developed by municipalities for that portion of their jurisdiction that falls within the coastal zone. Following certification of the LCP, regulatory responsibility is then delegated to the local jurisdiction. The PMP acts as the LCP for the Port, as described in Section 3.8.3.2.1 below.

Chapter 8 of the Coastal Act establishes specific planning and regulatory procedures for California's "commercial ports" (defined as the ports of San Diego, Los Angeles, Long Beach, and Hueneme). The act requires that a coastal development permit be obtained from the Coastal Commission for certain development within these ports. However, a commercial port is granted the authority to issue its own coastal development permits once it completes a master plan certified by the Coastal Commission.

The standards for master plans, contained in Chapter 8 of the Coastal Act, require environmental protection while expressing a preference for port-dependent projects. Additionally, Section 30700 establishes the number and locations of California ports. This section of the act encourages existing ports to modernize and construct necessary facilities within their boundaries in order to minimize or eliminate the necessity for future dredging to create new ports. The logic behind this process is that it is environmentally and economically preferable to locate major shipping terminals and other existing maritime facilities in the major ports rather than create new ports in new areas of the state. Each commercial port in California has a certified port master plan that identifies acceptable development uses. If a port desires to conduct or permit developments that are not included in the approved port master plan, the port must apply to the Coastal Commission for either a coastal permit or an amendment to the master plan.

3.8.3.2 Regional and Local Plans and Programs

3.8.3.2.1 Port of Los Angeles Master Plan

Intended as a guide for development within the Port, the PMP was certified in 1979 and was most recently revised in November 2009 (LAHD 2008a). The PMP was approved by the Board of Harbor Commissioners and certified by the California Coastal Commission. The PMP preceded the Port Plan and divides the Port into nine individual planning areas. The PMP identifies ten major land uses that are allowed within the Port:

1. General Cargo—includes container, unit, breakbulk, neo-bulk, and passenger facilities
2. Liquid Bulk—comprised of crude oil, petroleum products, petrochemical products, and chemicals and allied products
3. Other Liquid Bulk—molasses, animal oils, fats, vegetable oils
4. Dry Bulk—metallic ores, nonmetallic minerals, coal, chemicals, primary metal products, etc.
5. Commercial Fishing—includes docks, fish canneries, fish waste treatment facilities, fish markets, and commercial fishing berthing areas
6. Recreational—water-oriented parks, marinas and related facilities, small craft launching ramps, museums, youth camping and water oriented facilities, public beaches, and public fishing piers

7. Industrial—shipbuilding/yard/repair facilities, light manufacturing/industrial activities, and ocean resource–oriented industries
8. Institutional—uses that pertain to lands either owned or leased by institutional activities of federal, state, and city governments
9. Commercial—restaurants, tourist attractions, office facilities, and retail facilities
10. Other—vacant land, proposed acquisitions, rights-of-way for rail, utilities, roads, and areas not designated for specific short-term use

The proposed project site is located in PA 2 (West Bank). The land use classifications for the proposed project site planning area are as follows:

- 1—General Cargo
- 2—Liquid Bulk
- 4—Dry Bulk
- 5—Commercial Fishing
- 6—Recreational
- 7—Industrial
- 8—Institutional
- 9—Commercial
- 10—Other

The PMP recommends that PA 2 short-term plans be devoted to commercial, recreational, restaurant and tourist-oriented facilities, commercial fishing, general cargo, and dry and liquid bulk terminals. The development of this area would focus on maintaining existing land uses, expanding commercial and recreational opportunities, and improving internal circulation. The long-term goal for this area is to relocate hazardous and potentially incompatible cargo operations to Terminal Island and its proposed southern extension.

The PMP includes specific amendments to it over the years, including the addition of the RMP. (Refer to Section 3.7.3.2.2 in Section 3.7, "Hazards and Hazardous Materials" for a description of this plan.) The RMP provides guidance for existing activities and future development of the Port to minimize or eliminate impacts on vulnerable resources from accidental releases. The overall objective of the RMP is to minimize or eliminate the overlaps of hazardous footprints and areas of substantial residential, visitor, recreational, and high density working populations and direct high economic impact facilities identified as hazardous.

3.8.3.2.2 General Plan of the City of Los Angeles

California state law (Government Code Section 65300) requires that each city prepare and adopt a comprehensive, long-term plan for its future development. This general plan must contain seven elements: land use, circulation, housing, conservation, open space, noise, and safety. In addition to these, state law permits cities to include optional elements in their general plans, thereby providing local governments with the flexibility to address the specific needs and unique character of their jurisdictions. California state law also requires that the day-to-day decisions of a city follow logically from and be consistent with the general plan. More specifically, Government Code Sections 65860, 66473.5, and 65647.4 require that zoning ordinances, subdivision, and parcel map approvals be consistent with the general plan.

The General Plan of the City of Los Angeles is a comprehensive, long-range declaration of purposes, policies, and programs for the development of the City of Los Angeles. The General Plan is a dynamic document consisting of 11 elements, which include10 Citywide elements (Air Quality, Conservation, Historic Preservation and Cultural Resources, Housing, Infrastructure Systems, Noise, Open Space, Public Facilities and Services, Safety, and Transportation) and the Land Use Element, also known as the Community Plan, for each of the City's 35 Community Planning Areas, as well as plans for the Port of Los Angeles and Los Angeles International Airport.

General Plan Framework Element

The City of Los Angeles General Plan Framework Element, adopted December 1996 (re-adopted August 2001), is a strategy for long-term growth that creates a Citywide context in which to guide updates of the Community Plan and Citywide elements. The General Plan Framework Element responds to state and federal mandates to plan for the future. The Framework Element does not mandate or encourage growth. Because population forecasts are estimates about the future and not an exact science, it is possible that population growth as estimated may not occur: it may be less or it may be more. The City of Los Angeles uses population forecasts provided by SCAG to plan for long-term growth.

The General Plan Framework Element sets forth a citywide comprehensive long-range growth strategy. It defines citywide policies that will be implemented through subsequent amendments of the City's community plans, zoning ordinances, and other pertinent programs. The General Plan Framework Element includes seven areas for policies, including:

- Land Use
- Housing
- Urban Form and Neighborhood Design
- Open Space and Conservation
- Economic Development
- Transportation
- Infrastructure and Public Services

The Framework Element contains policies that are intended to maintain the City's cultural and natural diversity. The Framework Element refines adopted City policy and is intended to update "Concept Los Angeles," the central theme of which is to preserve single-family neighborhoods by focusing any growth away from such neighborhoods and into centers. Although the Framework Element incorporates a diagram that depicts the generalized distribution of centers, districts, and mixed-use boulevards throughout the City, it does not convey or affect entitlements for any property. Specific land use designations are determined by the community plans. The Framework Element provides guidelines for future updates of the City's community plans. It does not supersede the more detailed community or specific plans.

Applicable areas of the Framework Element to the proposed Project (further discussed in Impact LU-2 below) include:

- Land Use
- Open Space and Conservation
- Economic Development
- Transportation
- Infrastructure and Public Services

Port of Los Angeles Plan

The Port of Los Angeles Plan (Port Plan; LAHD 1992: PT-1 through PT-4, plus subsequent amendments) is part of the City of Los Angeles General Plan Land Use Element, which is intended to serve as the official 20-year guide to the continued development and operation of the Port, and is consistent with the PMP. The Port Plan's primary purposes are to:

- promote an arrangement of land and water uses, circulation, and services that contribute to the economic, social, and physical health, safety, welfare, and convenience of the Port, within the larger context of the City;
- guide the development, betterment, and change within the Port to meet existing and anticipated needs and conditions;
- contribute to a safe and healthful environment;
- balance growth and stability;
- reflect economic potentialities and limitations, land and water developments, and other trends; and
- protect investment to the extent reasonable and feasible.

The Port Plan designates the southern portion of the Port, including the proposed project area, as Commercial/Industrial land uses, which are further classified as General/Bulk Cargo and Commercial/Industrial Uses/Non-Hazardous uses. General Cargo includes container, breakbulk, neo-bulk, and passenger facilities. Commercial uses include restaurants and tourist attractions (e.g., Ports O'Call), offices, retail facilities, and related uses. Industrial uses include light manufacturing/maritime-related industrial activities, ocean-resource industries, and related uses.

The Port Plan contains the following objectives and policies applicable to the proposed Project:

Port of Los Angeles Plan Objectives

Objective 1. To maintain the Port of Los Angeles as an important local, regional and national resource and to promote and accommodate the orderly and continued development of the Port so as to meet the needs of foreign and domestic waterborne commerce, navigation, the commercial fishing industry and public recreational users.

Objective 2. To establish standards and criteria for the long-range orderly expansion and development of the Port by the eventual aggregation of major functional and compatible land and water uses under a system of preferences that will result in the segregation of related Port facilities and operations into functional areas.

Objective 4. To assure priority for water and coastal dependent development within the Port, while maintaining and, where feasible, enhancing, the coastal zone environmental and public views of and access to coastal resources.

Objective 12. To stimulate employment opportunities for workers residing in adjacent communities, such as San Pedro and Wilmington.

Applicable Port of Los Angeles Plan Policies

Policy 6. The highest priority for any water or land area use within the jurisdiction of the LAHD shall be for developments that are completely dependent on harbor water areas and/or harbor land areas for their operations.

Policy 11. It shall be long-range Port development policy to have facilities used for the storage or transfer of hazardous liquid and hazardous dry bulk cargoes that are inappropriately located, phased out, and relocated to more appropriate sites in areas relatively remote from adjacent communities. Such policy shall be subject to the following criteria: (1) changes in economic conditions that affect types of commodities traded in waterfront commerce; (2) the economic life of existing facilities handing or storing hazardous cargoes; and (3) precautions deemed necessary to maintain national security.

Policy 16. Location, design, construction and operation of all new or expanded development projects under the LAHD's jurisdiction shall be based on the latest safety standards appropriate to the intended facility.

Policy 18. Port development projects shall be consistent with the specific provisions of this Plan, the certified PMP, the California Coastal Act of 1976 and other applicable federal, state, county and municipal laws and regulatory requirements.

Policy 19. The following long-range preferred water and land uses shall guide future Port development:

Area 2 West Bank: Commercial, recreation, commercial fishing, and non-hazardous cargo operations and support activities.

Policy 20. Since the Port provides an ideal environment for educational purposes such as oceanographic and marine research, the development of educational and research facilities shall be appropriate institutional uses in land or water areas of the harbor where they will not interfere with other Port-dependent preferred uses.

Port of Los Angeles Plan Programs

The Port Plan also identifies programs to further ensure the continued development and operation of the Port. The programs most relevant to the proposed project site are outlined below.

Risk Management

- Implementation of the Port Risk Management Plan, an element of the PMP.
- Relocation of hazardous and/or incompatible facilities to sites that do not result in a risk exposure to high-density populations in accordance with the provisions of the Risk Management Plan.

General Plan Land Use Designations and Zoning

As discussed above, the Port Plan is a part of the City of Los Angeles General Plan and is intended to promote an arrangement of land and water uses, adequate circulation, and public services that will encourage and contribute to the economic, social, and physical health, safety, welfare, and convenience of the Port within the larger framework of the City. The Port Plan defines the same PAs as those defined within the PMP. The General Plan land use categories for PA 2 are commercial, recreation, commercial fishing, and non-hazardous cargo operations and support activities.

Most of the Port is zoned [Q]M2 (Qualified Light Industrial) or [Q]M3 (Qualified Heavy Industrial) by the City of Los Angeles Zoning Ordinance. The zoning designation for the majority of the land within the proposed project area was changed, by ordinance, from its original designation. These changes, reflected by a [Q], have brought Port zoning into consistency with the General Plan, as mandated by California Government Code 65860(d). The City Council approved the AB 283 Citywide General Plan and Zoning Consistency Program, which establishes permanent qualified conditions that prohibit incompatible land uses within the Port and adjoining communities. Zoning for the proposed project site areas has been designated as [Q]M2 and [Q]M3. The following are allowed uses in Planning Area 2—West Bank [Q]M2 and [Q]M3:

- **General Cargo**—passenger terminals; breakbulk terminals; neo-bulk terminals handling cargoes such as automobiles, lumber, and similar products.
- **Support**—warehouses; open and enclosed storage facilities; marine oil service stations; marine services including diving and water taxi services; marine

research facilities; public facilities including fire stations, utility systems, and customs houses; cold storage and freezing facilities; rail service and railroad yards; and tug/barge services.

- **Commercial—**business or professional offices, restaurants, boat sales, retail and service; retail and service uses including boat supply, marine hardware and those retail and service uses permitted in the C1.5 zone; tourist attractions and exhibits and incidental specialty commercial uses.
- **Commercial Fishing**—commercial fishing docks and berthing areas; fish processing and canning; and fish markets, wholesale, and retail.
- **Recreation**—parks, consistent with the Tidelands Grants; maritime-related museums; community buildings; marinas and related uses including offices, club houses, launching ramps, boat building and repair, dry boat storage and sport fishing facilities.

3.8.3.2.3 Port of Los Angeles Strategic Plan 2010/2011

The Port of Los Angeles Strategic Plan, updated in 2010, is a five year plan used to improve the performance of the Port and to outline the Port's direction and priorities (LAHD 2010). The Strategic Plan has 11 objectives, each with initiatives/action items that respond to the plan's Mission, "To provide our customers with the world's most secure and advanced seaport facilities to stimulate the economy and attract business, while promoting a sustainable "grow green" philosophy and embracing evolving technology."

Strategic Plan Objectives relevant to the proposed Project include the following:

- Strategic Objective 1: Implement development strategies to ensure the Port maintains and efficiently manages a diversity of cargo and land uses while maximizing land use compatibility and minimizing land use conflicts.
- Strategic Objective 2: Deliver cost-effective facilities and infrastructure in a timely manner consistent with the land use plan.
- Strategic Objective 3: Promote, develop, and provide a safe and efficient transportation system for the movement of goods and people in the Port vicinity and throughout the region, state, and nation in a cost-effective and environmentally sensitive and sustainable manner.
- Strategic Objective 5: Be the greenest port in the world.
- Strategic Objective 9: Strengthen relations with all internal and external stakeholders through education, advocacy, meaningful interaction and engaging events/initiatives that benefit the community.
- Strategic Objective 10: Realize the potential of the diversity of Los Angeles' population by expanding opportunity; retain and develop more high-quality jobs with an emphasis on green technology.

3.8.3.2.4 Port of Los Angeles Sustainability Plan 2011

The development of the Port of Los Angeles Sustainability Assessment and Plan Formulation (Sustainability Plan) is in response to the Mayoral initialized Executive Directive No. 10, Sustainable Practices in the City of Los Angeles, passed in June of 2007. "This directive sets forth his vision to transform Los Angeles into the most sustainable large city in the country and includes goals in the areas of energy and water, procurement, contracting, waste diversion, non-toxic product selection, air quality, training, and public outreach"(LAHD 2008b).

In June 2008, the Port of Los Angeles published the Sustainability Assessment and Plan Formulation, which surveyed and evaluated existing Port sustainability efforts. The 2011 Sustainability Report highlights major sustainability initiatives undertaken since 2008. The Sustainability Report uses a Material Issues Scorecard, which rates the Port's progress on addressing the material issues most important to the Port and its stakeholders for achieving sustainable operations. These eleven material issues include:

- Health Risk Reduction
- Air Quality
- Energy & Climate Change
- Water Quality
- Stakeholder Relationships
- Land Use
- Habitat Protection
- Open Space & Urban Greening
- Local Economic Development
- Environmental Justice
- Green Growth

Of these eleven material issues, the Port is acknowledged as an industry leader on policies and plans addressing Health Risk Reduction, Air Quality, Habitat Protection, Open Space and Urban Greening, and Green Growth.

3.8.3.2.5 Green Building Policy

On August 27, 2003, the Board of Harbor Commissioner approved LAHD's Environmental Management Policy, which includes guidelines on implementation of LEED certification and standards for new and existing building construction and/or renovation.

The LEED Green Building Rating System is voluntary, consensus-based, and market-driven, and is based on existing, proven technology that evaluates environmental performance in five categories:

- Sustainable Site Planning
- Improving Energy Efficiency
- Conserving Materials and Resources
- Embracing Indoor Environmental Quality
- Safeguarding Water

Points are earned for goals accomplished in each category, and the certification level for a building is acquired by the total number of points (100 base points). There are four LEED certification levels: Certified (40–49 points), Silver (50–59 points), Gold (60–79 points), and Platinum (80–100 points).

The City adopted the policy that all new City buildings of 7,500 square feet or larger should be designed, whenever possible, to meet the LEED Certified level. The Port has taken this policy further, and under the jurisdiction of the Harbor Department, all construction must meet the following (NC = New Construction):

- New Construction (e.g., office buildings) 7,500 square feet or greater, without compromising functionality, will be designed to a minimum level of LEED NC Gold.
- New Construction (e.g., marine utilitarian buildings such as equipment maintenance), without compromising functionality, will be designed to a minimum level of LEED NC Silver.
- Existing Buildings of 7,500 square feet or greater will be inventoried and evaluated for their applicability to the LEED Existing Building Standards. Priority for certification will be determined by building operation and maintenance procedures.
- All other buildings will be designed or constructed to meet the highest achievable LEED standard to the extent feasible for the building's purpose.
- In addition, all Port buildings will include solar power to the maximum extent feasible, as well as incorporation of the best available technology for energy and water efficiency.

A sustainability staff has been created to continuously evaluate and advance the Port's sustainability practices, as well as develop green guidelines and sustainable strategies.

3.8.4 Impact Analysis

3.8.4.1 Methodology

This analysis evaluates the consistency or compliance of the proposed Project and associated infrastructure improvements with relevant land use documents and regulations. The land use analysis addresses the potential for the creation of physical incompatibilities between the proposed Project and adjacent land uses or activities and determines whether any identified incompatibilities would result in physical impacts on the environment.

The land use impact analysis is based on the IS/NOP's determination of potentially significant issues, and issues identified by reviewing agencies, organizations, or individuals commenting on the IS/NOP that made a fair argument that the issue was potentially significant (Appendix A).

The IS/NOP determined that the proposed Project would have less-than-significant impacts on the following land use issues; therefore, they will not be discussed in the land use impact analysis below:

- Physically divide an established community
- Conflict with any applicable habitat conservation plan or natural community conservation plan

3.8.4.2 Thresholds of Significance

The following criteria are based on the *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006) and are the basis for determining the significance of impacts associated with land use consistency and compatibility resulting from physical changes associated with the proposed Project. A significant impact on land use and planning in the proposed project area would occur if the proposed Project were:

LU-1: Inconsistent with the adopted land use/density designation in the Community Plan, redevelopment plan, or specific plan for the site, which would result in an adverse physical effect on the environment.

LU-2: Inconsistent with the General Plan or adopted environmental goals or policies contained in other applicable plans, which would result in an adverse physical effect on the environment.

3.8.4.3 Impacts and Mitigation

3.8.4.3.1 Construction Impacts

Impact LU-1a: Construction of the proposed Project would not be inconsistent with the adopted land use/density designation in the Community Plan, redevelopment plan, or specific plan for the site.

Because no developed land use would yet be in place, construction activities would not conflict with adopted land use/density designation in the Community Plan, redevelopment plan, or specific plan for the site.

Impact Determination

No impact would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impact would occur.

Impact LU-2a: Construction of the proposed Project would not be inconsistent with the General Plan or adopted environmental goals or policies contained in other applicable plans.

Because no developed land use would yet be in place, construction activities would not conflict with the General Plan, adopted environmental goals, or policies contained in other applicable plans.

Impact Determination

No impact would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impact would occur.

3.8.4.3.2 Operational Impacts

Impact LU-1a: Operation of the proposed Project would not be inconsistent with the adopted land use/density designation in the Community Plan, redevelopment plan, or specific plan for the site.

The proposed Project is under the jurisdiction of the Port Plan (which is the Port's equivalent to a Community Plan of the Los Angeles General Plan). The proposed Project is also under the jurisdiction of the PMP. The proposed Project is located within areas zoned [Q]M2 and [Q]M3 in the City of Los Angeles Zoning Ordinance.

Both the Port of Plan and the PMP describe the Planning Area in which the proposed Project is located as PA 2 West Bank. The preferred long-range water and land uses for PA 2 include commercial, recreation, commercial fishing, and non-hazardous cargo operations and support activities. The PMP recommends that this planning area be devoted to commercial, recreational, restaurant and tourist-oriented facilities, commercial fishing, general cargo, and dry liquid bulk terminals. [Q]M2 and [Q]M3 allow for commercial fishing, recreation, industrial, institutional, commercial, and other uses. Operation of the proposed Project is consistent with the planned land uses pursuant to the Port Plan, the PMP, and current zoning.

Impact Determination

The proposed Project uses in PA 2 would generally remain consistent with land use designations contained within the Port Plan, the PMP, and zoning for the Port per the City of Los Angeles Zoning Ordinance. The proposed Project's commercial and institutional uses are consistent with the planned land uses pursuant to the Port Plan, the PMP, and zoning ordinances. Therefore, impacts on land use would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact LU-2b: Operation of the proposed Project would be inconsistent with the General Plan or adopted environmental goals or policies contained in other applicable plans, which would result in an adverse physical effect on the environment.

Table 3.8-2 below identifies specific goals/objectives/policies contained within the following land use documents applicable to the proposed Project, indicates whether the goal/policy/objective is consistent with the proposed Project, and includes a discussion of the consistency between the goal/policy/objective and the proposed Project.

- General Plan Framework Element
- Port of Los Angeles Plan (part of the City of Los Angeles General Plan)
- Port of Los Angeles Master Plan
- Port of Los Angeles Strategic Plan
- Los Angeles Green Building Policy

The proposed Project is consistent with the California Tidelands Trust Act of 1911 because all property and improvements included in the proposed Project would be dedicated to maritime-related uses and would therefore be consistent with the trust.

Additionally, the proposed Project is consistent with provisions of the California Coastal Act because LAHD has certified the PMP that provides LAHD with coastal development permit authority for actions/developments consistent with that master plan. The Port of Los Angeles Sustainability Report highlights major initiatives undertaken since 2008 to address implementation of the various sustainability related programs and policies. As such, there are no goals, objectives, or policies with which to evaluate consistency with the proposed Project. However, the proposed Project would not preclude the implementation of the report's sustainability efforts.

Table 3.8-2. Proposed Project Consistency Analysis

Goal/Objective/Policy	*Consistency Analysis*
GENERAL PLAN FRAMEWORK ELEMENT	
The General Plan Framework Element provides guidelines for future updates of the City's community plans. It does not supersede the more detailed community or specific plans.	The proposed Project is **consistent** overall with this element. Overall, the proposed Project would support the goals, objectives, and policies of the Port Plan.
Open Space Policy: Consider urban forms of open space, such as small parks, pedestrian districts, community plazas, and similar elements.	The proposed Project is **consistent** with this policy. The proposed Project provides a waterfront promenade with community plazas and gathering areas.
Economic Policy: Provide sufficient land to support economic development activities.	The proposed Project is **consistent** with this policy. The proposed Project provides opportunities for marine research education and private industry businesses.
Economic Policy: Promote the re-use and recycling of deteriorated commercial and industrial districts.	The proposed Project is **consistent** with this policy. The proposed Project would adaptively reuse existing transit sheds that are deteriorating, and would redevelop the former Westway liquid bulk terminal, which has been vacated.
Transportation Policy: Enhance pedestrian circulation and bicycle access to centers and mixed-use boulevards.	The proposed Project is **consistent** with this policy. The proposed Project would provide right-of-way for the extension of tracks for the Red Car analyzed in the 2009 SPW EIR/EIS, develop the waterfront promenade through the proposed project area, and accommodate bicycle and pedestrian access.
PORT OF LOS ANGELES PLAN—CITY OF LOS ANGELES GENERAL PLAN	
Objective 1: To maintain the Port of Los Angeles as an important local, regional, and national resource and to promote the orderly and continued development of the Port so as to meet the needs of foreign and domestic waterborne commerce and commercial fishing industry and public recreational users.	The proposed Project is **consistent** with this objective. The proposed Project addresses land use and regulatory strategies to ensure the Port continues to be an economically vibrant hub for foreign and domestic commerce, while providing and enhancing an array of recreational opportunities within the Port. The proposed Project would not have an adverse affect on commerce, commercial fishing, or recreation, and would increase opportunities for marine research based education and industry.
Objective 2: To establish standards and criteria for the long-range orderly expansion of the Port by the eventual aggregation of major functional and	The proposed Project is **consistent** with this objective. The proposed Project would include education, research, office, recreation, and commercial uses that are segregated from existing industrial and Port-related uses where appropriate.

Goal/Objective/Policy	*Consistency Analysis*
compatible land and water uses under a system of preferences which will result in the segregation of related Port facilities and operations into functional areas.	
Objective 4: To assure priority for water and coastal dependent development within the Port while maintaining and enhancing coastal zone environment and public views of and access to coastal resources.	The proposed Project is **consistent** with this objective. Proposed project development in the Port would include education, research, recreation, office, and commercial uses, which would be coastal dependent and supportive. Public views and access to the coastal resources would be protected and enhanced by improved vehicular and pedestrian linkages to the waterfront via the waterfront promenade and Signal Street.
Objective 12: To stimulate employment opportunities for workers residing in adjacent communities, such as San Pedro and Wilmington.	The proposed Project is **consistent** with this objective. The proposed Project would include commercial uses (museum and cafe) that would increase the employment opportunities for workers residing in adjacent communities. Additionally, the proposed Project includes a marine science business park to attract marine-related business. The proposed business park use would provide employment opportunities for people living in San Pedro and Wilmington.
Policy 6. The highest priority for any water or land area use within the jurisdiction of the Port shall be for developments that are completely dependent on harbor water areas and/or harbor land areas for their operations.	The proposed Project is **consistent** with this policy. The proposed Project includes the waterfront area at Berths 56–60 and 70–71. This area would consist of the extension of the waterfront promenade to Warehouse No. 1, public space along the waterfront, berthing space for research vessels, adaptive reuse of the transit sheds at Berths 57–60, and remediation and development of Berths 70–71. These uses would be dependent upon the harbor water areas and include marine-related research, education, business space, and the proposed wave tank facility.
Policy 11. It shall be long-range Port development policy to have facilities used for the storage or transfer of hazardous liquid and hazardous dry bulk cargoes that are inappropriately located, phased out, and relocated to more appropriate sites in areas relatively remote from adjacent communities. Such policy shall be subject to the following criteria: (1) changes in economic conditions that affect types of commodities traded in waterfront commerce; (2) the economic life of existing facilities handing or storing hazardous cargoes; and (3) precautions deemed necessary to	The proposed Project is **consistent** with this policy. The proposed Project would provide for redevelopment of the Westway Terminal following demolition of the storage tanks and remediation of the site (both approved under the 2009 SPW EIR/EIS) including development of office space, berthing space for marine-research vessels, and the wave tank facility.

Goal/Objective/Policy	*Consistency Analysis*
maintain national security.	
Policy 16. Location, design, construction and operation of all new or expanded development projects under the Port's jurisdiction shall be based on the latest safety standards appropriate to the intended facility.	The proposed Project is **consistent** with this policy. All aspects of design of the proposed Project would be reviewed by appropriate Port staff to ensure any and all safety standards and measures have been adhered to.
Policy 18. Port development projects shall be consistent with the specific provisions of this Plan, the certified Port Master Plan, the California Coastal Act of 1976 and other applicable federal, state, county and municipal laws and regulatory requirements.	The proposed Project is **consistent** with this policy. As discussed throughout this section, the proposed Project would be consistent with local, state, and federal regulations for the Port.
Policy 19. The following long-range preferred water and land uses shall guide future Port development: *Area 2 West Bank:* Commercial, recreation, commercial fishing, and non-hazardous cargo operations and support activities	The proposed Project is **consistent** with this policy. As discussed in Impact LU-1b above, the long-range preferred water and land uses in PA 2 are reflected in the proposed project design and are consistent with both short-term and long-term goals as stated in the Port Plan for PA 2.
Policy 20. Since the Port provides an ideal environment for educational purposes such as oceanographic and marine research, the development of educational and research facilities shall be appropriate institutional uses in land or water areas of the harbor where they will not interfere with other Port-dependent preferred uses.	The proposed Project is **consistent** with this policy. Recreation, community, and educational facilities (e.g., museum, public plaza, and a public education facility) would provide various educational opportunities geared towards oceanographic and marine research and related studies. Furthermore, the proposed Project would provide opportunities for institutional research facilities (e.g., research tanks and wave tank).
PORT OF LOS ANGELES STRATEGIC PLAN	
Strategic Objective 1: Implement development strategies to ensure the Port maintains and efficiently manages a diversity of cargo and land uses while maximizing land use compatibility and minimizing land use conflicts.	The proposed Project is **consistent** with this policy. The Strategic Plan initiatives note that the Port has long-range plans to "develop a comprehensive land use plan that recognizes the needs of commerce and recreation; establish land areas that consolidate liquid bulk storage facilities; retain economically viable breakbulk operations; promote the expansion of water-dependent institutional/research facilities and develop appropriate recreational facilities." The proposed Project is consistent with this objective and provides for deindustrialization of the proposed project area to eliminate the existing liquid bulk storage tanks at the Westway Terminal, and provides compatible commercial, research, education, and recreational uses together along the waterfront.

Goal/Objective/Policy	*Consistency Analysis*
Strategic Objective 2: Deliver cost-effective facilities and infrastructure in a timely manner consistent with the land use plan.	The proposed Project is **consistent** with this policy. Operation of the proposed Project is consistent with the planned land uses pursuant to the Port Plan, the PMP, and current zoning and no conflicts would result upon implementation of the proposed Project. Furthermore, the proposed Project would incorporate the existing transit sheds in order to provide for cost-effective facilities and infrastructure consistent with the land use plan.
Strategic Objective 3: Promote, develop, and provide a safe and efficient transportation system for the movement of goods and people in the Port vicinity and throughout the region, state, and nation in a cost-effective and environmentally sensitive and sustainable manner.	The proposed Project is **consistent** with this policy. The storage areas at the end of Berth 60 utilized by the water taxi service would be relocated within the general vicinity of Berth 60 to better accommodate the proposed Project while maintaining the safe and efficient transportation of goods in the Port vicinity. Also, the proposed Project would involve improvements to Signal Street, including repaving and restriping, installing new diagonal parking, and removing the heavy rail line within the street to promote the movement of goods and people in the Port vicinity.
Strategic Objective 5: Be the greenest port in the world.	The proposed Project is **consistent** with this policy. The proposed Project has been subject to the CAAP and has undergone CEQA analysis in this document, and, where appropriate, mitigation measures have been imposed as an implementation strategy. Sections of this EIR create and implement action plans for clean water, clean soil, and clean groundwater. Specifically, the proposed Project includes the removal of hazardous materials and the remediation of hazardous areas. Additionally, the proposed Project would actually reduce the intensity of the land use of the area by removing industrial uses and replacing them with commercial, educational, public open space, and research uses. The proposed Project includes the redevelopment of the Westway Terminal following removal of the liquid bulk storage tanks and remediation of the site to complete the full buildout of a 50,000-square-foot facility for NOAA that would include office and laboratory space and the 80,000-square-foot wave tank. Additionally, the proposed Project includes the extension of the waterfront promenade around the transit sheds at Berths 58–60 and right-of-way for the Red Car line (approved under the 2009 SPW EIR/EIS) along Signal Street to Warehouse No. 1.
Strategic Objective 9: Strengthen relations with all internal and external stakeholders through education, advocacy, meaningful interaction and engaging events/initiatives that benefit the community.	The proposed Project is **consistent** with this policy. The proposed Project has involved extensive community outreach and input into the planning process, and throughout the EIR process.
Strategic Objective 10: Realize the potential of the diversity of Los Angeles' population by expanding	The proposed Project is **consistent** with this policy. The proposed Project's café, classrooms, government offices, and marine science business

Goal/Objective/Policy	*Consistency Analysis*
opportunity; retain and develop more high-quality jobs with an emphasis on green technology.	park would provide jobs. It is anticipated the majority of these jobs would be taken by local and regional residents.
PORT OF LOS ANGELES GREEN BUILDING POLICY	
New Construction (e.g., office buildings) 7,500 square feet or greater, without compromising functionality, will be designed to a minimum level of LEED NC Gold.	The proposed Project is **consistent** with this standard. The proposed project building designs would comply with new construction LEED requirements.
New Construction (e.g., marine utilitarian buildings such as equipment maintenance), without compromising functionality, will be designed to a minimum level of LEED NC Silver.	The proposed Project is **consistent** with this standard. The proposed project building designs would comply with new construction LEED requirements.
Existing Buildings of 7,500 square feet or greater will be inventoried as evaluated for their applicability to the LEED Existing Building Standards. Priority for certification will be determined by building operation and maintenance procedures.	The proposed Project is **consistent** with this standard. The proposed project building designs would comply with LEED existing building requirements, as applicable.
All other buildings will be designed or constructed to meet the highest achievable LEED standard to the extent feasible for the building's purpose.	The proposed Project is **consistent** with this standard. The proposed project building designs would comply with LEED requirements.
All Port buildings will include solar power to the maximum extent feasible, as well as incorporation of the best available technology for energy and water efficiency.	The proposed Project is **consistent** with this standard. The proposed Project would incorporate energy efficient designs into construction and development of new buildings. In addition, the proposed Project would incorporate solar panels on rooftops, where feasible.

Impact Determination

The proposed Project is consistent with all goals, objectives, and policies of the following plans:

- General Plan Framework Element
- Port of Los Angeles Plan (part of the City of Los Angeles General Plan)
- Port of Los Angeles Master Plan
- Port of Los Angeles Strategic Plan
- Los Angeles Green Building Policy

As discussed above, the proposed Project is consistent with the California Tidelands Trust Act of 1911 because all property and improvements included in the proposed Project would be dedicated to marine research and marine-related business uses. Furthermore, the proposed Project is consistent with the provisions of the PMP and the Port Plan. The proposed Project would be consistent with the General Plan and adopted environmental goals, objectives, policies, and purposes contained in other applicable plans.

The proposed Project would locate project facilities (including implementation of the proposed waterfront promenade as planned in the San Pedro Waterfront Project) adjacent to Mike's fueling station, which stores and handles hazardous liquid bulk materials. This would be inconsistent with the objective of the RMP of the PMP to locate vulnerable populations away from hazardous facilities. This land use inconsistency could result in adverse physical environmental impacts on vulnerable populations (i.e., public recreators) should Mike's fueling station ever have an accidental release, spill, or explosion of the hazardous liquid bulk materials. Therefore, this land use inconsistency is a significant impact under CEQA. Implementation of Mitigation Measure MM RISK-1, identified in Section 3.7, "Hazards and Hazardous Materials," would reduce impacts to less-than-significant levels.

Mitigation Measures

Implement Mitigation Measure MM RISK-1 (see Section 3.7, "Hazards and Hazardous Materials").

Residual Impacts

Impacts would be less than significant.

3.8.4.3.3 Summary of Impact Determinations

Table 3.8-3 summarizes the impact determinations of the proposed Project related to land use and planning, as described in the detailed discussion and tables above. Identified potential impacts may be based on federal, state, City of Los Angeles, and LAHD significance criteria.

For each type of potential impact, Table 3.8-3 describes the impact, notes the impact determination, 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 3.8-3. Summary Matrix of Potential Impacts and Mitigation Measures for Land Use Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.8 LAND USE AND PLANNING			
Construction			
LU-1a: Construction of the proposed Project would not be inconsistent with the adopted land use/density designation in the Community Plan, redevelopment plan, or specific plan for the site.	Less than significant	No mitigation is required.	Less than significant
LU-2a: Construction of the proposed Project would not be inconsistent with the General Plan or adopted environmental goals or policies contained in other applicable plans.	Less than significant	No mitigation is required.	Less than significant
Operation			
LU-1b: Operation of the proposed Project would not be inconsistent with the adopted land use/density designation in the Community Plan, redevelopment plan, or specific plan for the site.	Less than significant	No mitigation is required.	Less than significant
LU-2b: Operation of the proposed Project would be inconsistent with the General Plan or adopted environmental goals or policies contained in other applicable plans, which would result in an adverse physical effect on the environment.	Significant	Implement Mitigation Measure MM RISK-1 (see Section 3.7, “Hazards and Hazardous Materials”).	Less than significant

3.8.4.4 Mitigation Monitoring

See Table 3.7-2 in Section 3.7, “Hazards and Hazardous Materials,” for mitigation monitoring for MM RISK-1. No other mitigation related to land use and planning is required for the proposed Project.

3.8.4.5 Significant Unavoidable Impacts

No significant unavoidable impacts on land use and planning would occur during construction or operation of the proposed Project.

3.9

NOISE

3.9

NOISE

3.9.1 Introduction

This section describes the fundamentals of noise, the existing environmental setting for noise, the regulatory setting associated with noise, the potential increase of noise that would result from the proposed Project that could cause significant impacts, and any necessary mitigation measures that would reduce these impacts. However, even with all feasible mitigation incorporated, there would still be significant and unavoidable impacts related to noise.

The following list summarizes the significant and unavoidable noise impacts that would result from construction and operation of the proposed Project:

- Proposed project construction noise impacts on the closest sensitive receivers (approximately 900 feet from the proposed project site) would exceed the applicable noise standards. Thus, construction-related noise impacts on liveaboard boats at the Cabrillo Way Marina would be significant and unavoidable.

3.9.1.1 Noise Fundamentals

Noise may be defined as unwanted sound and is usually objectionable because it is disturbing or annoying. The objectionable nature of noise can be caused by its *pitch* or its *loudness*. *Pitch* is the height or depth of a tone or sound, depending on the relative rapidity (*frequency*) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is the amplitude of sound waves combined with the reception characteristics of the ear. Amplitude may be compared with the height of an ocean wave. Technical acoustical terms commonly used in this section are defined in Table 3.9-1.

Table 3.9-1. Definitions of Acoustical Terms

Term	*Definition*
Decibel (dB)	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20 micro Pascals.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro Pascals in air). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency (Hertz [Hz])	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 and 20,000 Hz. Infrasonic sounds are below 20 Hz and ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level (dBA)	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level (L_{eq})	The average A-weighted noise level during the measurement period. The hourly L_{eq} used for this report is denoted as dBA $L_{eq[h]}$.
Community Noise Equivalent Level (CNEL)	The average A-weighted noise level during a 24-hour day, obtained after the addition of 5 dB to sound levels in the evening from 7 p.m. to 10 p.m. and after the addition of 10 dB to sound levels in the night between 10 p.m. and 7 a.m.
Day/Night Noise Level (L_{dn})	The average A-weighted noise level during a 24-hour day, obtained after the addition of 10 dB to levels measured in the night between 10 p.m. and 7 a.m.
L_1, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1, 10, 50, and 90% of the time during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, time of occurrence, and tonal or informational content as well as the prevailing ambient noise level.

3.9.1.1.1 Decibels and Frequency

In addition to the concepts of pitch and loudness, there are several noise measurement scales that are used to describe noise. The *decibel* is a unit of measurement that indicates the relative amplitude of a sound. Zero on the decibel scale is based on the lowest sound pressure that a healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 dB represents a 10-fold increase in acoustic energy, while 20 dB is 100 times more intense, 30 dB is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its level. Each 10-dB increase in sound level is perceived as approximately a doubling of loudness over a wide range of amplitudes. Because decibels are logarithmic units, sound pressure levels are not added arithmetically. When two sounds of equal sound pressure level are added, the result is a sound pressure level that is 3 dB higher. For example, if the sound level were 70 dB when 100 cars pass by, then it would be 73 dB when 200 cars pass the observer. Doubling the amount of energy would result in a 3 dB increase to the sound level. Noise levels will not change much when a quieter noise source is added to relatively louder ambient noise levels. For example, a 60 dB noise source is added to 70 dB ambient noise levels, resulting in noise level equal to 70.4 dB at the location of the new noise source.

Frequency relates to the number of pressure oscillations per second, or *Hertz*. The range of sound frequencies that can be heard by healthy human ears is from about 20 Hz at the low frequency end to 20,000 Hz (20 kilohertz [kHz]) at the high frequency end.

There are several methods for characterizing sound. The most common is the *A-weighted sound level* or *dBA*. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Studies have shown that the A-weighted level is closely correlated with annoyance to traffic noise. Other frequency weighting networks, such as *C weighting* or *dBC*, have been devised to describe noise levels for specific types of noise (e.g., explosives). Table 3.9-2 shows typical A-weighted noise levels that occur in human environments.

Table 3.9-2. Typical Noise Levels in the Environment

Noise Level dBA	*Extremes*	*Home Appliances*	*Speech at 3 Feet*	*Motor Vehicles at 50 Feet*	*General Type of Community Environment*
120	Jet aircraft at 500 feet				
110					
100		Chain saw			
90		Power lawnmower		Diesel truck (not muffled)	
80		Shop tools	Shout	Diesel truck (muffled)	
70		Blender	Loud voice	Automobile at 70 mph	Major metropolis
60		Dishwasher	Normal voice	Automobile at 40 mph	Urban (daytime)
50 40		Air-conditioner	Normal voice (back to listener)	Automobile at 20 mph	Suburban (daytime)
30		Refrigerator			Rural (daytime)
20					
10					
0	Threshold of hearing				

Source: Harris Miller Miller & Hanson, Inc. 2003.

3.9.1.2 Noise Descriptors

Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations is utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called L_{eq}. A common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration. The scientific instrument used to measure noise is the sound level meter, which can accurately measure environmental noise levels to within approximately plus or minus 1 dBA. Two metrics describe the 24-hour average, L_{dn} and CNEL. Both include penalties for noise during the nighttime, and CNEL also penalizes noise during the evening. CNEL and L_{dn} are normally within 1 dBA of each other and are used interchangeably in this section. L_{dn} and CNEL are approximately equal to the L_{eq} peak hour under normal traffic conditions (Caltrans 1998).

3.9.1.3 Human Response to Noise

Noise-sensitive receptors are generally defined as locations where people reside or where the presence of unwanted sound may adversely affect the use of the land. Noise-sensitive receptors typically include residences, hospitals, schools, guest lodging, libraries, and certain types of passive recreational uses. Sensitive land uses in the proposed project area include:

- existing residences, and
- existing recreational land uses.

Studies have shown that under controlled conditions in an acoustics laboratory, a healthy human ear is able to discern changes in sound levels of 1 dBA. In the normal environment, changes in noise level of 3 dBA are considered just noticeable to most people. A change of 5 dBA is readily perceptible, and a change of 10 dBA is perceived as being twice as loud.

Biological responses to noise are discussed in greater detail in Section 3.3, "Biological Resources."

3.9.1.3.1 Noise and Health

A number of studies have linked increases in noise with health effects, including hearing impairment, sleep disturbance, cardiovascular effects, psychophysiological effects, and potential impacts on fetal development (Babisch 2005). Potential health effects appear to be caused by both short- and long-term exposure to very loud noises and long-term exposure to lower levels of sound. Acute sounds of L_{AF}[1] > 120 dB can cause mechanical damage to hair cells of the cochlea (the auditory portion of the inner ear) and hearing impairment (Babisch 2005). L_{AF} > 120 dB is equivalent to a rock concert or a plane flying overhead at 984 feet.

The World Health Organization and the EPA consider L_{eq} = 70 dB(A) to be a safe daily average noise level for the ear. However, even this "ear-safe" level may cause disturbance to sleep and concentration, and may be linked to chronic health impacts such as hypertension and heart disease (Babisch 2006).

A number of studies have looked at the potential health effects from the sound of chronic lower noise levels, such as traffic, especially as these noise levels affect children. In a study of school children in Germany, blood pressure was found to be 10 mmHg[2] higher in a group of students exposed to road traffic noise from high traffic transit routes (Babisch 2006). A study by Kwanda (2004) showed that in pregnant women, exposure to airplane noise was found to be associated with decreased fetal body weight.

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[1] L_{AF} = Sound level with "A" Frequency weighting and Fast Time weighting
[2] mmHG = millimeter of mercury

3.9.1.4 Sound Propagation

When sound propagates over a distance, it changes in both level and frequency content. The manner in which noise is reduced with distance depends on the following important factors.

Geometric spreading: In the absence of obstructions, sound from a single source (i.e., a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates (or drops off) at a rate of 6 dBA for each doubling of distance. Highway noise is not a single stationary point source of sound. The movement of vehicles on a highway makes the source of the sound appear to emanate from a line (i.e., a "line" source) rather than from a point. This results in cylindrical spreading rather than the spherical spreading resulting from a point source. The change in sound level from a line source is 3 dBA per doubling of distance.

Ground absorption: Usually the noise path between the source and the observer is very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation because of geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is done for simplification only; for distances of less than 200 feet, prediction results based on this scheme are sufficiently accurate. For acoustically "hard" sites (i.e., sites with a reflective surface, such as a parking area or a smooth body of water, between the source and the receiver), no excess ground attenuation is assumed. For acoustically absorptive or "soft" sites (i.e., sites with an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dBA per doubling of distance is normally assumed. When added to the geometric spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dBA per doubling of distance for a line source and 7.5 dBA per doubling of distance for a point source.

Atmospheric effects: Research by Caltrans and others has shown that atmospheric conditions can have a major effect on noise levels. Wind has been shown to be the single most important meteorological factor within approximately 500 feet, whereas vertical air temperature gradients are more important over longer distances. Other factors, such as air temperature, humidity, and turbulence, also have major effects. Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lower noise levels. Increased sound levels can also occur because of temperature inversion conditions (i.e., increasing temperature with elevation).

Shielding by natural or human-made features: A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by this shielding depends on the size of the object, proximity to the noise source and receiver, surface weight, solidity, and the frequency content of the noise source. Natural terrain features (such as hills and dense woods) and human-made features (such as buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receiver specifically to reduce noise. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction. A higher barrier may provide as much as 20 dB of noise reduction.

3.9.2 Existing Environment

3.9.2.1 Existing Noise Measurements

Short-term noise measurements were taken at sensitive receivers[3] around the proposed project site and in the surrounding neighborhoods to establish the existing ambient noise profile in and around the proposed project site. Noise measurement locations related to potential noise construction impacts were initially determined based on aerial photographs of the area surrounding the proposed project site and location for potential operational noise impacts locations where the traffic study measured traffic. Aerial photographs helped determine the general land uses surrounding the proposed project site. Exact measurement locations were then chosen during site visits on January 25, 2012. Noise measurements at these locations were taken to address construction related or operational related noise dependent on proximity to the proposed Project. These measured noise levels (summarized in Table 3.9-3) are used for the project baseline unless otherwise stated. A Larson Davis 820 type 1 (Precision-grade) digital sound level meter was used to measure the existing ambient noise levels. The sound meter was mounted on a tripod, and a windscreen covered the sound meter's microphone to diminish the effect of unwanted wind-generated noise; 15-minute measurements were conducted and recorded at the measurement locations. A CA 200 calibrator was used to verify the calibration of the sound level meter both before and after each set of measurements was taken. Noise metrics recorded consisted of the measured L_{eq}, L_{min}, L_{max}, L_{10}, L_{50}, and L_{90}. Prevailing weather conditions at each site were noted along with other factors that might adversely alter the quality of the noise measurements. The results of those measurements are presented in Table 3.9-3, and the locations are shown on Figure 3.9-1.

Berth 260, the location of the existing SCMI facility, is located within an industrial area on Terminal Island. The closest sensitive receiver to the existing SCMI location is approximately 3,500 feet to the west. The relatively minimal demolition work that would conducted at Berth 260, would not impact the receptor at such a great distance and therefore no baseline noise measurements were conducted for that location.

[3] Sensitive receivers are locations of frequent human use where the occurrence of high levels of noise could negatively affect the use of the area in question.

Table 3.9-3. Noise Measurement Results (dBA)

		Measurement Period				*Measurement Results (dBA)*					
Site ID	*Measurement Location*	*Date*	*Start Time*	*Duration (mm:ss)*	*Noise Sources*	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}
ST-1	On proposed project site	1/25/12	9:30 a.m.	15:00	Truck traffic along Signal Street, idling trucks, birds	58.6	73.9	52.4	53.7	55.1	60.7
ST-2	22nd Street Park	1/25/12	10:00 a.m.	15:00	Traffic along 22nd Street and in parking lot, people talking, birds, distant construction	52.7	65.0	46.5	48.7	51.1	55.1
ST-3	Berth 35 Gangway A (Marina)	1/25/12	10:45 a.m.	15:00	Traffic along 22nd Street and in parking lot, people talking, birds, distant construction	55.9	75.1	44.9	47.1	51.8	57.3
ST-4	2024 Gaffey Street, corner of Gaffey Street and 21st Street (Residence)	1/25/12	11:45 a.m.	15:00	Traffic along Gaffey Street	68.9	79.6	47.8	56.9	66.8	72.6
ST-5	Bank Lofts Condos along 7th Street	1/25/12	1:35 p.m.	15:00	Traffic along 7th Street	64.2	77.8	48.2	52.8	61.2	67.7
ST-6	Baseball field along Harbor Boulevard	1/25/12	2:25 p.m.	15:00	Traffic along Harbor Boulevard	61.3	79.8	43.6	49.7	57.2	63.4

3.9.2.1.1 ST-1: Proposed Project Site

Site ST-1 is located on the proposed project site south of 22nd Street between the existing warehouse to the west and a group of storage tanks associated with the former Westway facility to the east. The measured noise level at ST-1 was 59 dBA L_{eq}; noise sources included truck traffic along 22nd Street and Signal Street, as well as ambient noise such as birds.

3.9.2.1.2 ST-2: 22nd Street Park

Site ST-2 is located at the 22nd Street Park to the west of the proposed project site, north of 22nd Street, approximately 3,000 feet to the west/northwest of the acoustic center of the proposed project site. Residences are located to the north of the park, a mix of residential and commercial uses are located to the west, and commercial land uses and the marina are located to the south. The measured noise level at the site was 53 dBA L_{eq}, with the main noise source being traffic along 22nd Street and ambient noises associated with the park such as birds and people talking.

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Figure 3.9-1
Noise Measurement and Modeling Locations
City Dock No. 1 Marine Research Center Project

3.9.2.1.3 ST-3: Berth 35 Gangway A (Marina)

Site ST-3 is located at the entrance to Berth 35 Gangway A, approximately 3,100 feet from the acoustic center of the proposed project site. The measurement location is representative of sensitive receptors in the marina such as pleasure craft where few people reside. ST-3 also represents commercial land use receptors along this stretch of the waterfront. The marina and landside commercial uses are to the east and west, and 22nd Street and the 22nd Street Park are to the north. The measured noise level at the site was 56 dBA L_{eq}, with the main noise source being traffic along 22nd Street and ambient noises such as people talking and birds. The closest portion of the marina is approximately 900 feet away from the acoustical center of the proposed project site. Being that the marina contains liveaboards, this location is assumed to contain sensitive receivers. Therefore modeled receiver MR-1 was utilized as assess potential impacts to sensitive receivers located in closer proximity to the proposed project site.

3.9.2.1.4 ST-4: Residence at the Corner of Gaffey Street and 21st Street

ST-4 is representative of the single-family residential land uses located along Gaffey Street. ST-4 is located approximately 5,600 feet to the west of the acoustic center of the proposed project site. Gaffey Street runs north and south and consists of residential and interspersed commercial land uses. The measured noise level was 69 dBA L_{eq} with the main noise source being traffic along Gaffey Street.

3.9.2.1.5 ST-5: Bank Lofts Condos along 7th Street

ST-5 is representative of the multi-family residential land uses along 7th Street. Land uses along 7th Street include interspersed multi-family residential mixed with commercial uses. ST-5 is located approximately 6,500 feet from the acoustic center of the proposed project site. The measured location is representative of exterior living spaces and balconies at the multi-family residences. The measured noise level at ST-5 was 64 dBA L_{eq}, with the main source of noise being traffic along 22nd Street.

3.9.2.1.6 ST-6: Bloch Field along Harbor Boulevard

ST-6 is representative of Bloch Field, a baseball field and park located along Harbor Boulevard. ST-6 is located approximately 3,100 feet to the northwest of the acoustic center of the proposed project site. The surrounding land uses include residential to the west, the project site to the south, and the harbor to the east. The measured noise level at ST-6 was 61 dBA L_{eq}, with the main source of noise being traffic along Harbor Boulevard.

3.9.3 Applicable Regulations

The following regulations are excerpts from the City of Los Angeles Municipal Code and General Plan Noise Element, and are applicable to the proposed Project.

3.9.3.1 City of Los Angeles Municipal Code

Section 41.40 of the City of Los Angeles Municipal Code prohibits construction work during nighttime and early morning hours. The Municipal Code section states the following:

> (a) No person shall between the hours of 9:00 pm and 7:00 am of the following day perform any construction or repair work of any kind upon or any excavating for, any building or structure, where any of the foregoing entails the use of any power-driven drill, driven machine, excavator, or any other machine, tool, device, or equipment which makes loud noises to the disturbance of persons occupying sleeping quarters in any dwelling, hotel, or apartment or other place of residence. In addition, the operation, repair or servicing of construction equipment and the jobsite delivering of construction materials in such areas shall be prohibited during the hours herein specified. Any person who knowingly and willfully violates the foregoing provision shall be deemed guilty of a misdemeanor punishable as elsewhere provided in this code.
>
> (b) The provisions of Subsection (a) shall not apply to any person who performs the construction, repair or excavation work involved pursuant to the express written permission of the Board of Police Commissioners through its Executive Director. The Executive Director, on behalf of the Board, may grant this permission, upon application in writing, where the work proposed to be done is in the public interest, or where hardship or injustice, or unreasonable delay would result from its interruption during the hours mentioned above, or where the building or structure involved is devoted or intended to be devoted to a use immediately related to public defense. The provisions of this section shall not in any event apply to construction, repair or excavation work done within any district zoned for manufacturing or industrial uses under the provisions of Chapter I of this Code, nor to emergency work necessitated by any flood, fire or other catastrophe.

Chapter 11 of the Municipal Code sets forth noise regulations, including regulations applicable to construction noise impacts, within 500 feet of a residence. Although the proposed Project is 900 feet from the nearest residence, the Municipal Code section is the pertinent of the significance criteria established in Section 3.9.4.2 below. Section 112.05 establishes maximum noise levels for powered equipment or powered hand tools. This section states:

> Between the hours of 7:00 am and 10:00 pm in any residential zone of the City or within 500 feet thereof, no person shall operate or cause to be operated any powered equipment or powered hand tool that produces a maximum noise level exceeding the following noise limits at a distance of 50 feet there from (a) 75 dBA for construction, industrial and agricultural machinery including crawler tractors, dozers, rotary drills and augers, loaders, power shovels, cranes, derricks, motor graders, paving machines, off-highway trucks, ditchers, trenchers, compactors, scrapers, wagons, pavement breakers, depressors, and pneumatic or other powered equipment; (b) 75 dBA for powered equipment of 20 horsepower or less intended for infrequent use in residential areas including chain saws, log chippers, and powered hand tools; and (c) 65 dBA for powered equipment intended for repetitive use in residential areas including lawn mowers, backpack mowers, small lawn and garden tools, and riding tractors.

The noise limits for particular equipment listed above in (a), (b) and (c) shall be deemed to be superseded and replaced by noise limits for such equipment from and after their establishment by final regulations adopted by the Federal Environmental Protection Agency and published in the Federal Register.

Said noise limitations shall not apply where compliance therewith is technically infeasible. The burden of proving that compliance is technically infeasible shall be upon the person or persons charged with a violation of this section. Technical infeasibility shall mean that said noise limitations cannot be complied with despite the use of mufflers, shields, sound barriers, and/or other noise reduction device and techniques during the operation of the equipment.

3.9.3.2 City of Los Angeles General Plan Noise Element

The City of Los Angeles General Plan Noise Element establishes standards for exterior sound levels based on land use categories. The Noise Element states that the maximum acceptable outdoor noise exposure-level for residential, hospital, and school zones is 65 dBA CNEL and that silencers and mufflers on intake and exhaust openings for all construction equipment are required. Table 3.9-4 summarizes the City's noise compatibility guidelines.

Table 3.9-4. City of Los Angeles Guidelines for Noise Compatible Land Use

	Day-Night Average Exterior Sound Level (CNEL dB)						
Land Use Category	*50*	*55*	*60*	*65*	*70*	*75*	*80*
Residential Single-Family, Duplex, Mobile Home	A	C	C	C	N	U	U
Residential Multi-family	A	A	C	C	N	U	U
Transient Lodging, Motel, Hotel	A	A	C	C	N	U	U
School, Library, Church, Hospital, Nursing Home	A	A	C	C	N	N	U
Auditorium, Concert Hall, Amphitheater	C	C	C	C/N	U	U	U
Sports Arena, Outdoor Spectator Sports	C	C	C	C	C/U	U	U
Playground, Neighborhood Park	A	A	A	A/N	N	N/U	U
Golf Course, Riding Stable, Water Recreation, Cemetery	A	A	A	A	N	A/N	U
Office Building, Business, Commercial, Professional	A	A	A	A/C	C	C/N	N
Agriculture, Industrial, Manufacturing, Utilities	A	A	A	A	A/C	C/N	N

Notes:
A = Normally acceptable. Specified land use is satisfactory, based upon assumption buildings involved are conventional construction, without any special noise insulation.
C = Conditionally acceptable. New construction or development only after a detailed analysis of noise mitigation is made and needed noise insulation features are included in proposed project design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning normally will suffice.
N = Normally unacceptable. New construction or development generally should be discouraged. A detailed analysis of noise

Land Use Category	Day-Night Average Exterior Sound Level (CNEL dB)						
	50	55	60	65	70	75	80
reduction requirements must be made and noise insulation features included in the design of a project. U = Clearly unacceptable. New construction or development generally should not be undertaken.							

3.9.4 Impact Analysis

3.9.4.1 Methodology

The potential noise impacts due to construction and operation of the proposed Project were estimated using the methodologies described below.

Hourly average construction noise levels are estimated based on the types of equipment proposed to be on site to complete the various construction activities. These sources included equipment such as loaders, dozers, pile drivers, and trucks. The FTA Transit Noise and Vibration Impact Assessment was used for noise levels for pieces of construction equipment which would be present onsite during construction. Noise levels presented in Table 3.9-5 (Phase 1) and Table 3.9-7 (Phase 2) are representative of specific construction equipment onsite during construction.

During any construction of the proposed Project, the overall average noise levels vary with the level of construction activity and the types of equipment that are on site and operating at a particular time. Noise levels associated with construction were modeled using the loudest piece of construction equipment to analyze representative noise levels at nearby sensitive receivers. SoundPLAN 7.0 models noise based on typical distances between source and receiver, source sound pressure level, presences of shielding between source and receiver, relative height of source and receiver, and other site conditions (ground reflectivity or absorptivity).

Operational noise impacts were assessed using the Federal Highway Administration's (FHWA's) Traffic Noise Model (TNM®), which is their computer program for highway traffic noise prediction and analysis. The most current TNM version (2.5) was used for this report. The parameters for estimating vehicular traffic noise were the typical distance between roadway centerline and receiver; typical AM/PM peak-hour traffic volumes and posted speed limits; percentages of automobiles, medium trucks, buses, motorcycles, and heavy trucks; roadway grade; and site conditions (terrain or structural shielding and ground propagation characteristics). (Federal Highway Administration 2004)

Potential vibration impacts associated with construction were assessed using the U.S. Department of Transportation (USDOT) Transit Noise and Vibration Impact Assessment. Construction vibration thresholds were based on USDOT criteria levels for potential damage to structures surrounding the proposed project site.

3.9.4.2 Thresholds of Significance

3.9.4.2.1 CEQA Criteria

The *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006) contains the following significance thresholds related to construction noise. Quantification of ambient noise levels (existing and projected at the time of construction) is measured in CNEL.

A project would normally have a significant impact on noise levels from construction during the *daytime* if:

NOI-1: Construction activities lasting more than 1 day would exceed existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use; or if construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use.

A project would normally have a significant impact on noise levels from construction during the *nighttime* if:

NOI-2: Construction activities would exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.

NOI-3: Expose persons to or generate excessive groundborne vibration or groundborne noise levels.

The *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006) contains the following significance thresholds for operational noise impacts due to stationary sources, vehicular traffic, or increased railroad operations.

A project would normally have a significant impact on noise levels from project operations if:

NOI-4: Ambient noise level measured at the property line of affected uses increasing by 3 dBA in CNEL to or within the "normally unacceptable" or "clearly unacceptable category," or increasing in any way by 5 dBA or more.

Sensitive receptors in the Port area that could be potentially affected by operational noise from the proposed Project include residential land uses (single- and multi-family housing, liveaboards on boats used as residences) and neighborhood parks. At these land uses, a significant impact would occur if the proposed Project causes CNEL noise levels to increase by (1) 5 dBA or greater where the existing CNEL is less than 70 dBA, or (2) 3 dBA or greater where the existing CNEL exceeds 70 dBA.

3.9.4.3 Impacts and Mitigation

The potential for noise from construction and operation to affect sensitive receptor locations in the area surrounding the proposed project site is assessed in this section.

3.9.4.3.1 Construction Impacts

Proposed Project construction is anticipated to increase noise levels temporarily at noise-sensitive locations near the proposed project site. The magnitude of the increases would depend on the type of construction activity, the noise level generated by various pieces of construction equipment, site geometry (i.e., shielding from intervening terrain or other structures), and the distance between the noise source and receiver.

Construction Phase 1

Noise from construction activity is generated by the broad array of powered, noise-producing mechanical equipment used in the construction process. This equipment ranges from hand-held pneumatic tools to bulldozers, dump trucks, front loaders, and pile driving. Pile driving activities during wharf and ground improvement activities, and installation of the floating docks, would be the loudest individual construction activities.

A list of the construction equipment expected to be used during Phase 1 of construction is provided in Table 3.9-5, broken down by sub-phase with respective equipment noise levels. Noisy construction activities could occur on more than one part of the proposed project site at a given time. However, the noise levels from construction activity and the representative pieces of construction equipment during various phases of a typical construction project have been evaluated, and their use provides an acceptable prediction of a project's potential noise impacts.

Table 3.9-5. Noise Levels from Construction Equipment during Phase 1

Sub-Phase	*Construction Equipment*	*Typical Noise Level at 50 feet (dBA)* [a,b,c]
Wharf Improvements Ground Improvements	Dozer	85
	Front/back loader	85
	Water Truck	88
	Crane	83
	Dump Truck	88
	Material Trucking	88
	Pile Driving	101
	Forklift	85
	Grader	85
	Excavator	85
	Jet Pump	76
	Asphalt Truck	88
	Paver	89

Sub-Phase	*Construction Equipment*	*Typical Noise Level at 50 feet (dBA)* [a,b,c]
	Water Truck	88
	Striper	89
	Roller	74
	Front/back loader	85
	Material Trucking	88
Transit Shed/ Interior Building Construction	Crane	83
	Forklifts	85
	Front/back loader	85
	Welding Equipment	74
	Material Trucking	88
Floating Dock	Crane	83
	Forklifts	85
	Front/back loader	85
	Material Trucking	88
	Derrick Barge	85
	Pile Driver	101
Public Plaza	Crane	83
	Forklifts	85
	Water Truck	88
	Front/back loader	85
	Welding Equipment	74
Signal Street	Asphalt Truck	88
	Paver	89
	Water Truck	88
	Striper	89
	Roller	74
	Front/back loader	85
New Building Construction	Crane	83
	Forklifts	85
	Generator	81
	Water Truck	88
	Front/back loader	85
	Welding Equipment	74

Sub-Phase	*Construction Equipment*	*Typical Noise Level at 50 feet (dBA)* [a,b,c]
	Material Trucking	88
[1] Some pieces of equipment were not presented in the FTA Transit Noise and Vibration Impact Assessment. Therefore, similar pieces of equipment were substituted.		
[2] Noise levels for pile driving assume that impact pile driving would be used during construction. Should vibratory pile driving be used, noise levels would be expected to drop.		
[3] Noise levels for welding equipment were taken from the FHWA's Roadway Construction Noise Model (RCNM).		
Source: FTA 2006, FHWA 2008.		

In order to assess the potential noise effects of construction, this noise analysis modeled the loudest piece of construction equipment (pile driving during Wharf and Ground Improvements) to assess resultant noise impacts on surrounding noise sensitive receivers. The closest sensitive receivers were liveaboard boats located in the harbor located approximately 900 feet to the west of the proposed project site. Table 3.9-6 below shows a list of sensitive receivers located in close proximity to the proposed project site. Figure 3.9-2 shows the location of the liveaboard boats located in the harbor as well as other sensitive receivers (ST-2 & ST-5) located in close proximity to the proposed project site. Construction noise levels at the closest sensitive receiver would be approximately 76 dBA L_{max}. Noise levels like this would be readily audible and would likely dominate the noise environment. This noise level represents a worst-case scenario, and because of the cyclical nature of construction and construction equipment demands, noise levels would not likely approach the worst-case scenario. Receivers located further from the construction would experience lower levels of noise than nearby receivers due to the increased distance and intervening structures. Therefore, no other receivers are expected to experience increased levels of noise associated with construction.

Table 3.9-6. Modeled Noise Levels at Sensitive Receivers

Sensitive Receiver	*Sound Level*[a] *at Sensitive Receivers surrounding the proposed project- related pile driving (dBA L_{max})*
Liveaboard 1	76
Liveaboard 2	64
Liveaboard 3	69
Liveaboard 4	70
Liveaboard 5	73
Liveaboard 6	72
Liveaboard 7	72
Liveaboard 8	70
Liveaboard 9	71
Liveaboard 10	70

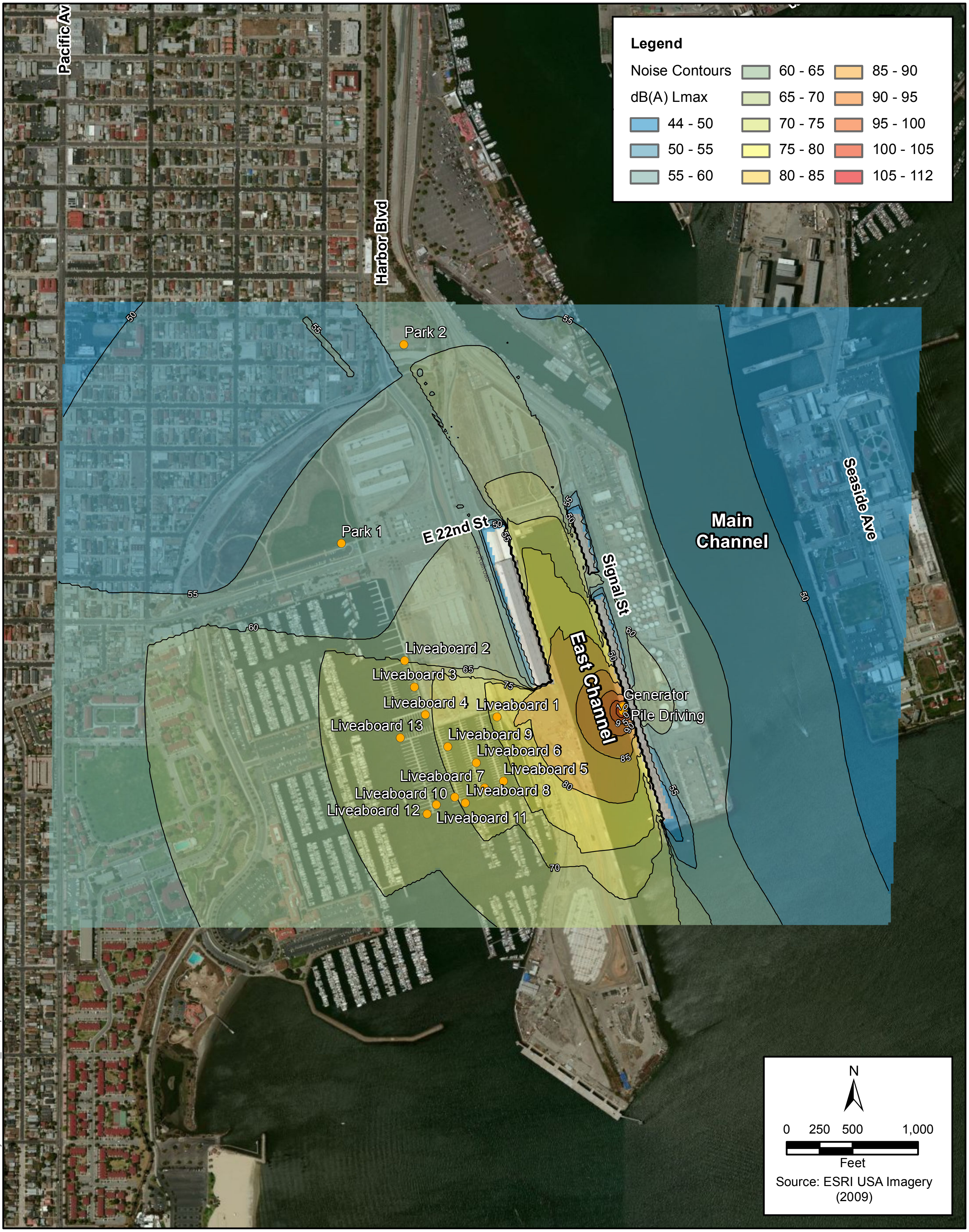

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Figure 3.9-2
Construction Noise Contours
City Dock No. 1 Marine Research Center Project

Sensitive Receiver	Sound Level[a] at Sensitive Receivers surrounding the proposed project- related pile driving (dBA L_{max})
Liveaboard 11	69
Liveaboard 12	68
Liveaboard 13	68
Park 1	57
Park 2	59

[a] Sound level rounded to the nearest whole number.
Source: FTA 2006, FHWA 2008.

Construction Phase 2

A list of the construction equipment expected to be used during Phase 2 of construction is presented by sub-phase in Table 3.9-7, with their respective noise levels. Pile driving activities during wharf and ground improvement activities, and wave tank construction, would be the loudest individual construction activities.

Table 3.9-7. Noise Levels from Construction Equipment during Phase 2

Sub-Phase	Construction Equipment	Typical Noise Level at 50 feet (dBA) [a, b ,c]
SCMI Building Demolition[4]	Dozer	85
	Front/back loader	85
	Water Truck	88
	Crane	83
	Dump Truck	88
	Material Trucking	88
	Derrick barge	85
	Forklift	85
Wharf Improvements/Ground Improvements	Dozer	85
	Front/back loader	85
	Pile Driving	101
	Water Truck	88
	Crane	83
	Dump Truck	88

[4] SCMI Building Demolition is located on a separate site (Berth 260). This site is located across the harbor from the main City Dock project site and therefore would be located even further from sensitive receivers. No sensitive receivers were identified there.

Sub-Phase	*Construction Equipment*	*Typical Noise Level at 50 feet (dBA)* [a, b ,c]
	Material Trucking	88
	Forklift	85
	Grader	85
	Excavator	85
	jet pump	76
	Asphalt Truck	88
	Paver	89
	Water Truck	88
	Striper	85
	Roller	74
	Front/back loader	85
	Material Trucking	88
Transit Shed	Crane	83
	Forklifts	85
	Front/back loader	85
	Welding Equipment	74
	Material Trucking	77
Promenade	Front/back loader	85
	Dump Truck	88
	Material Trucking	88
	Forklift	85
Wave Tank	Grader	85
	Excavator	85
	Asphalt Truck	88
	Paver	89
	Water Truck	88
	Striper	85
	Roller	74
	Front/back loader	85
	Material Trucking	88
	Crane	83

[a] Some pieces of equipment were not presented in the FTA Transit Noise and Vibration Impact Assessment. Therefore, similar pieces of equipment were substituted.

[b] Noise levels for pile driving assume that impact pile driving would be used during construction.

Sub-Phase	*Construction Equipment*	*Typical Noise Level at 50 feet (dBA)* [a, b ,c]
Should vibratory pile driving be used, noise levels would be expected to drop.		
[c] Noise levels for welding equipment was taken from the FHWA's RCNM.		
Source: FTA 2006, FHWA 2008.		

Phase 2's construction noise profile would be similar to Phase 1's. Therefore noise levels (from Table 3.9-7) associated with pile driving during Phase 2 would be virtually the same as Phase 1 and noise levels presented in Table 3.9-6 would be representative of noise levels expected during construction.

Impact NOI-1: Construction of the proposed Project would last more than 1 day but would not exceed existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use; construction activities lasting more than 10 days in a 3-month period would not exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use.

Construction activities would typically last more than 10 days in any 3-month period. Based on the thresholds of significance, an impact would be considered significant if noise from these construction activities would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use. The closest sensitive receiver is liveaboard boats located approximately 900 feet to the west of the proposed project site, which is represented by the measured receiver ST-1. The noise level of approximately 59 dBA L_{eq} (when rounded to the nearest whole number) at ST-1 would likely be similar to the noise level at the liveaboards boats shown in Figure 3.9-2. Using SoundPLAN 7.0, construction noise levels would be approximately 77 dBA L_{max} during the loudest sub-phase of both Phase 1 and 2 (these subphases include pile driving). These noise levels would result in an approximately 16 dBA increase above the existing noise environment at the closest liveaboard (Liveaboard 1 as shown in Figure 3.9-2).

Construction would exceed the construction noise standards of a more than 5 dB increase in ambient noise levels at the closest sensitive receiver. The City's noise ordinance exempts construction activities from the noise standard (providing that such activities take place between the hours of 7 a.m. and 9 p.m. Monday through Friday, 8 a.m. and 6 p.m. on Saturdays, and no time on Sundays). However, impacts from construction would be considered significant if construction noise would exceed the 5 dBA threshold. Noise control measures are required as mitigation to reduce the noise levels to the extent practicable.

Impact Determination

Construction due to the proposed Project would constitute a significant impact. Noise control measures are required to ensure that noise from construction would not exceed the referenced noise levels listed above. Thus, impacts on sensitive receptors resulting from construction would be significant and require mitigation to reduce noise impacts to the greatest extent practicable.

Mitigation Measures

MM NOI-1: Maintain Construction Equipment. All construction equipment powered by internal combustion engines will be properly muffled and maintained.

MM NOI-2: Locate Equipment away from Noise-Sensitive Land Uses. All stationary noise-generating construction equipment, such as air compressors and portable power generators, will be located as far as practical from existing noise-sensitive land uses.

MM NOI-3: Utilize Quiet Equipment. Quiet construction equipment (such as pneumatic tools) will be utilized where practicable. Noise limits established in the City of Los Angeles Noise Ordinance will be fully complied with.

MM NOI-4: Notify Sensitive Receptors. Cabrillo Way Marina liveaboards will be notified of the construction schedule in writing prior to the beginning of construction.

Residual Impacts

Impacts would remain significant and unavoidable.

Impact NOI-2: Construction activities would not exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9 p.m. and 7 a.m. Monday through Friday, before 8 a.m. or after 6 p.m. on Saturday, or at any time on Sunday.

No construction activities would occur between the hours of 9 p.m. and 7 a.m. Monday through Friday, before 8 a.m. or after 6 p.m. on Saturday, or at any time on Sunday, per the City's Noise Ordinance.

Impact Determination

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact NOI-3: The proposed Project would not expose persons to, or generate, excessive groundborne vibration or groundborne noise levels.

Construction of the proposed Project would generate groundborne vibration. In general, demolition of structures or pile driving during construction generates the highest levels of vibration. Vibratory compactors or rollers, pile drivers, pavement breakers, and heavy trucks can also generate perceptible vibration. The FTA has published standard vibration levels and peak particle velocities for construction equipment operations. The root mean square (RMS) velocity level and peak particle velocities for construction equipment are listed in Table 3.9-8 below.

Table 3.9-8. Vibration Velocities for Construction Equipment

Equipment	*Approximate Vibration Velocity Level at 25 Feet*	*Approximate Peak Particle Velocity at 25 Feet (inches/second)*
Large Bulldozers	87	0.089
Loaded Trucks	86	0.076
Jackhammer	79	0.035
Pile Driver	104	0.644

Data reflects typical vibration level.
Source: FTA 2006.

Vibration levels from construction equipment attenuate as they radiate from the source. The equation to determine vibration levels at a specific distance states that

$$PPV_{equip} = PPV_{ref} \text{ x } (25/D)^{\wedge 1.5}$$

where PPV_{ref} is the Peak Particle Velocity at a reference distance of 25 feet, and D is the distance from the equipment to the sensitive receptor (FTA 2006).

The closest sensitive receptors are approximately 900 feet away from the most vibration-intensive phase of construction (Wharf and Ground Improvements). Wharf and Ground Improvements, floating dock installation, and Wave Tank construction would include construction activities such as pile driving, which experiences the greatest Peak Particle Velocity values from construction equipment. Table 3.9-8 states that pile driving produces Peak Particle Velocities of approximately 0.644 inches per second at a reference distance of 25 feet. This vibration level would attenuate to approximately 0.03 inches per second, which would be virtually undetectable and would be under the threshold of 0.2 inches per second—the threshold that would cause damage from vibration for masonry and wood timber buildings (USDOT 2006).

Therefore, vibration levels due to construction activities would not expose sensitive receivers to, or generate, excessive groundborne vibration or groundborne noise levels; thus, construction vibration impacts would be less than significant.

Impact Determination

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

3.9.4.3.2 Operational Impacts

Impact NOI-4: Operations would not result in ambient noise level measured at the property line of affected uses increasing by 3 dBA in CNEL to or within the "normally unacceptable" or "clearly unacceptable category," or increasing in any way by 5 dBA or more.

Operational Traffic Noise

Predicted traffic noise levels in the proposed project area under existing and existing with proposed project (Phase 1 and Phase 2) conditions were analyzed using the FHWA's TNM. The parameters used to estimate vehicular traffic noise were: the typical distance between roadway centerline and receiver; peak-hour traffic volumes and posted speed limits; proportion of automobiles, medium trucks, and heavy trucks; and site conditions (terrain or structural shielding and ground propagation characteristics) (FWHA 2004). To determine baseline CNEL in the proposed project area and the proposed Project-related increase over baseline CNEL, a spreadsheet was used that models diurnal traffic patterns based on peak noise levels.

Noise from motor vehicle traffic associated with the proposed Project was analyzed using the data from the proposed Project's traffic study. Existing and existing with proposed project (Phase 1 and Phase 2) PM peak hour volumes were used to predict the changes in traffic noise at representative noise-sensitive locations. The results of the noise modeling are shown in Table 3.9-9.

As shown in Table 3.9-9, existing modeled traffic noise levels ranged from 45 dBA CNEL (at modeled receptor ST-1) to 65 dBA CNEL (at modeled receptor ST-4) (when rounded to the nearest whole number). Existing Plus Proposed Project Phase 1 Base Peak Hour noise levels would vary from 45 dBA CNEL at ST-1 to 65 dBA CNEL at ST-4. Existing Plus Proposed Project Phase 2 traffic noise levels would also vary from 45 dBA CNEL at ST-1 to 65 dBA CNEL at ST-4. The proposed

Project's traffic noise contribution would increase traffic noise on area roadways at sensitive receptor locations 0.1 dBA or less from the baseline conditions. Therefore, traffic-related noise impacts would be less than significant.

Table 3.9-9. Traffic Noise Modeling Results

Receptor	*Relevant Noise Standard (dBA CNEL) (not to exceed)*	*Existing Modeled Peak Hour (dBA CNEL)*	*Existing Plus Proposed Project Peak Hour(Phase 1) Cumulative Base (dBA CNEL)*	*Proposed Project-related Difference between Existing and Existing Plus Project Phase 1 (dBA)*	*Existing Plus Proposed Project Peak Hour(Phase 2) Cumulative Base (dBA CNEL)*	*Proposed Project-related Difference between Existing and Existing Plus Proposed Project Phase 2 (dBA)*	*Relevant Noise Standard Exceeded by the Proposed Project?*	*Increase (Compared to Existing) over 3 dBA and Relevant Standard Exceeded?*
ST-1	65	44.8	44.9	0.1	44.9	0.1	No	No
ST-2	65	50.9	51.0	0.1	51.0	0.1	No	No
ST-3	65	52.2	52.3	0.1	52.3	0.1	No	No
ST-4	65	64.7	64.8	0.1	64.8	0.1	No	No
ST-5	65	63.6	63.6	0	63.6	0	No	No
ST-6	65	58.8	58.8	0	58.8	0	No	No

Impact Determination

Impacts would be less than significant.

Mitigation Measures

No mitigation is necessary.

Residual Impacts

Impacts would be less than significant.

3.9.4.3.3 Summary of Impact Determinations

Table 3.9-10 summarizes the impact determinations of the proposed Project related to Noise, as described in the detailed discussion in Sections 3.9.4.3.1 and 3.9.4.3.2. Identified 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 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 3.9-10. Summary Matrix of Potential Impacts and Mitigation Measures for Noise Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.9 NOISE			
NOI-1: Construction of the proposed Project would last more than 1 day but would not exceed existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use; construction activities lasting more than 10 days in a 3-month period would not exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use**.**	Significant	**MM NOI-1: Maintain Construction Equipment.** All construction equipment powered by internal combustion engines will be properly muffled and maintained. **MM NOI-2: Locate Equipment away from Noise-Sensitive Land Uses.** All stationary noise-generating construction equipment, such as air compressors and portable power generators, will be located as far as practical from existing noise-sensitive land uses. **MM NOI-3**: **Utilize Quiet Equipment.** Quiet construction equipment (such as pneumatic tools) will be utilized where practicable. Noise limits established in the City of Los Angeles Noise Ordinance will be fully complied with. **MM NOI-4: Notify Sensitive Receptors.** Cabrillo Way Marina liveaboards will be notified of the construction schedule in writing prior to the beginning of construction.	Significant and unavoidable
NOI-2: Construction activities would not exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9 p.m. and 7 a.m. Monday through Friday, before 8 a.m. or after 6 p.m. on Saturday, or at any time on Sunday.	Less than significant	No mitigation is required.	Less than significant
NOI-3: The proposed Project would not expose persons to, or generate, excessive groundborne vibration or groundborne noise levels.	Less than significant	No mitigation is required.	Less than significant
NOI-4: Operations would not result in ambient noise level measured at the property line of affected uses increasing by 3 dBA in CNEL to or within the “normally unacceptable” or “clearly unacceptable category,” or increasing in any way by 5 dBA or more.	Less than significant	No mitigation is required.	Less than significant

3.9.4.4 Mitigation Monitoring

Table 3.9-11. Mitigation Monitoring for Noise

Impact NOI-1: Construction of the proposed Project would last more than 1 day but would not exceed existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use; construction activities lasting more than 10 days in a 3-month period would not exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use**.** Control measures are required as mitigation to reduce the noise levels to the greatest extent practicable.	
Mitigation Measure	**MM NOI-1: Maintain Construction Equipment**. **MM NOI-2: Locate Equipment away from Noise-Sensitive Land Uses**. **MM NOI-3**: **Utilize Quiet Equipment.** **MM NOI-4: Notify Sensitive Receptors**.
Timing	During Construction
Methodology	Confirm mitigation measures are in place during construction. Construction manager to send evidence to LAHD and LAHD will verify.
Responsible Parties	Construction Manager and LAHD
Residual Impacts	Significant and unavoidable

3.9.4.5 Significant Unavoidable Impacts

Construction noise related to the proposed Project would constitute a significant impact. Mitigation is proposed that would reduce construction related noise; however, even with mitigation, noise impacts on the closest sensitive receivers (approximately 900 feet from the proposed project site) would exceed the applicable noise standards. Thus, impacts on sensitive receptors resulting from construction would be significant and unavoidable. All other noise-related impacts would be less than significant.

3.10

PUBLIC SERVICES

3.10
PUBLIC SERVICES

3.10.1 Introduction

This section identifies the existing public services (fire protection and medical services, police protection, and parks/recreation) within the proposed project area, and addresses potential impacts on public services that could result from development of the proposed Project. The section also describes the regulatory setting associated with public services.

As discussed under Section 3.10.4, "Impact Analysis," impacts on public services were determined to be less than significant because the proposed Project would not place a substantial demand on existing services that would necessitate new or expanded construction or expedite the deterioration of existing facilities. Therefore, no mitigation is required.

3.10.2 Environmental Setting

The environmental setting discussed herein for the proposed Project is localized to the Port of Los Angeles and the community of San Pedro. Public services for these areas and communities are provided by the Port Police, LAPD, LAFD, United States Coast Guard (USGS), and City of Los Angeles Department of Parks and Recreation (LADPR). Each public service has been actively growing in concert with the growth in the communities and the region. Each service is discussed in detail below to describe current provisions for providing service within the geographic area, and individual planning efforts to accommodate anticipated future growth.

3.10.2.1 Police Protection

The proposed project site is located in the LAPD's Harbor Division, which includes a 27.5-square-mile area within the City of Los Angeles communities of Harbor City, Harbor Gateway, San Pedro, Wilmington, and Terminal Island. Police protection for the proposed Project would be provided by the LAPD and the Port Police. In addition to LAPD and Port Police protection, some tenants occupying a berth or berths in the Port maintain their own internal security staff (LAHD 2008a).

3.10.2.1.1 Port Police

The Port Police are responsible for patrol and surveillance of the Port and neighboring communities. The Port Police enforce federal, state, and local public safety statutes as well as environmental and maritime safety regulations. Their primary goal is to protect the Port against all hazards through identification and elimination to ensure the free flow and protection of commerce and to identify, apprehend, and prosecute persons who would direct criminal activity toward Port properties, customers, or port users. Port Police offices are headquartered about 1 mile north of the proposed Project at 330 South Centre Street in San Pedro at the Port Police Headquarters Building. This building opened in July 2011 and would dispatch the primary responders to the proposed Project for landside emergency calls. Waterside support would be provided by the police dock at Berth 84, located on Mormon Island, about 2.5 miles northeast of the proposed project site.

The Port Police do not estimate the number of employed officers necessary for the amount of proposed development or anticipated population for a given area. Their staff/sworn officer totals are based on current Homeland Security data and levels of security at other ports of corresponding size and activity. Response time goals for the Port Police are presented below in Table 3.10-1. As of June 2011, the Port Police employ a total of 128 sworn officers: 95 patrol officers, 18 sergeants, 8 lieutenants, 5 captains, 2 civilian managers, 1 deputy chief, 1 civilian director, and 1 chief. The Port Police also employ 98 non-sworn personnel: 40 security guards and 58 civilian administrative staff. The Port Police maintain six patrol areas, with the proposed Project located within Area 58 (San Pedro Area), and the Marine Patrol. The number of officers assigned to these patrols varies depending on events and national security intelligence. At times, some officers could be assigned to both land and waterside patrols within the proposed project area (Grant pers. comm. 2011).

Table 3.10-1. Port Police Standard Acceptable Response Times (minutes)

Activity	*Landside Response Time*	*Waterside Response Time*
Emergency	2	15
Immediate	5	20
Alarm	5	20
Non-Emergency	20	30
Report Calls	20	30
Source: Port Police, Grant pers. comm. 2011.		

3.10.2.1.2 Los Angeles Police Department

The LAPD Harbor Division Station located at 2175 John S. Gibson Boulevard in Wilmington, about 3 miles north of the proposed project site, would serve the City Dock No. 1 site. This station is located at the entrance to the Port of Los Angeles, and serves a population of approximately 171,000 persons, which is the largest area in South Bureau. The area comprises four distinct communities: San Pedro, Wilmington, Harbor City, and the Harbor Gateway (LAPD 2011). The 50,000-square-foot station includes a 16,000-square-foot jail with room for up to 300 inmates. Staffing levels, when opened in May 2009, included 260 patrol officers, detectives, and support staff (Felch 2009). During periods of statistically high crime activity, the number of field officers has increased.

Officers employ radio-dispatched cruisers and traffic control motorcycles to patrol the proposed project vicinity. LAPD provides support to the Port Police and responds to Port incidents under the following special circumstances: (1) complex crimes such as homicides and major traffic incidents; (2) special investigations such as narcotics, organized crime, and terrorism; and (3) unusual occurrences as identified by City protocol, such as events that require special resources, expertise, or staffing beyond current competencies. Although LAPD does not have an established goal for response times to emergency calls, as of September 2010 the department-wide response time was 5.7 minutes, which is an improvement based on a September 2009 response time of 6.2 minutes (LAPD 2010).

3.10.2.2 Fire Protection

LAFD provides fire protection and emergency services for the proposed project site. Fire protection capabilities are based on the distance from the emergency to the nearest fire station and the number of simultaneous emergency or fire-related calls.

LAFD has 106 fire stations spread throughout the City of Los Angeles. Of these, 51 are single-engine houses, while the remainder are task force houses. A single-engine house normally has one engine company, while a task force house has a truck company and two engines. Paramedic and emergency medical technician (EMT) ambulances, battalion chiefs, division chiefs, and special apparatus are also assigned to the various stations. An engine company provides fire suppression services in the event of a fire and is typically staffed by a captain, an engineer, and two firefighters. The fire engine carries up to 500 gallons of water and can pump up to 1,500 gallons per minute (gpm). A task force consists of three pieces of apparatus: an aerial truck, an engine company, and a single pump apparatus. A captain, an apparatus operator, and three firefighters work on the truck.

In the proposed project vicinity, LAFD facilities include land-based fire stations and fireboat companies. In the Port area, Battalion 6 is responsible for all of San Pedro and its water fronts, Terminal Island and all of the surrounding water, Wilmington, Harbor City, and Harbor Gateway. There are 10 fire stations within these geographical areas, with fire boats, hazardous material squads, paramedic and rescue vehicles, three-truck companies, an urban search and rescue team, and a foam tender apparatus (Roupoli pers. comm. 2007). The fire stations in the Port area are:

- Station 110, 2945 Miner Street, San Pedro, (located just north of Berth 44 in the West Channel adjacent to the former San Pedro Boatworks and the Cabrillo Way Marina) with a staff of 3 and equipped with 1 fireboat;

- Station 111, 1444 S. Seaside Avenue on Terminal Island, with a staff of 3 and equipped with 1 fireboat; and
- Station 112, 444 S. Harbor Boulevard, Berth 86, San Pedro, (located along the Main Channel at the foot of 5th Street) with a staff of 15, including an emergency medical services supervisor. Station 112 has a single-engine company, a paramedic rescue ambulance, and 1 fireboat.

The primary responding fire stations to the proposed project area would be Station 110 and Station 112.

The citywide LAFD average response time is approximately 6 to 8 minutes. LAFD response time to the proposed project vicinity is 5 minutes or less by land and 10 minutes or less by water. Required response times are 9 minutes by land and 14 minutes by water; therefore, these response times are considered adequate. (LAHD 2008b)

3.10.2.3 U.S. Coast Guard

USCG is a federal agency responsible for a broad scope of regulatory, law-enforcement, humanitarian, and emergency-response duties. The USCG mission includes maritime safety, maritime law enforcement, natural resources protection, maritime mobility, national defense, and homeland security. USCG maintains a post in the Port on Terminal Island. USCG's primary responsibility at the Port is to ensure the safety of vessel traffic in the channels of the Port and in coastal waters.

USCG 11th District supports the Port area and the proposed project area. The USCG 11th District handles marine safety issues such as inspection of U.S. and foreign vessels; maritime security; vessel traffic management; search and rescue; response to and planning for pollution incidents; response to vessel or Port emergencies and natural disasters; inspections of waterfront facilities and hazardous material containers; monitoring of oil transfers and explosive loads; licensing of mariners; investigation of marine casualties; and enforcement of fisheries, drug, and other maritime laws.

USCG 11th District's area of responsibility encompasses 300 miles of California coast from the Monterey County line to Dana Point and extends out into the ocean 200 miles. The command uses 430 people to perform missions including operation of four HH-65 helicopters, four 87-foot patrol boats, three 47-foot boats, four 41-foot boats, and nine rigid hull inflatable boats. USCG field presence in the ports of Los Angeles and Long Beach fluctuates daily depending on port operations and incidents but typically involves between 30 to 50 people in the field who manage vessel traffic; conduct boating safety checks, harbor patrols, commercial vessel inspections, waterfront facility inspections, and container inspections; investigate reports of hazardous material and oil spills; and conduct search and rescue efforts.

USCG evaluates the location of an operation to ensure that it can adequately respond in a timely fashion. According to USCG policy, response time must be within 20 minutes. From underway time to any location, in the worst weather conditions, USCG can reach the proposed project area in less than 15 minutes (10 minutes for getting underway, and 5 minutes for travel time), and thus can adequately respond to any call within the proposed project area. The travel time to any portion of the proposed project area is within USCG policy goals (Ludwig pers. comm.).

3.10.2.4 Recreational Amenities

The area within and around the proposed Project is primarily developed with industrial uses; however there are several recreational related facilities in the vicinity of the site, including two recreation and park facilities within 0.25 mile of the proposed project site: Bloch Field and 22nd Street Park. Bloch Field is located on the east side of Harbor Boulevard, adjacent to 16th Street and Crescent Avenue and includes a lawn area and a baseball field used by the Los Angeles YMCA to host public sporting events, including baseball league tryouts in March, and baseball games from April through June. 22nd Street Park is located west of the proposed project site and comprises 18 acres bounded by 22nd Street, Crescent Avenue, and Miner Street. The park is mostly open meadow, with about 4.5 acres of flat grassy areas containing two bocce ball courts. Walking paths are provided throughout the park and bike paths and trails occur along the northern and southern perimeters. The nearest Class II bike lane is within Miner Street, west of the proposed project site. Class II bike lanes are narrow lanes set aside in city streets exclusively for bicycle use. No bike lanes currently provide direct access the proposed project site.

The proposed Project site is near the new Cabrillo Way Marina which provides boating slips for 3,950 recreational vessels and 2 businesses related to recreational vessels and small service crafts: Pacific Performance Racing and RS Marine Engine Services.

The California Coastal Trail (CCT) is a network of public trails for hikers, bikers, equestrians, and others. Assembly Concurrent Resolution 20, passed by the State legislature in 2000, declared that the CCT is an official state trail. The CCT also received federal recognition that year when President Clinton responded to Governor Davis' nomination and declared it a Millennium Heritage Trail. In 2001, the Senate passed legislation, SB 908, which directed the State Coastal Conservancy, aided by other state agencies, to determine what was needed to complete the CCT (CCT 2003). When it is fully complete, the CCT will stretch along the California coastline from Oregon to Mexico and cover 1,200 miles. The CCT is intended to make the whole California coastline accessible to the public (California Coastal Trail 2012). Currently, the public is able to walk the CCT across the northern boundary of the proposed project site along 22nd Street.

Other nearby recreational facilities include the proposed extension of the public promenade along the San Pedro Waterfront, the 15-acre Ports O' Call Village north of the proposed project site, and the 370-acre Cabrillo Beach southwest of the proposed project site.

3.10.3 Applicable Regulations

LAHD is directed by internal standards and policies that guide the provision of service to its customers. Each agency charged with protecting the public (LAFD, LAPD, Port Police, and USCG) maintains specific standards, such as response times and levels of service that must be adhered to during construction and operation of a project.

3.10.3.1 State Regulations

3.10.3.1.1 California Building Code CCR, Title 24, Part 9

Title 24, Part 6 of the California's Building Code contains fire-safety–related building standards referenced in other parts of Title 24. This Code is preassembled with the 2006 International Fire Code by the International Code Council. Title 24 requires building according to fire safety standards for all new construction, including new buildings, additions, alterations, and, in nonresidential buildings, repairs.

3.10.3.2 Local Regulations

3.10.3.2.1 Fire Protection and Prevention Plan

Fire prevention, fire protection, and emergency medical services within the City of Los Angeles operate under the Fire Protection and Prevention Plan, an Element of the General Plan, and the Fire Code section of the Los Angeles Municipal Code. The Fire Protection and Prevention Plan serves as a guide for the construction, maintenance, and operation of fire protection facilities in the City (City of Los Angeles 2001). The plan sets forth policies and standards for fire station distribution and location, fire suppression water-flow (or fire flow), fire hydrant standards and locations, firefighting equipment access, emergency ambulance services, and fire prevention activities. LAFD also considers population, density, nature of onsite land uses, and traffic flow in evaluating the adequacy of fire protection services for a specific area or land use.

3.10.4 Impact Analysis

3.10.4.1 Methodology

The proposed Project was evaluated to determine if police, USCG, and fire protection facilities were adequately staffed and located so they could respond to an emergency situation in a timely manner, without the provision of additional physical facilities. All agencies were contacted to obtain information regarding their existing and projected service capacity, as well as the projected impacts that would result from implementation of the proposed Project. In addition to emergency services, parks were also evaluated to ensure that an increased demand resulting from the proposed Project would not require additional facilities on- or off site that could result in additional significant environmental impacts.

The following impact assessment and significance determinations are based on regulatory controls and on the assumptions that the proposed Project would include the following:

- LAHD would prepare a manual in compliance with the Work Area Traffic Control Handbook (WATCH) to coordinate with LAFD, LAPD, and Port Police prior to commencement of construction activities. This manual will identify alternative response routes, ensuring continuous adequate emergency vehicular access.

The public services impact analysis presented below addresses those impacts that the IS/NOP determined to be potentially significant, or that were identified by reviewing agencies, organizations, or individuals commenting on the IS/NOP, and that made a reasonable argument that an issue was potentially significant (see Appendix A).

The IS/NOP determined that the proposed Project would have less-than-significant impacts on the following public service issues; therefore, they will not be discussed in the impact analysis below:

- Schools

3.10.4.2 Thresholds of Significance

The following significance criteria are based on the *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006) and other criteria applicable to LAHD projects. According to the *L.A. CEQA Thresholds Guide*, a project would potentially have a significant impact on fire protection and law enforcement services if it would require additional infrastructure to maintain emergency public services to the proposed project site or surrounding area. Although the Guide does not address thresholds of significance in regards to Port Police and USCG, these law enforcement agencies would serve the proposed Project and potentially be affected by proposed project activities. Accordingly, LAHD has included USCG and Port Police in the analysis. As noted in the IS/NOP for the proposed Project, the proposed project site is not within a quarter-mile of an existing or planned school, and as such, potential impacts on schools are not included in the following analysis. The proposed Project would have a significant impact on public services if it would:

- **PS-1:** Substantially reduce public services such as law enforcement, emergency services, and park services/recreational facilities.
- **PS-2:** Burden existing LAPD or Port Police staff levels and facilities such that the LAPD or Port Police would not be able to maintain an adequate level of service without constructing additional facilities that could cause significant environmental effects.

- **PS-3:** Require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service.
- **PS-4:** Increase the demand for recreation and park services and facilities resulting in the physical deterioration of these facilities.

3.10.4.3 Impacts and Mitigation

3.10.4.3.1 Construction

Impact PS-1a: Construction of the proposed Project would not substantially reduce public services such as law enforcement, emergency services, and park services.

Construction of the proposed Project, including demolition activities at Berth 260, would not substantially affect response times for LAFD, LAPD, or the Port Police. As identified above, LAHD would be required pursuant to the WATCH Manual to coordinate with the law enforcement agencies (LAPD and Port Police) and emergency response providers (LAFD) during construction of all improvements, ensuring continuous law enforcement and emergency access to surrounding areas. The WATCH Manual would include temporary traffic controls such as alternate response routes and maintain emergency vehicular access through tapers, diversions and detours, hand signaling controls, barricades, lighting devices, and sign placement to ensure minimum response times during utility construction. Proposed project construction and demolition activities would be subject to emergency response systems implemented by the Port Police and LAFD. During construction and/or demolition activities, LAFD would require that adequate vehicular access to the proposed project area be provided and maintained. This would be ensured and enforced via the construction traffic control plan prepared in compliance with the WATCH Manual as required for the proposed Project. Additionally, LAFD would be responsible for waterside first response in the event of an emergency, deploying their fireboats if needed. The Port Police would also support LAFD in the event of a waterside emergency. For further discussion of the construction traffic control plan, refer to Section 3.11, “Transportation and Circulation—Ground and Marine.” Any disruptions to emergency access that result from construction of the proposed Project would be temporary and accounted for in the traffic control plan.

Access to the proposed park and recreational space, such as the public plaza at Berth 57, once Phase I is operational would not be affected for extended periods by Phase II construction activities, nor would construction interfere with park services or increase demand on park services.

Impact Determination

Implementation of a traffic control plan and compliance with the WATCH Manual during construction activities would ensure that construction of the proposed Project would not substantially reduce public services such as law enforcement, emergency services, and park services. Impacts from construction would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impact

Impacts would be less than significant.

Impact PS-2a: Construction of the proposed Project would not burden existing LAPD or Port Police staff levels and facilities such that the LAPD or Port Police would not be able to maintain an adequate level of service without constructing additional facilities that could cause significant environmental effects.

The Port Police provide primary law enforcement services to the Port area and the LAPD provides support to the Port Police under special circumstances. During construction there would be very little demand on police services. The construction site would be fenced and access would be limited to authorized personnel. However, routine patrols would continue similar to existing conditions and any persons found loitering would be asked to leave. As such, Port Police and LAPD response times would not be affected by construction of the proposed Project.

USCG's ability to respond would not be affected during construction of the proposed Project because the USCG would have the ability to dock at the proposed project site if necessary. Because construction of the proposed Project would not change the baseline demands of how many law enforcement personnel are needed within the Port area, and is it within the current USCG coverage area, USCG would not need to increase personnel or equipment during construction of the proposed Project (Ludwig pers. comm. 2011).

Impact Determination

Construction of the proposed Project would not increase demand for additional law enforcement services. LAPD and Port Police would maintain an adequate level of service and would not need to construct additional facilities, while USCG would have access to the proposed project site. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impact

Impacts would be less than significant.

Impact PS-3a: Construction of the proposed Project would not require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service.

The proposed Project would result in a temporary increase in construction workers in the area; however, construction activities would comply with all applicable state and local codes and ordinances to ensure adequate fire protection. As discussed above under Impact PS-1a, proposed project construction and demolition activities would be subject to emergency response systems implemented by the Port Police and LAFD and through implementation of the WATCH Manual, traffic controls such as alternate response routes and maintain emergency vehicular access through tapers, diversions and detours, hand signaling controls, barricades, lighting devices, and sign placement would be implemented to ensure minimum response times during utility construction. Consequently, construction of the proposed Project would not result in any changes to existing fire protection facilities, and LAFD would be able to accommodate proposed project construction-related fire protection demands.

Impact Determination

Construction of the proposed Project would not increase the demand for fire services to a degree that would require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service. Implementation of a traffic control plan and compliance with the WATCH Manual during construction activities would ensure that construction of the proposed Project would not substantially reduce public services that would result in changes to existing fire protection facilities and impacts from construction would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impact

Impacts would be less than significant.

Impact PS-4a: Construction of the proposed Project would not increase the demand for recreation and park services and facilities resulting in the physical deterioration of these facilities.

Recreational areas within the vicinity of the proposed project site include 22nd Street Park and Bloch Field. Construction activities would be limited to the proposed project site and adjacent water areas where in-water construction activities would require use of marine-based construction equipment. Construction would not preclude the use of these facilities or generate additional use that could result in deterioration of these facilities. As such, construction of the proposed Project is not expected to result in a substantial loss or diminish the quality of recreational facilities and impacts would be less than significant.

Impact Determination

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impact

Impacts would be less than significant.

3.10.4.3.2 Operations

Impact PS-1b: Operation of the proposed Project would not substantially reduce public services such as law enforcement, emergency services, and park services.

As discussed below under Impact PS-2b, 3b, and 4b, operational impacts on law enforcement, emergency services, and park services would be less than significant with implementation of the proposed Project.

Impact Determination

Operational impacts on public services, including law enforcement, emergency services, and park services would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impact

Impacts would be less than significant.

Impact PS-2b: Operation of the proposed Project would not burden existing LAPD or Port Police staff levels and facilities such that the LAPD or Port Police would not be able to maintain an adequate level of service without constructing additional facilities that could cause significant environmental effects.

The Port Police provide primary law enforcement services to the Port area and the LAPD provides support to the Port Police under special circumstances. As such, LAPD response times would not be affected by the proposed Project. In addition to working with the LAPD, the Port Police also coordinate with the Long Beach Police Department and the Los Angeles County Sheriff for landside assistance and with the USCG for commercial vessel operations (pers. comm. Grant). The proposed Project would not burden the Port Police such that they would not be able to maintain their current level of service to the Port area. However, the Port Police continue to assess the needs of the Port, including the proposed project area, and would make adjustment to their operations as appropriate.

Operation of the proposed Project would result in the addition of visitors to the site; however, it is not expected that the activities that would occur on the site would require an increase in police presence compared to existing conditions. Given the Port Police's existing patrol of land and water and their expanding and updating of resources, the proposed Project area would be adequately served. Moreover, as discussed in the paragraph above, the Port Police currently work cooperatively with various agencies to provide adequate protection when additional support is needed to respond to an emergency situation.

USCG's ability to respond would not be affected by the proposed Project because there would be new vessel berthing facilities along Berths 58-60 and at Berths 70-71. Thus, USCG would have the ability to dock at the proposed project site if warranted. Moreover, vessels planned to be berthed at the City Dock No. 1 facility would be required to comply with all USCG regulations, including vessel inspections, as appropriate. Further, the USCG would respond to any vessels requiring assistance. Because the proposed Project does not change the baseline demands of how many law enforcement personnel are needed within the Port area, and is it within the current USCG coverage area, USCG would not need to increase personnel or equipment to accommodate the proposed Project (Ludwig pers. comm. 2011).

Impact Determination

The proposed Project would not increase demand for additional law enforcement services. LAPD and Port Police would maintain an adequate level of service and would not need to construct additional facilities, while USCG would have access to the proposed project site. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impact

Impacts would be less than significant.

Impact PS-3b: Operation of the proposed Project would not require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service.

Fire stations 110 and 112 would be the primary responders to the proposed project site in the event of a fire emergency. As noted above, response times to the project site are 5 minutes or less by land and 10 minutes or less by water, which do not exceed department standards of 9 minutes by land and 14 minutes by water. At buildout, the proposed Project is expected to have approximately 1,500 people visiting and using the site per day on weekdays and approximately 500 on weekends. Although the proposed Project would result in an increase in people in the area, rehabilitation of the existing historic buildings would improve fire prevention characteristics of the proposed project site from the baseline condition by introducing modern suppression systems and fire-resistant materials designed to current building and fire codes. Marine-based research that would take place on-site would mainly be focused on effects on marine organisms and the behavior of the ocean as it relates to tsunamis and rogue waves, etc. Such research does not routinely handle fire or explosive materials. However, use of any such materials would be handled, stored, and disposed of in accordance with hazardous materials laws, as described in Section 3.7, "Hazards and Hazardous Materials." Consequently, operation of the proposed Project would not result in an increase in average emergency response times, and LAFD would be able to accommodate proposed project-related fire protection demands (Richmond pers. comm. 2011).

Impact Determination

The proposed Project would update the existing historic facilities to the extent possible to be consistent with current building and fire codes. As discussed in Section 3.7, "Hazards and Hazardous Materials," use of hazardous materials would be regulated by existing regulations and would require proper use, transport, storage, and disposal. Consequently, the proposed Project would not increase the demand for fire services to a degree that would require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service. Impacts would be less than significant. Operation impacts under threshold PS-3b would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impact

Impacts would be less than significant.

Impact PS-4b: Operation of the proposed Project would not increase the demand for recreation and park services and facilities resulting in the physical deterioration of these facilities.

The proposed Project would develop recreational facilities and open spaces such as a waterfront café, a continuous waterfront pedestrian promenade throughout the proposed Project site, and a public plaza/viewing platform. These new recreational amenities would provide additional recreational opportunities for residents and visitors. LAHD and/or future leaseholders would be responsible for ongoing maintenance and operation of the open spaces and recreational facilities for the proposed Project.

Existing park facilities in the immediate surrounding area would not be affected by the proposed Project because it does not include a residential component. Therefore, the proposed Project would not increase the demand for recreation and park services and facilities in a manner that would result in the physical deterioration of these facilities. Moreover, development of recreational features included as part of the proposed Project may reduce some demand on nearby recreational areas.

Impact Determination

The proposed Project would increase available park and recreational uses in the proposed project area, which would be operated and maintained by LAHD or the future leaseholders; therefore, impacts on existing park and recreational services and facilities would be less than significant. Operation impacts under threshold PS-4b would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impact

Impacts would be less than significant.

3.10.4.3.3 Summary of Impact Determinations

Table 3.10-2 summarizes the impact determinations of the proposed Project related to Public Services and Recreation, as described in the detailed discussion in Sections 3.10.4.3.1 and 3.10.4.3.2. Identified potential impacts are 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 impact determination, 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 3.10-2. Summary Matrix of Potential Impacts and Mitigation Measures for Public Services Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.10 PUBLIC SERVICES			
PS-1a: Construction of the proposed Project would not substantially reduce public services such as law enforcement, emergency services, and park services.	Less than significant	No mitigation is required.	Less than significant
PS-2a: Construction of the proposed Project would not burden existing LAPD or Port Police staff levels and facilities such that the LAPD or Port Police would not be able to maintain an adequate level of service without constructing additional facilities that could cause significant environmental effects.	Less than significant	No mitigation is required.	Less than significant
PS-3a: Construction of the proposed Project would not require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service.	Less than significant	No mitigation is required.	Less than significant
PS-4a: Construction of the proposed Project would not increase the demand for recreation and park services and facilities resulting in the physical deterioration of these facilities	Less than significant	No mitigation is required.	Less than significant
PS-1b: Operation of the proposed Project would not substantially reduce public services such as law enforcement, emergency services, and park services.	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
PS-2b: Operation of the proposed Project would not burden existing LAPD or Port Police staff levels and facilities such that the LAPD or Port Police would not be able to maintain an adequate level of service without constructing additional facilities that could cause significant environmental effects.	Less than significant	No mitigation is required.	Less than significant
PS-3b: Operation of the proposed Project would not require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service.	Less than significant	No mitigation is required.	Less than significant
PS-4b: Operation of the proposed Project would not increase the demand for recreation and park services and facilities resulting in the physical deterioration of these facilities	Less than significant	No mitigation is required.	Less than significant

3.10.4.4 Mitigation Monitoring

No significant adverse impacts on public services and recreation would occur as a result of the proposed Project; therefore, no mitigation is required.

3.10.4.5 Significant Unavoidable Impacts

No significant unavoidable impacts on public services and recreation would occur during construction or operation of the proposed Project.

3.11

TRANSPORTATION AND CIRCULATION–GROUND AND MARINE

3.11

TRANSPORTATION AND CIRCULATION—GROUND AND MARINE

3.11.1 Introduction

This section describes the environmental setting (existing conditions and regulatory setting) for surface and marine transportation relating to the proposed Project, discusses the impacts on transportation that would result from the proposed Project, and presents possible mitigation measures that would reduce these impacts.

Proposed project elements with potential surface transportation impacts include new research, educational, office, and commercial development that would generate new trips to the San Pedro Waterfront area, and new transportation improvements and linkages. A key source of data and information used in the preparation of the surface transportation element of this section is the Traffic Study prepared separately for the proposed Project by Fehr & Peers; this report is provided as Appendix C of this Draft EIR.

Proposed project activities with potential marine impacts would include the use of existing berthing space for research vessels, demolition of existing floating docks at Berth 260, construction of new floating docks in the East Channel, wharf improvements and maintenance at Berths 70–71, wharf retrofit/repairs for Berths 57–60, and the provision of berthing space for two or three NOAA research vessels at Berths 59–60.

As discussed in Section 3.11.4, mitigation is required to reduce construction-related traffic impacts to less than significant. All other impacts related to transportation and circulation would be less than significant.

3.11.2 Environmental Setting

This environmental setting discusses the existing conditions relating to transportation in the study area, as well as federal, state, and local regulations relating to transportation that would apply to the proposed Project. The assessment of conditions relevant to this study includes roadway, transit, rail, marine transit and boats, and non-motorized infrastructure and operations.

3.11.2.1 Existing Surface Transportation Elements

3.11.2.1.1 Street System

Primary regional access to the proposed project area is provided by the I-110 northwest of the proposed project site, and by the Vincent Thomas Bridge and Seaside Avenue (SR-47), located northeast of the proposed project site. Year 2009 data from Caltrans shows that the average daily traffic (ADT) volume on the Harbor Freeway to the north of Gaffey Street was approximately 66,000 vehicles per day (vpd) and 50,000 vpd on the Vincent Thomas Bridge (Caltrans 2009). Access to the site from SR-47 is provided via the ramps at Harbor Boulevard.

Local access to the proposed project site is provided by a well-defined grid of arterial and collector roads. The roadway designations within the proposed project study area include the following: Major Highway – Class I, Major Highway – Class II, Secondary Highway, Collector Street, and Local Street. The primary roadway facilities in the proposed project study area are as follows:

- **Gaffey Street** is classified as a Major Class II Highway that aligns north–south in the study area. This arterial provides a connection for local and regional travel from San Pedro to other parts of Los Angeles and the South Bay region. Gaffey Street is a major commercial corridor within San Pedro.
- **Harbor Boulevard/Miner Street** is classified as a Major Class II Highway and provides north–south access along the eastern edge of the San Pedro community. It continues as Front Street north of the site and as Miner Street south of Crescent Avenue.
- **Via Cabrillo Marina** is classified as a Local Street and provides north–south access along the eastern edge of San Pedro from the Cabrillo Marina. The four-lane divided roadway terminates at 22nd Street.
- **Signal Street** is a Local Street providing north–south access in San Pedro. It is a two-lane undivided roadway, which continues as Sampson Way north of its intersection with 22nd Street.
- **Summerland Avenue** is classified as a Secondary Highway and provides east–west access in San Pedro. It is a two-lane undivided roadway between its terminus to the west at Western Avenue and its terminus to the east with Gaffey Street/Gaffey Place.
- **O'Farrell Street** is classified as a Collector Street and provides east–west access in San Pedro. It is a predominantly residential corridor. The two-lane roadway terminates in the east at Harbor Boulevard and in the west at Gaffey Street.
- **1st Street** is classified as a Secondary Highway that provides east–west access in San Pedro. It is a predominantly residential corridor in San Pedro. The two-lane roadway terminates in the east at Harbor Boulevard and in the west at Miraleste Drive.
- **3rd Street** is classified as a Collector Street and provides east–west access in San Pedro. It is a predominantly residential corridor with one travel lane in each

direction. 3rd Street terminates to the east at Harbor Boulevard and to the west at South Harbor View Avenue.

- **5th Street** is classified as a Secondary Highway and provides east–west access in San Pedro. 5th Street has a mix of commercial and residential land uses. The two-lane undivided roadway terminates to the west at South Bandini Street and to the east at Harbor Boulevard. 5th Street provides access directly to the Port of Los Angeles and the Maritime Museum parking lot.
- **6th Street** is classified as a Local Street and provides east–west access in San Pedro. The two-lane undivided roadway extends from Weymouth Avenue eastbound to Sampson Way. Development along 6th Street is predominantly commercial east of Gaffey Street and residential west of Gaffey Street.
- **7th Street** is classified as a Secondary Highway between Weymouth Avenue and Harbor Boulevard and provides east–west access through the central portion of the community of San Pedro. This roadway starts just east of Western Avenue and terminates at Harbor Boulevard.
- **9th Street** is classified as a Major Class II Highway between Western Avenue and Pacific Avenue, providing east–west access through the central portion of the community of San Pedro. Between Pacific Avenue and Beacon Street, it is classified as a Local Street. This roadway starts west of Western Avenue and terminates at Beacon Street, one block west of Harbor Boulevard.
- **22nd Street** is classified as a Secondary Highway east of Gaffey Street and as a Local Street west of Gaffey Street. 22nd Street has a mix of residential and commercial land uses, and is a two-lane undivided roadway. 22nd Street extends from Elanita Drive eastbound to Signal Place.
- **25th Street** is classified as a Major Class II Highway providing east–west access through the southern portion of the community of San Pedro. This roadway starts west of Western Avenue and terminates at Pacific Avenue.

3.11.2.1.2 Roadway Levels of Service

This section describes the methodology used to assess the traffic conditions at each intersection and roadway segment analyzed, and presents the existing operating conditions at each location.

Analysis Locations

Figure 3.11-1 shows the surface street system within the proposed project study area. Analysis locations were identified in consultation with the LADOT, on the basis of their location in relation to the proposed project site and the potential for proposed project-related traffic to travel through them. The analysis area includes the following intersections.

1. Gaffey Street/Summerland Avenue
2. Gaffey Street/I-110 Ramps
3. Gaffey Street/1st Street

4. Gaffey Street/5th Street
5. Gaffey Street/7th Street
6. Gaffey Street/9th Street
7. Gaffey Street/22nd Street
8. Gaffey Street/25th Street
9. Via Cabrillo Marina/22nd Street
10. Harbor Boulevard/SR-47 Westbound Ramps (Unsignalized)
11. Harbor Boulevard/Swinford Street/SR-47 Eastbound Ramps
12. Harbor Boulevard/O'Farrell Street
13. Harbor Boulevard/1st Street
14. Harbor Boulevard/3rd Street (Unsignalized)
15. Harbor Boulevard/5th Street
16. Harbor Boulevard/6th Street
17. Harbor Boulevard/7th Street
18. Miner Street/22nd Street
19. Signal Street/22nd Street (Unsignalized)

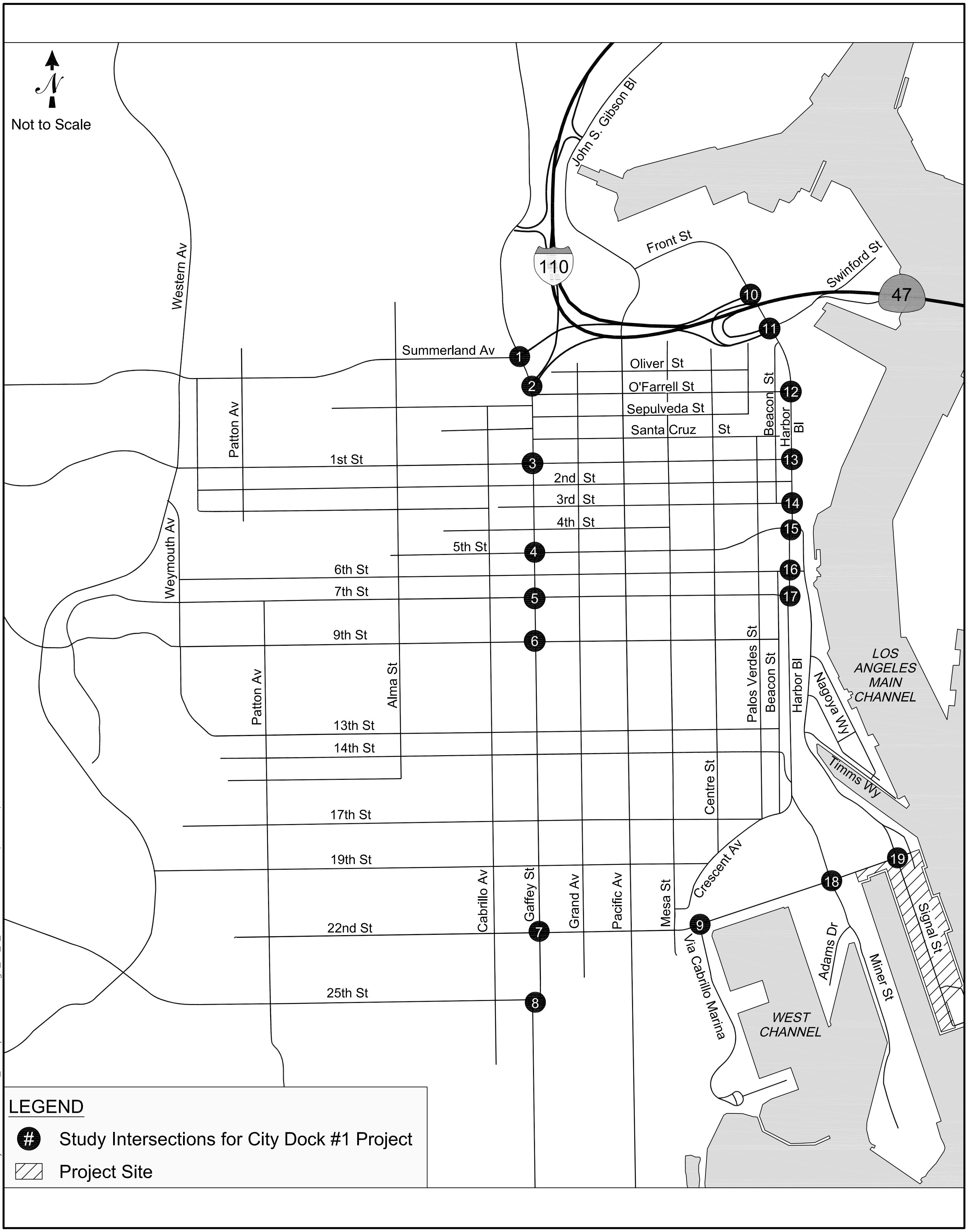
Existing traffic turning movements and traffic counts are presented in the Traffic Study prepared for this project (included in this Draft EIR as Appendix C).

New traffic counts were conducted for the weekday morning peak period (between 7 a.m. and 10 a.m.), the evening peak period (between 3 p.m. and 6 p.m.), and the Saturday midday peak period (between 11 a.m. and 2 p.m.) in April 2011 on days when the cruise ships were present at the World Cruise Center.

Level of Service Methodology

LOS is a qualitative measure used to describe the condition of traffic flow, ranging from excellent "free flow" conditions at LOS A to overloaded "stop and go" conditions at LOS F. LOS D is typically considered to be the minimum acceptable LOS in urban areas.

According to Traffic Study Policies and Procedures (LADOT 2012), this study is required to use the Critical Movement Analysis (CMA) method of intersection capacity calculation (Transportation Research Circular No. 212, Transportation Research Board 1980) to analyze the LOS at signalized intersections. The CMA methodology determines the V/C ratio of an intersection based on the number of approach lanes, the traffic signal phasing, and the traffic volumes. The CMA worksheet developed by LADOT was used to implement the CMA methodology in this study. The V/C ratio was then used to find the corresponding LOS based on the definitions in Table 3.11-1.



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Source: Fehr & Peers (Dec. 2011)

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Figure 3.11-1
Analyzed Intersections
City Dock No. 1 Marine Research Center Project

Of the 19 analyzed intersections, 16 are currently controlled by traffic signals. All but 2 are currently controlled by the City's Automated Traffic Surveillance and Control (ATSAC) and Adaptive Traffic Control System (ATCS) system. The intersections of I-110 Eastbound Ramps/Swinford Street and Harbor Boulevard/Front Street and Miner Street and 22nd Street currently do not have ATSAC and ATCS installed. In accordance with LADOT procedures, a capacity increase of 10% was applied to reflect the benefits of ATSAC (7% credit) and ATCS (3% credit) in locations where these signals are installed.

Three study intersections, Harbor Boulevard/SR-47 Westbound On-Ramp, Harbor Boulevard/3rd Street, and Signal Street/22nd Street are unsignalized and were analyzed for information purposes using the stop-controlled methodologies from Highway Capacity Manual (Transportation Research Board 2000), which determines the average vehicle delay and the LOS using the relationship. The results of the analysis of these two unsignalized intersections are provided as an appendix to the Traffic Study.

Table 3.11-1. Level of Service Definitions for Signalized Intersections (Critical Movement Analysis Methodology)

LOS	*V/C*	*Definition*
A	0.000 – 0.600	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	0.610 – 0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.710 – 0.800	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.810 – 0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.910 – 1.000	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.000	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.

Source: Transportation Research Board 1980.

Existing Peak Hour Levels of Service

The LOS methodologies described in the previous section were applied to existing weekday AM peak hour (between 7 a.m. and 10 a.m.) and PM peak hour (between 3 p.m. and 6 p.m.) and weekend midday peak hour (between 11 a.m. and 2 p.m.) turning volumes to determine existing operating conditions at each of the study area intersections. The weekday morning and evening peak hour and weekend midday peak hour traffic counts and the LOS calculation worksheets are provided in the Traffic Study prepared for this proposed Project (included as Appendix C of this Draft EIR).

Table 3.11-2 summarizes the existing weekday morning and evening and weekend midday LOS at each of the study area intersections. The table shows that all of the 16 signalized study intersections are currently operating at an acceptable LOS during the weekday morning and evening and weekend midday peak hours.

Table 3.11-2. Existing Intersection LOS (Year 2011)

No.	*Intersection*	*Peak Hour*	*V/C*	*LOS*
1	Gaffey Street/Summerland Avenue	AM PM WK	0.704 0.813 0.584	C D A
2	Gaffey Street/I-110 Ramps	AM PM WK	0.377 0.514 0.429	A A A
3	Gaffey Street/1st Street	AM PM WK	0.860 0.825 0.778	D D C
4	Gaffey Street/5th Street	AM PM WK	0.715 0.634 0.674	C B B
5	Gaffey Street/7th Street	AM PM WK	0.627 0.593 0.622	B A B
6	Gaffey Street/9th Street	AM PM WK	0.650 0.611 0.633	B B B
7	Gaffey Street/22nd Street	AM PM WK	0.330 0.333 0.427	A A A
8	Gaffey Street/25th Street	AM PM WK	0.358 0.325 0.466	A A A
9	Via Cabrillo Marina/22nd Street	AM PM WK	0.136 0.080 0.122	A A A
11	Harbor Boulevard/Swinford Street/ SR-47 Eastbound Ramps	AM PM WK	0.505 0.485 0.583	A A A
12	Harbor Boulevard/O'Farrell Street	AM PM	0.431 0.493	A A

No.	*Intersection*	*Peak Hour*	*V/C*	*LOS*
		WK	0.391	A
13	Harbor Boulevard/1st Street	AM PM WK	0.333 0.351 0.245	A A A
15	Harbor Boulevard/5th Street	AM PM WK	0.258 0.498 0.282	A A A
16	Harbor Boulevard/6th Street	AM PM WK	0.252 0.282 0.406	A A A
17A	Harbor Boulevard/7th Street	AM PM WK	0.189 0.203 0.135	A A A
18	Miner Street/22nd Street	AM PM WK	0.258 0.301 0.249	A A A

WK = weekend
Source: Appendix C.

3.11.2.1.3 Congestion Management Plan Facilities

The CMP arterial monitoring stations nearest to the study area include:

- Gaffey Street/9th Street (study intersection #6)
- Western Avenue/9th Street

The CMP mainline freeway monitoring location nearest to the proposed project site is I-110 south of C Street.

3.11.2.1.4 Existing Public Transit

The project study area is served by bus transit lines operated by the Los Angeles County Metropolitan Transportation Authority (Metro), LADOT, and the Municipal Area Express (MAX) lines. To complement the traditional transit service in the area, LAHD operates the Waterfront Red Car Line, a historic streetcar line. The following transit routes provide service in the proposed project vicinity:

- **Metro Line 205** – This transit line travels along 1st Street, Harbor Boulevard, 7th Street, Pacific Avenue, and 13th Street in the vicinity of the project site. Line 205 provides service between San Pedro and the Metro Green Line Imperial/Wilmington Station with stops in Compton, Carson, and the Willowbrook and Harbor Gateway communities. Line 205 provides service from approximately 5 a.m. to midnight on weekdays, and from 5 a.m. to 11:15 a.m. on weekends and holidays. Bus headways are 30 to 60 minutes on weekdays and 60 minutes on weekends.

- **Metro Line 246** – Metro Line 246 operates on Pacific Avenue in the vicinity of the project site. Line 246 provides service between San Pedro and Gardena, where it terminates at the Artesia Transit Center. Line 246 provides service from approximately 4 a.m. to 2 a.m. the following day on weekdays and weekends. Bus headways are 30 to 60 minutes on weekdays and Saturdays, and hourly on Sundays and holidays.

- **Metro Line 450** – Metro Line 450 travels along 22nd Street, Gaffey Street, 19th Street, Pacific Avenue, 1st Street, and Harbor Boulevard in the vicinity of the proposed project site. Line 450 provides service between San Pedro and Downtown Los Angeles, with stops in Gardena and Carson. Line 450 provides service from approximately 5 a.m. to 9 p.m. on weekdays and Saturdays and 7 a.m. to 9 p.m. on Sundays and holidays. Line 450 operates at 30- to 60-minute headways on weekdays, 40-minute headways on Saturdays, and 60-minute headways on Sundays and holidays. From San Pedro, this line provides freeway express service via the Harbor Transitway (on I-110) to the 7th Street/Metro Center station in downtown Los Angeles.

- **Metro Line 550** – Line 550 travels along Gaffey Street, 7th Street and 13th Street in the study area. It operates from 5 a.m. to 11:45 p.m. on weekdays, and from 6 a.m. to 11:45 p.m. on weekends and holidays, with headways of approximately 30 to 60 minutes on weekdays and 60 minutes on weekends. This line provides express connection from San Pedro to West Hollywood.

- **LADOT Commuter Express Line 142** – Line 142 travels along 7th Street in the vicinity of the proposed project site. This line provides service between Ports O' Call in east San Pedro, downtown San Pedro, and the Long Beach Transit Center via the Vincent Thomas Bridge. The line runs from approximately 5:30 a.m. to 11:30 p.m., seven days a week, with frequencies of 25 to 60 minutes.

- **DASH San Pedro** – This line travels along Gaffey Street, 7th Street, and 19th Street near the proposed project site. This route provides local service in the community of San Pedro. The line operates from 6:30 a.m. to 7:30 p.m. on Monday through Friday, and from 9 a.m. to 6:30 p.m. on weekends and holidays. Service frequencies are 20 to 30 minutes.

- **Waterfront Red Car Line** – This local line is a 1.5-mile historic streetcar line connecting the World Cruise Center with attractions along the San Pedro waterfront in the vicinity of the proposed project site. Hours of operation are from noon to 9:30 p.m. Friday through Sunday, with service every 20 minutes. Red Cars also operate on mid-week days when cruise ships are in Port.

- **MAX Line 3** – This line travels along 9th Street and Pacific Avenue in San Pedro. It is a directional express line that brings passengers from the South Bay to the El Segundo and Los Angeles International Airport (LAX) area. The weekday morning northbound route has four buses with frequencies of 20 to 30 minutes starting at 5:20 a.m. The afternoon southbound route also has four buses with frequencies of 20 to 30 minutes starting at 5:03 p.m.

- **MAX Line 3X** – This line travels along Pacific Avenue and Gaffey Street near the proposed project site. It is a directional express line that brings passengers from the South Bay to the El Segundo and LAX area. The weekday morning northbound route has four buses with frequencies of approximately 20 minutes starting at 6 a.m. The afternoon southbound route also has four buses with frequencies of approximately 30 minutes starting at 4:36 p.m.

3.11.2.1.5 Existing Rail Facilities

The Port is served by an extensive commercial rail network, linking Port operations to both the region and the rest of the country. No freight rail activity occurs in the immediate vicinity of the proposed project site, but to the northwest limited freight rail activity occurs on the line that operates along the east side of Harbor Boulevard. This track is shared with the Waterfront Red Car Line, which operates from noon to 5:30 p.m., Friday through Sunday. The Waterfront Red Car also runs when cruise ships are in port.

3.11.2.1.6 Existing Parking

Parking is allowed within the immediate vicinity of the City Dock No. 1 project, including a surface parking lot at Sampson Way and 22nd Street, a small parking lot at the CDFG office facilities (Berth 56), a parking lot at the entrance of the Transit Shed at Berth 57, parking along the east side of Signal Street, and a small parking lot at Berth 260.

3.11.2.1.7 Existing Non-Motorized Facilities

The proposed project area is industrial in character and is bisected by Signal Street, a minor road that does not include sidewalks. 22nd Street aligns along the northern boundary of the proposed project area and does include sidewalks for pedestrians. There are no pedestrian crossings or signals in the proposed project area.

Although there are no bicycle facilities in the proposed project area, nearby bicycle facilities include the following:

- bike paths (Class I): paved trails that are separated from roadways;
- bike lanes (Class II): lanes on roadways designated for use by bicycles through striping, pavement legends, and signs; and
- bike routes (Class III): designated roadways for bicycle use by signs only, and may or may not include additional pavement width for cyclists.

There are Class I bike paths provided along Cabrillo Beach and parallel to Crescent Avenue between Harbor Boulevard and 22nd Street and on the east side of Harbor Boulevard between Swinford Street and 5th Street. Class II bike lanes are provided on Harbor Boulevard from Front Street to 22nd Street, on Front Street from Harbor Boulevard to Pacific Avenue, on Pacific Avenue south of 22nd Street, and on 9th Street west of Gaffey Street.

3.11.2.2 Existing Marine Transportation

The Los Angeles Harbor is located in San Pedro Bay. In addition to the Port of Los Angeles, San Pedro Bay is also home to the Port of Long Beach, which is located directly to the east. The bay is protected from the open Pacific Ocean by the San Pedro, Middle, and Long Beach breakwaters. The openings between these breakwaters, known as Angels Gate and Queens Gate, provide entry to the Ports of Los Angeles and Long Beach, respectively. Vessel traffic channels have been established in the harbor, and several aids to navigation have been developed.

Numerous vessels, including fishing boats, water taxis, pleasure vessels, passenger-carrying vessels, tankers, auto carriers, container vessels, dry bulk carriers, cruise ships, and barges call or reside in the harbor. Commercial vessels follow vessel traffic lanes established by the USCG when approaching and leaving the harbor. Designated traffic lanes converge at the precautionary areas shown in Figure 3.11-2. Once inside the harbor, vessel traffic is managed as described in the following section.

3.11.2.2.1 Vessel Transportation Safety

Vessel traffic within and approaching the harbor is managed by two entities:

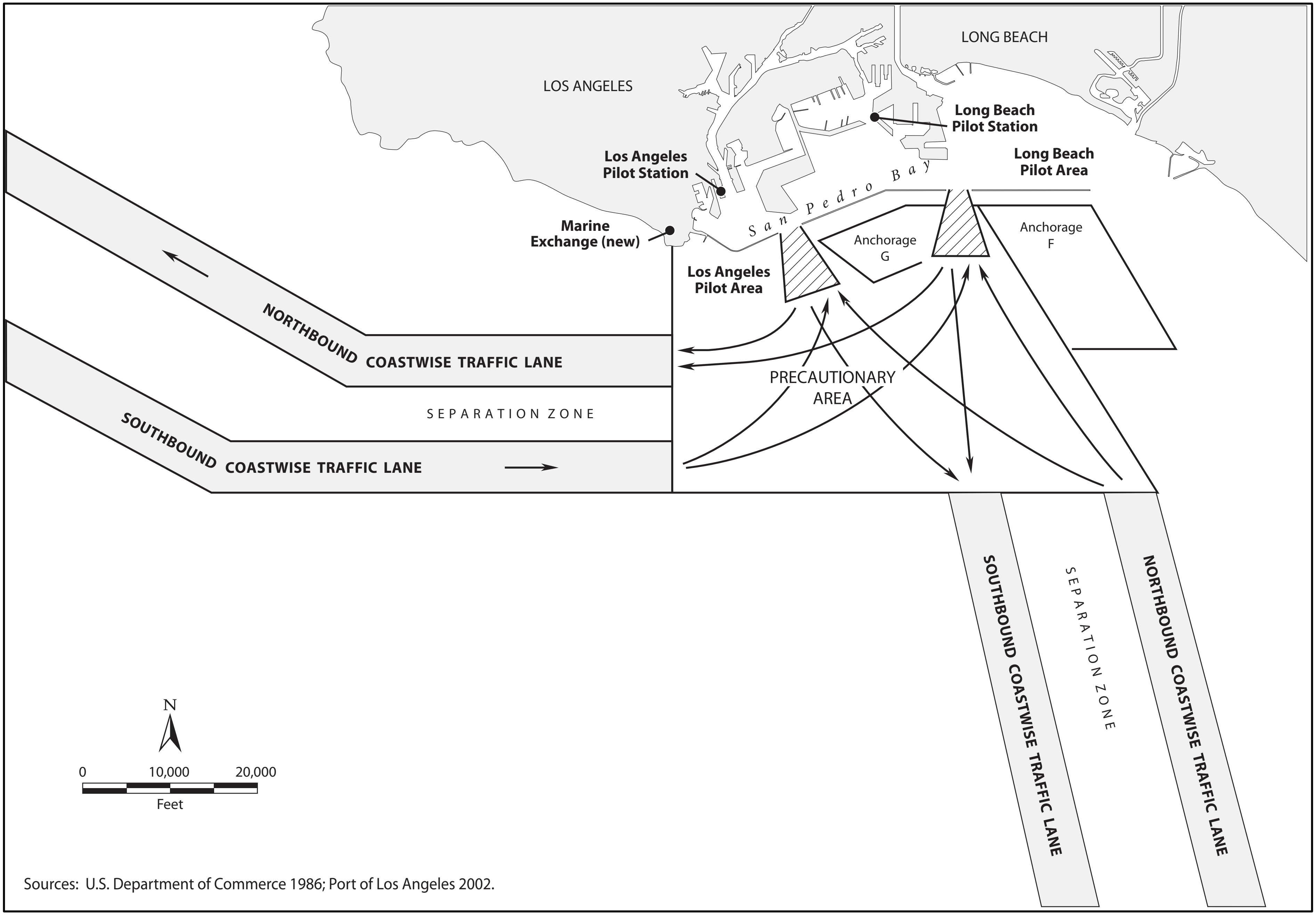
1. Vessel Traffic Service (VTS)—for the harbor approach (25 nautical miles from Point Fermin to the federal breakwater)
2. Los Angeles Pilot Service—within the Port of Los Angeles

Vessel traffic levels are highly regulated by the USCG Captain of the Port (COTP) and the Marine Exchange of Southern California via the VTS. Mariners are required to report their position prior to transiting through the harbor to the COTP and the VTS; the VTS monitors the positions of all inbound/outbound vessels within the precautionary area and the approach corridor traffic lanes (Figure 3.11-2). Smaller craft, such as yachts and fishing vessels, are not required to participate in VTS, but larger research vessels such as the NOAA vessels anticipated to dock at the proposed project site are required to participate. If there are scheduling conflicts and/or if vessel occupancy within the harbor reaches operating capacity, vessels are required to anchor at the anchorages outside the breakwater until mariners receive COTP authorization to initiate transit into the harbor.

Several measures are in place to ensure the safety of vessel navigation in the harbor area. USCG provides a weekly Local Notice to Mariners, which describes regional navigational issues and construction activities. Restricted navigation areas and routes have been designated to ensure safe vessel navigation, and are regulated by various agencies and organizations to ensure navigational safety; these are described below.

Marine Exchange of Southern California

The Marine Exchange is a voluntary, non-profit organization affiliated with the Los Angeles Chamber of Commerce. This voluntary service is designated to enhance navigation safety in the precautionary and harbor areas of the Ports of Los Angeles and Long Beach. The service consists of a coordinating office, specific reporting



SOURCE: Fehr & Peers (2008)

ICF INTERNATIONAL

Figure 3.11-2
Designated Vessel Traffic Lanes
City Dock No. 1 Marine Research Center Project

points, and very high frequency-frequency modulation (VHF-FM) radio communications used with participating vessels. Vessel traffic channels and numerous aids to navigation (i.e., operating rules and regulations) have been established in the harbor. The Marine Exchange also operates the Physical Oceanographic Real Time System (PORTS) as a service to organizations making operational decisions based on oceanographic and meteorological conditions in the vicinity of the harbor. PORTS collects and disseminates accurate real-time information on tides, visibility, winds, currents, and sea swell to maritime users to assist in the safe and efficient transit of vessels in the harbor area.

Vessel Traffic Service

VTS is operated by the Marine Exchange and the USCG to monitor traffic with shore-based radar within both the main approach and departure lanes, including the precautionary area, as well as internal movement within harbor areas. The VTS uses radar, radio, and visual inputs to collect real-time vessel traffic information and broadcast traffic advisories to assist mariners. In addition, vessels are required to report their positions and destinations to the VTS at certain times and locations, and they may also request information about traffic they could encounter in the precautionary area. Furthermore, the VTS implements the COTP's uniform procedures, including advanced notification to vessel operators, vessel traffic managers, and Port pilots identifying the location of dredges, derrick barges, and any associated operational procedures and/or restrictions (i.e., one-way traffic), to ensure safe transit of vessels operating within and to and from the proposed project area. In addition, a communication system links the following key operational centers: USCG COTP, VTS, Los Angeles Pilot Station, Long Beach Pilot Station, and Port of Long Beach Security. This system is used to exchange vessel movement information and safety notices between the various organizations.

Traffic Separation Schemes

A traffic separation scheme (TSS) is an internationally recognized vessel routing designation, which separates opposing flows of vessel traffic into lanes, including a zone between lanes where traffic is to be avoided. TSSs have been designated to help direct offshore vessel traffic along portions of the California coastline, such as the Santa Barbara Channel. Vessels are not required to use any designated TSS, but failure to use one, if available, would be a major factor for determining liability in the event of a collision. TSS designations are proposed by the USCG but must be approved by the IMO, which is part of the United Nations. The traffic lanes utilized for TSS at the Port are shown in Figure 3.11-2.

Safety Fairways

Offshore waters in high traffic areas are designated as safety fairways, which mean that placement of surface structures, such as oil platforms, is prohibited to ensure safer navigation. The USACE is prohibited from issuing permits for surface structures within safety fairways, which are frequently located between a port and the entry into a TSS. The offshore areas shown in Figure 3.11-2 are high traffic areas at the Port, and are thus designated as safety fairways.

Precautionary and Regulated Navigation Areas

A precautionary area is designated in congested areas near the Los Angeles/Long Beach Harbors (LALB) entrances to set speed limits or to establish other safety precautions for ships entering or departing the harbor. A regulated navigation area (RNA) is defined as a water area within a defined boundary for which federal regulations for vessels navigating within this area have been established under CFR 33 Part 165, Subsection 165.1109. In the case of the LALB, RNA boundaries match the designated precautionary area. CFR 33, Part 165, Subsection 165.1152, identifies portions of the precautionary area as a RNA.

The precautionary area for LALB is defined by a line that extends south from Point Fermin approximately 7 nautical miles, then due east approximately 7 nautical miles, then northeast for approximately 3 nautical miles, and then back northwest (see Figure 3.11-2). Ships are required to cruise at speeds of 12 knots or less upon entering the precautionary area. A minimum vessel separation of 0.25 nautical mile is also required in the precautionary area. Vessel traffic within the precautionary area is monitored by the Marine Exchange of Southern California.

Pilotage

Use of a Port pilot for transit in and out of the San Pedro Bay area and adjacent waterways is required for all vessels of foreign registry and for U.S. vessels that do not have a federally licensed pilot on board (some U.S. flag vessels have a trained and licensed pilot onboard; those vessels are not required to use a Port pilot while navigating through the harbor). Port pilots provide pilotage to the Ports of Los Angeles and Long Beach, and receive special training that is regulated by the Harbor Safety Committee (see discussion in Section 3.11.3.2.2). Pilots typically board the vessels at the Angel's Gate entrance and then direct the vessels to their destinations. Pilots normally leave the vessels after docking and reboard the vessels to pilot them back to sea or to other destinations within the harbor. In addition, Port pilots operate radar systems to monitor vessel traffic within the harbor area. This information is available to all vessels upon request. The pilot service also manages the use of anchorages under an agreement with the USCG. It should be noted that cruise vessels do not typically require use of a Port pilot for transit in and out of the bay.

Tug Escort/Assist

Tug escort refers to the stationing of tugs in proximity to a vessel as it transits into the harbor to provide immediate assistance should a steering or propulsion failure develop. *Tug assist* refers to the positioning of tugs alongside a vessel and applying force to assist in making turns, reducing speed, providing propulsion, and docking. Commercial container vessels, as well as most of the ocean-going vessels, are required to have tug assistance within the LALB (Harbor Safety Committee 2004). However, some vessels have internal "tugs" (typically bow and stern thrusters) that allow the vessel to propel without engaging the main engines, and they can accomplish maneuvers with the same precision as a tug-assisted vessel. These ships are not required to have external tug assistance with the exception of loaded tankers, which are required to have a tug escort.

Physical Oceanographic Real Time System

In partnership with NOAA, National Ocean Service (NOS), California Office of Spill Prevention and Response (OSPR), USGS, and some businesses operating in the Ports of Los Angeles and Long Beach, the Marine Exchange operates PORTS as a service to those making operational decisions based on oceanographic and meteorological conditions in the Ports' vicinity. PORTS is a system of environmental sensors and supporting telemetry equipment that gathers and disseminates accurate real-time information on tides, visibility, winds, currents, and sea swell to maritime users to assist in the safe and efficient transit of vessels in the harbor area. Locally, PORTS is designed to provide crucial information in real time to mariners, oil spill response teams, managers of coastal resources, and others about water levels, currents, salinity, and winds in LALB.

The instruments that collect the information are deployed at strategic locations within LALB to provide data at critical locations and to allow "now-casting" and forecasting using a mathematical model of the harbor's oceanographic processes. Data from the sensors are fed into a central collection point; raw data from the sensors are integrated and synthesized into information and analysis products, including graphical displays of PORTS data.

3.11.2.2.2 Navigational Hazards

Port pilots can easily identify fixed navigational hazards in LALB, including breakwaters protecting the outer harbor, anchorage areas, and various wharfs and landmasses that comprise the harbor complex. These hazards are easily visible by radar and are currently illuminated. Four bridges cross the navigation channels of both harbors. All bridges have restricted vertical clearances, and two have restricted horizontal clearances as well.

Vessels that are waiting to enter the harbor and moor at a berth can anchor at the anchorages outside (Ports of Los Angeles and Long Beach) and inside (Long Beach only) the breakwaters. Vessels do not require tug assistance to anchor outside the breakwater. LAHD currently does not have any available anchorages inside the breakwater. For safety reasons, VTS will not assign an anchorage in the first row of sites closest to the breakwater to vessels exceeding 656 feet in length.

Vessel Accidents

Although marine safety is thoroughly regulated and managed, accidents do occasionally occur, including allisions (between a moving vessel and a stationary object, including another vessel), collisions (between two moving vessels), and vessel groundings. The number of vessel allisions, collisions, and groundings (ACGs) in the Ports of Los Angeles and Long Beach ranged between 3 and 12 annually in the 14-year period from 1996 through 2009, with the lowest numbers occurring in the last two years. Based on the data shown in Table 3.11-3, between 1996 and 2009 there were, on average, 7.1 ACG incidents per year. Each of these was subject to

USCG marine casualty investigation, and the subsequent actions taken were targeted at preventing future occurrences.

Table 3.11-3. Allisions, Collisions, and Groundings—Ports of Los Angeles and Long Beach (1996–2006)

Year	*ACG Incidents*			*Total*
	Allisions	*Collisions*	*Groundings*	
1996	2	4	1	7
1997	1	3	2	6
1998	1	2	3	6
1999	3	4	2	9
2000	3	2	1	6
2001	4	1	0	5
2002	6	5	0	11
2003	4	2	2	8
2004	2	4	6	12
2005	0	1	3	4
2006	4	0	5	9
2007	3	1	6	10
2008	1	1	1	3
2009	3	0	0	3

Note: These commercial vessel accidents meet a reportable level defined in 46 CFR 4.05, but do not include commercial fishing vessel or recreational boating incidents.

Source: Harbor Safety Committee 2004; U.S. Naval Academy 1999; Harbor Safety Committee 2007, 2011.

According to the USCG vessels accidents database, the LALB area has one of the lowest accident rates among all U.S. ports, with a 0.0038% probability of a vessel experiencing an ACG during a single transit, as compared to the average 0.025% vessel ACG probability for all U.S. ports (U.S. Naval Academy 1999).

Vessels are required by law to report failures of navigational equipment, propulsion, steering, or other vital systems that occur during marine navigation. Marine vessel accidents in San Pedro Bay are reported to USCG via the COTP office or the COTP representative at VTS as soon as possible. According to the VTS, approximately 1 in 100 vessels calling at the Ports of Los Angeles and Long Beach experiences a mechanical failure during their inbound or outbound transit.

Close Quarters

To avoid vessels passing too close together, the VTS documents, reports, and takes action on close quarters situations. *VTS close quarters situations* are described as vessels passing an object or another vessel closer than 0.25 nautical miles or 500 yards. These incidents usually occur within the precautionary area. No reliable data is available for close quarter incidents outside the VTS area. Normal actions taken in response to close quarters situations include initiating informal USCG investigation, sending letters of concern to owners and/or operators, having the involved vessel master(s) visit VTS and review the incident, and USCG enforcement boardings. A 12-year history of the number of "close quarters" situations is presented in Table 3.11-4. Given a relatively steady amount of commercial transits over that time, the table shows a decreasing trend in close quarters incidents. This is noticeable in the low number of near-miss situations from 2006 to 2008.

Table 3.11-4. Number of VTS-recorded "Close Quarters" Incidents, 1998–2009

Year	*No. of Close Quarters*
1998	9
1999	5
2000	1
2001	2
2002	6
2003	4
2004	0
2005	0
2006	0
2007	1
2008	1
2009	5
Sources: Harbor Safety Committee 2004, 2005; Harbor Safety Committee 2006, 2007, 2011.	

Near Misses

The Ports of Los Angeles and Long Beach Harbor Safety Committee defines a reportable "near miss" as:

> an incident in which a pilot, master or other person in charge of navigating a vessel, successfully takes action of a 'non-routine nature' to avoid a collision with another vessel, structure, or aid to navigation, or grounding of the vessel, or damage to the environment.

The most practical and readily available near miss data can be obtained from VTS reports, which are available from the LAHD. The number of "near miss" incidents is the same as the number of "close quarter" incidents listed in Table 3.11-4.

3.11.2.2.3 Factors Affecting Vessel Traffic Safety

This section summarizes environmental conditions that could impact vessel safety in the Port of Los Angeles area.

Fog

Fog is a well-known weather condition in Southern California. Harbor-area fog occurs most frequently in April and from September through January, when visibility over the bay is below 0.5 mile for 7 to 10 days per month. Fog at the Port is mostly a land (radiation) type that drifts offshore and worsens in the late night and early morning. Smoke from nearby industrial areas often adds to its thickness and persistence. Along the shore, fog drops visibility to less than 0.5 mile on 3 to 8 days per month from August through April, and is generally at its worst in December (Harbor Safety Committee 2004).

Winds

Wind conditions vary widely, particularly in fall and winter. Winds can be strongest during the period when the Santa Ana winds (prevailing winds from the northeast occurring from October through March) blow. The Santa Ana winds, though infrequent, may be violent. A Santa Ana condition occurs when a strong high-pressure system resides over the plateau region of Nevada and Utah and generates a northeasterly to easterly flow over Southern California. Aside from weather forecasts, there is little warning of a Santa Ana's onset: good visibility and unusually low humidity often prevail for some hours before it arrives. Shortly before arriving on the coast, the Santa Ana may appear as an approaching dark-brown dust cloud. This positive indication often provides a 10 to 30 minute warning. The Santa Ana wind may come at any time of day and can be reinforced by an early morning land breeze or weakened by an afternoon sea breeze (Harbor Safety Committee 2004).

Winter storms produce strong winds over San Pedro Bay, particularly southwesterly to northwesterly winds. Winds of 17 knots (e.g., about 20 miles per hour) or greater occur about 1 to 2% of the time from November through May. Southwesterly to westerly winds begin to prevail in the spring and last into early fall (Harbor Safety Committee 2004).

Tides

The mean range of tide is 3.8 feet for the Los Angeles Harbor. The daytime range is about 5.4 feet, and a range of 9 feet may occur at maximum tide at night under new or full moon conditions.

Currents

The tidal currents follow the axis of the channels and rarely exceed 1 knot. The LALB area is subject to seiche (i.e., seismically induced water waves that surge back and forth in an enclosed basin as a result of earthquakes) and surge, with the most persistent and conspicuous oscillation having about a 1-hour period. Near Reservation Point, the prominent hourly surge causes velocity variations as great as 1 knot. These variations often overcome the lesser tidal current, so that the current ebbs and flows at half-hour intervals. The more-restricted channel usually causes the surge through the Back Channel to reach a greater velocity at the east end of Terminal Island, rather than west of Reservation Point. In the Back Channel, hourly variation may be 1.5 knots or more. At times, the hourly surge, together with shorter, irregular oscillations, causes a very rapid change in water height and current direction/velocity, which may endanger vessels moored at the piers (Harbor Safety Committee 2004).

USACE ship navigation studies indicate that within the harbor channels, current magnitudes are essentially a negligible ⅓ knot or less. Maximum current velocity in the Angel's Gate area is less than 1 knot. These current magnitudes, determined during a simulation study, indicate depth-averaged values over three layers.

According to Jacobsen Pilot Service, the Long Beach Queen's Gate has deeper water than Angel's Gate and has more open waterways just inside the breakwater. The pilots have never experienced a current greater than 1 knot in Queen's Gate (Harbor Safety Committee 2004).

Water Depths

The USACE maintains the federal channels in LALB. Table 3.11-5 lists water depths in the Los Angeles Harbor.

Table 3.11-5. Water Depths within the Los Angeles Harbor

Channel/Basin	*Depth—MLLW feet*
Main Channel	-53
Turning Basin	-53
West Basin	-53
East Basin	-45
North Channel (Piers 300–400)	-55
North Turning Basin	-81
Approach and Entrance Channels	-81
Source: Harbor Safety Committee 2011.	

3.11.3 Applicable Regulations

3.11.3.1 Surface Transportation

Traffic analysis in the state of California is guided by policies and standards set by Caltrans at the state level and by local jurisdictions. Because the proposed Project is located in the City of Los Angeles, the proposed Project would need to adhere to the adopted LAHD and LADOT transportation policies.

3.11.3.1.1 Intersection Operations

The City of Los Angeles has established threshold criteria to determine significant traffic impacts of a proposed project in its jurisdiction. Under the LADOT guidelines (LADOT 2012), an intersection would be significantly impacted if a project results in an increase in V/C ratio equal to or greater than the following: (1) 0.04 for intersections operating at LOS C; (2) 0.02 for intersections operating at LOS D; and (3) 0.01 for intersections operating at LOS E or F. Intersections operating at LOS A or B after the addition of project traffic are not considered significantly impacted regardless of any increase in V/C ratio. Table 3.11-6 summarizes the LADOT intersection impact criteria.

Table 3.11-6. Intersection Impact Criteria

LOS	*Final V/C Ratio*	*Proposed Project-Related Increase in V/C*
C	> 0.700 – 0.800	Equal or greater than 0.04
D	> 0.800 – 0.900	Equal or greater than 0.02
E or F	> 0.0900	Equal or greater than 0.01

3.11.3.1.2 Congestion Management Plan Guidelines

The CMP arterial and freeway mainline facilities are analyzed if they meet the following thresholds (Metro 2010):

- all CMP arterial monitoring intersections where the proposed project will add 50 or more trips during either the AM or PM peak hours of adjacent street traffic;
- all CMP mainline freeway monitoring locations where the proposed project will add 150 or more trips, in either direction, during either the AM or PM peak hours.

For locations that meet these trip guidelines, the CMP traffic impact analysis guidelines establish that a significant project impact occurs when the following thresholds are exceeded:

- a CMP facility would be significantly impacted if the project increases V/C by 0.02 or greater and would cause the facility to operate at LOS F (V/C > 1.00); or
- if the facility is already at LOS F, a significant impact occurs when the proposed project increases V/C by 0.02 or greater.

3.11.3.1.3 Parking Code

The LAMC Chapter 1, Article 2, Section 12.21A.4 identifies off-street parking requirements for new development. According to the LAMC parking requirements for the land use types proposed within the proposed project site, commercial, business office, and other business or commercial land uses require one parking space for every 500 square feet of development. Trade school land uses require one parking space for every five seats, and warehouse or storage land uses require one parking space for every 500 square feet of development for the first 10,000 square feet and one parking space for every 5,000 square feet of development thereafter.

3.11.3.2 Marine Transportation

Many laws and regulations are in place to regulate marine structures, vessels calling at marine terminals, and emergency response/contingency planning. Responsibilities for enforcing or executing these laws and regulations are governed by various federal and local agencies, as described below.

3.11.3.2.1 Federal Agencies

A number of federal laws regulate marine structures and movement of vessels. In general, these laws address design and construction standards, operational standards, and spill prevention and cleanup. Regulations to implement these laws are contained primarily in CFR Titles 33 (Navigation and Navigable Waters), 40 (Protection of Environment), and 46 (Shipping).

Since 1789, the federal government has authorized navigation channel improvement projects; the General Survey Act of 1824 established the USACE role as the agency responsible for the navigation system. Since then, ports have worked in partnership with the USACE to maintain waterside access to port facilities.

U.S. Coast Guard

The USCG, through Title 33 (Navigation and Navigable Waters) and Title 46 (Shipping) of the CFR, is the federal agency responsible for vessel inspection, marine terminal operations safety, coordination of federal responses to marine emergencies, enforcement of marine pollution statutes, marine safety (navigation aids), and operation of the National Response Center (NRC) for spill response. Current USCG regulations require a federally licensed pilot aboard every tanker vessel mooring and unmooring at offshore marine terminals. At the request of the USCG, the Los Angeles pilots and Jacobsen pilots have agreed to ensure continual service of a licensed pilot for vessels moving between the Ports of Los Angeles and Long Beach outside the breakwater.

Department of Defense

The Department of Defense (DoD), through the USACE, is responsible for reviewing all aspects of a project and/or spill response activities that could affect navigation. The USACE has specialized equipment and personnel for maintaining navigation channels, removing navigation obstructions, and accomplishing structural repairs. The USACE has jurisdiction under Section 10 of the Rivers and Harbors Act of 1899.

3.11.3.2.2 Other Organizations

Marine Exchange of Southern California

As described in Section 3.11.2.2.1, "Vessel Transportation Safety," the Marine Exchange is a nonprofit organization affiliated with the L.A. Chamber of Commerce. The organization is supported by subscriptions from Port-related organizations that recognize the need for such an organization and use its services. This voluntary service is designated to enhance navigation safety in the precautionary and harbor areas of the Ports of Los Angeles and Long Beach. The Marine Exchange monitors vessel traffic within the precautionary area and operates PORTS as a service to those making operational decisions based on oceanographic and meteorological conditions in the vicinity of the Ports of Los Angeles and Long Beach.

Harbor Safety Committee

The Ports of Los Angeles and Long Beach have a Harbor Safety Committee (committee) that is responsible for planning the safe navigation and operation of tankers, barges, and other vessels within San Pedro Bay and approach areas. This committee has been created under the authority of Government Code Section 8670.23(a), which requires the Administrator of the OSPR to create a harbor safety committee for the LALB area. The committee issued the original Harbor Safety Plan (HSP) in 1991 and has issued annual updates since. Major issues facing the committee include questions regarding the need for escort tugs, required capabilities of escort tugs, and the need for new or enhanced vessel traffic information systems to monitor and advise vessel traffic.

The committee developed a regulatory scheme to institutionalize good marine practices and guide those involved in moving tanker vessels, which include the minimum standards that are applicable under favorable circumstances and conditions. The master or pilot will arrange for additional tug assistance if bad weather, unusual harbor congestion, or other circumstances so require.

Harbor Safety Plan

The Ports of Los Angeles and Long Beach HSP contains additional operating procedures for vessels operating in port vicinities. The vessel operating procedures stipulated in the HSP are considered good marine practice; some procedures are federal, state, or local regulations, while other guidelines are nonregulatory standards of care.

The HSP provides specific rules for navigation of vessels in reduced visibility conditions and does not recommend transit for vessels greater than 150,000 deadweight tonnage (DWT) if visibility is less than 1 nautical mile, and for all other vessels if visibility is less than 0.5 nautical mile.

The HSP also establishes vessel speed limits. In general, speeds should not exceed 12 knots within the precautionary area or 6 knots within the harbor. These speed restrictions do not preclude the master or pilot from adjusting speeds to avoid or mitigate unsafe conditions. Weather, vessel maneuvering characteristics, traffic density, construction/dredging activities, and other possible issues are taken into account.

Vessel Traffic Service

As described previously, VTS is a shipping service operated by USCG or public/private sector consortiums (see Section 3.11.2.2.1). These services monitor traffic in both approach and departure lanes, as well as internal movement within harbor areas, using radar, radio, and visual inputs to gather real-time vessel traffic information and broadcast traffic advisories and summaries to assist mariners. The VTS that services the Ports of Los Angeles and Long Beach is located at the entrance of the LALB. The system is owned by the Marine Exchange and operated jointly by the Marine Exchange and the USCG under the oversight of the OSPR and the Ports' Harbor Safety Committee.

This system provides information on vessel traffic and ship locations so that vessels can avoid allisions, collisions, and groundings in the approaches to LALB. The VTS assists in the safe navigation of vessels approaching LALB in the precautionary area. The partnership is a unique and effective approach that has gained acceptance from the maritime community.

3.11.4 Impact Analysis

3.11.4.1 Methodology

3.11.4.1.1 Surface Transportation

Estimates of traffic conditions both with and without the proposed Project were provided to evaluate the potential impact of the proposed Project on surface transportation. The baseline, or Without Project, condition represents existing traffic conditions at the time the NOP was published in 2011. The Existing + Proposed Project condition is an analysis of traffic expected from the proposed Project added to the existing traffic volumes under stabilized project attendance conditions.

Baseline (Without Project) Traffic Volumes

The baseline (Without Project) condition is described above under Section 3.11.2.1.2, and includes the traffic counts collected during weekday morning and evening peak periods and Saturday midday peak period in April 2011. Baseline traffic volumes are shown at the 16 study area signalized intersections in Table 3.11-2. As shown, all intersections currently operate at an acceptable LOS, except for the intersection of Gaffey Street and 1st Street, which operates at LOS E during the weekday morning and evening peak hours.

Proposed Project Traffic Volumes

Development of the traffic generation estimates for the proposed Project involved a three-step process including trip generation, traffic distribution, and traffic assignment.

Trip Generation for Proposed Project

Trip generation and equations from *Trip Generation* (8th edition) and other sources were used to develop trip generation estimates for the proposed Project. The trip generation estimates for the proposed Project are summarized in Table 3.11-7 for the proposed Project's two phases: the interim year 2016 and the full buildout year 2024. Trip generation rates for the boat slips on the East Channel and docks at Berths 58–60 and 70–71 were developed based on the following assumptions:

- two external crew members making two round-trip commute trips would be necessary to serve the vessel;
- one daily round trip truck trip would be necessary to serve the vessel;
- all researchers and students on the vessel would be accounted for in trip generation for office/lab/classroom uses;
- all weekday vehicle trips would be made outside AM and PM peak hours;
- outbound trips for crew would occur during the weekend midday peak hour; and
- six vessel sailings per day on weekdays and three on weekend days.

NOAA/UNOLS vessels up to 250 feet are assumed to make up to six trips in and out of the port per year and be berthed at the Port for up to 60 days per year. Trip generation rates for the Public Plaza were developed using the San Diego Land Development Code Trip Generation Manual (City of San Diego 2003). In order to provide a conservative estimate of potential traffic impacts of the proposed Project, no adjustments were made to account for possible reductions due to either pass-by trips or internal capture with the exception of the small waterfront café, which would generally serve City Dock users.

As discussed in Chapter 2, "Project Description," Phase I would include the conversion of Berth 57 into a new SCMI facility and the development of a Learning Center for cooperative use (150-seat lecture hall/auditorium and classrooms on a portion of Berth 56). Construction would begin in 2012 and conclude in 2016. The remaining proposed Project elements would be constructed under Phase II, which would commence construction in 2013 and conclude around 2024. Table 3.11-7 summarizes the trip generation estimates for each proposed land use for the interim year 2016 and the full buildout year 2024, with the following total trip estimates:

- in 2016, as shown in Table 3.11-7, the proposed Project is estimated to generate a total of approximately 1,046 daily weekday trips, including approximately 102 (83 inbound/19 outbound) trips during the AM peak hour and 96 (22 inbound/ 74 outbound) trips during the PM peak hour. The proposed Project is projected to generate approximately 518 daily weekend trips, including 53 (32 inbound/ 21 outbound) trips during the weekend peak hour; and

- in 2024, as shown in Table 3.11-7, using the same methodology as described above, the proposed Project is projected to generate approximately 2,935 daily weekday trips, including approximately 384 (318 inbound/66 outbound) trips during the AM peak hour and 343 (60 inbound/283 outbound) trips during the PM peak hour. The proposed Project is projected to generate approximately 997 daily weekend trips, including 112 (77 inbound/35 outbound) trips during the weekend peak hour.

Proposed Project Traffic Distribution

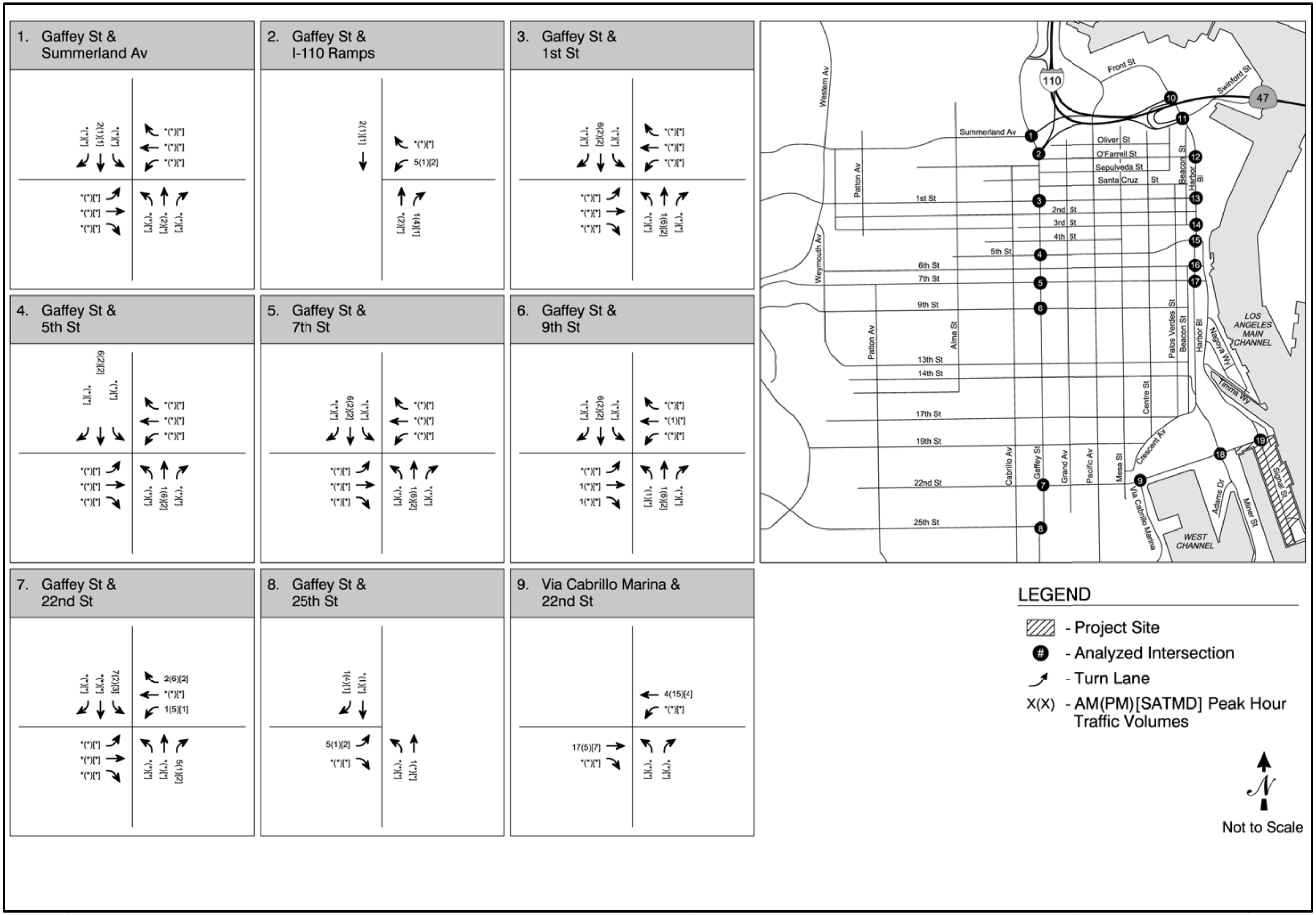
The geographic distribution of trips generated by the proposed Project is dependent on characteristics of the street system serving the site, the level of accessibility of routes to and from the proposed project site, the location of employment and commercial centers to which residents near the proposed Project would be drawn, and the geographic distribution of population from which employees and potential patrons of the commercial elements of the proposed Project would be drawn. The general distribution pattern used in the Traffic Study was developed in consultation with LADOT and is shown in Figure 4 of the Traffic Study prepared for the proposed Project (Appendix C).

Proposed Project Traffic Assignment

The trip generation estimates summarized in Table 3.11-7 were used to assign the proposed project-generated traffic to the local and regional street system shown in Table 4 of the Traffic Study. Figures 3.11-3a, 3.11-3b, 3.11-4a, and 3.11-4b illustrate the estimated proposed project-generated peak hour traffic volumes at each of the analyzed intersections during a typical weekday morning and evening peak hour and weekend midday peak hour, for Phase I (opening year) and Phase 2 (stabilized year), respectively. Proposed project traffic assignment for the year 2024 accounts for the proposed reconfiguration of Harbor Boulevard south of 7th Street, which will include a junction with Sampson Way.

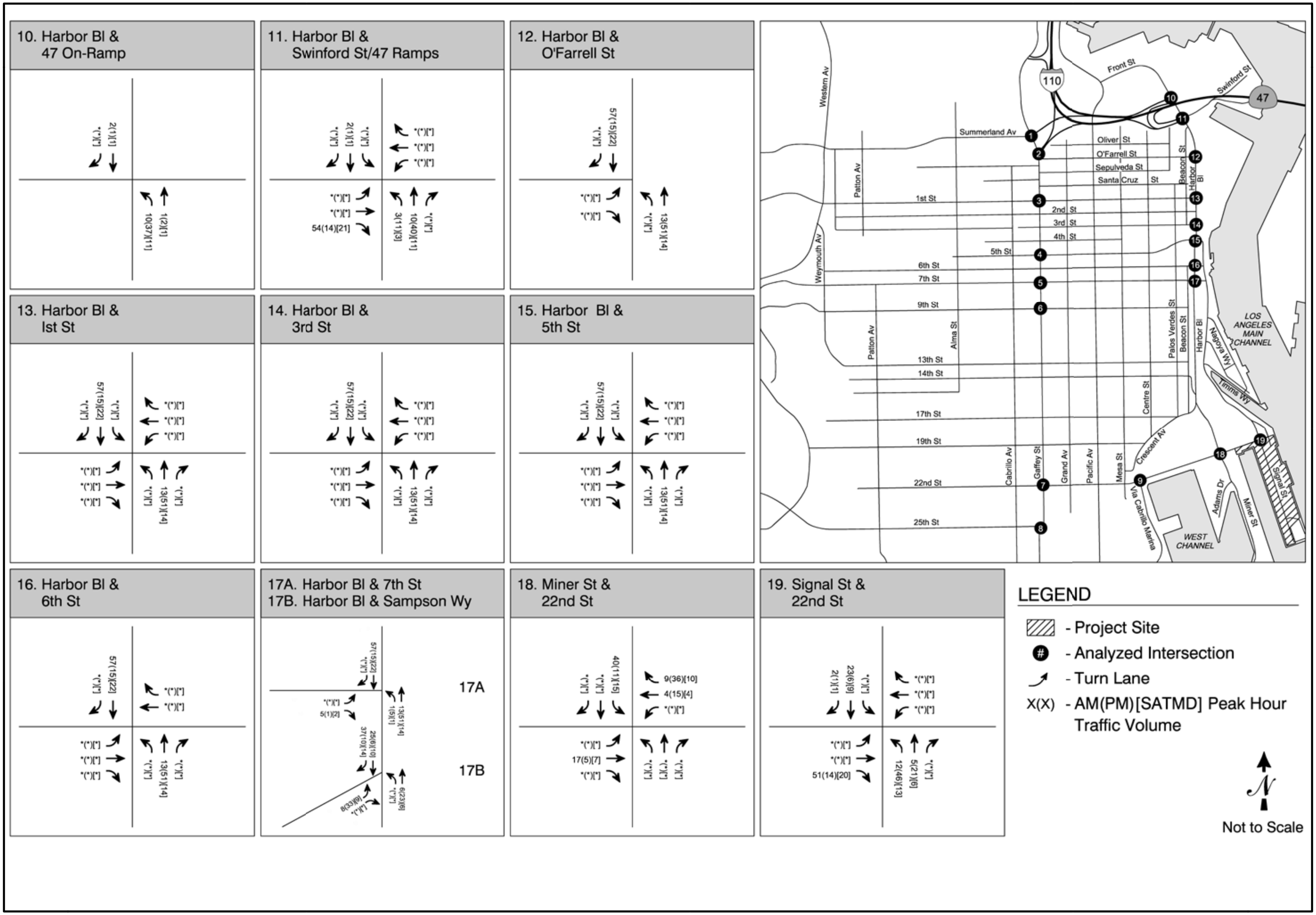
Table 3.11-7. Proposed Project Trip Generation

Phase/Facility	*Weekday Daily*	*AM Peak Hour*			*PM Peak Hour*			*Weekend Daily*	*Weekend Peak Hour*		
		Total	*In (%)*	*Out (%)*	*Total*	*In (%)*	*Out (%)*		*Total*	*In (%)*	*Out (%)*
Phase I – Interim Year 2016 Trip Generation Estimates											
Research & Development Facility	301	45	37	8	40	34	6	70	9	7	2
Support Facilities & Storage	46	4	3	1	4	1	3	16	2	1	1
Public Interpretive Center	6	*	*	*	*	*	*	8	*	*	*
Learning Center (Classrooms and Auditorium)	643	57	46	11	57	17	40	351	31	25	6
Boat Slips	72	*	*	*	*	*	*	72	12	12	*
Public Plaza	9	*	*	*	*	*	*	9	0	*	*
Crescent Warehouse (To Be Removed)	(31)	(4)	(3)	(1)	(5)	(2)	(3)	(8)	(1)	(1)	(0)
Phase I Net Subtotal	***1,046***	***102***	***83***	***19***	***96***	***22***	***74***	***518***	***53***	***32***	***21***
Phase II – Full Buildout Year 2016 Trip Generation Estimates											
Research & Development Facility and Wave Tank	1,460	220	183	37	193	29	164	342	43	34	9
Waterfront Café	36	3	2	1	3	2	1	44	4	2	2
Waterfront Café Internalization	(18)	(2)	(1)	(1)	(2)	(1)	(1)	(7)	0	0	0
Waterfront Promenade and Public Plaza	5	*	*	*	*	*	*	5	*	*	*
NOAA Administration/Research Facility	406	61	51	10	53	8	45	95	12	9	3
Phase II Net Subtotal	***1,889***	***282***	***235***	***47***	***247***	***38***	***209***	***479***	***59***	***45***	***14***
Proposed Project Trip Totals	**2,935**	**384**	**318**	**66**	**343**	**60**	**283**	**997**	**112**	**77**	**35**
Asterisk (*) represents negligible trips ( ) represents a negative value											



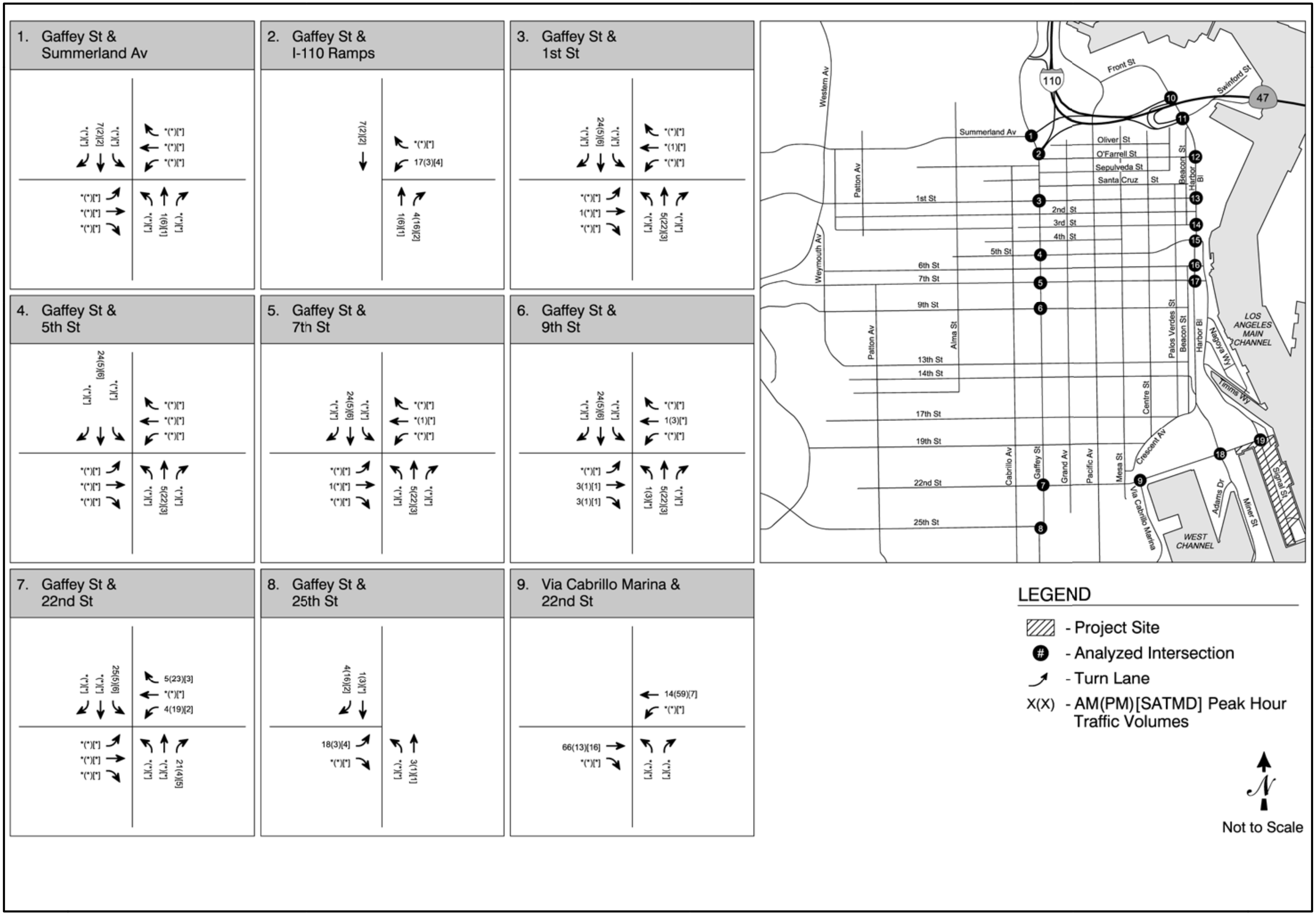
SOURCE: Fehr & Peers (2012)

Figure 3.11-3a
Project Only Peak Hour Intersection Volumes (Phase 1)
City Dock No. 1 Marine Research Center Project



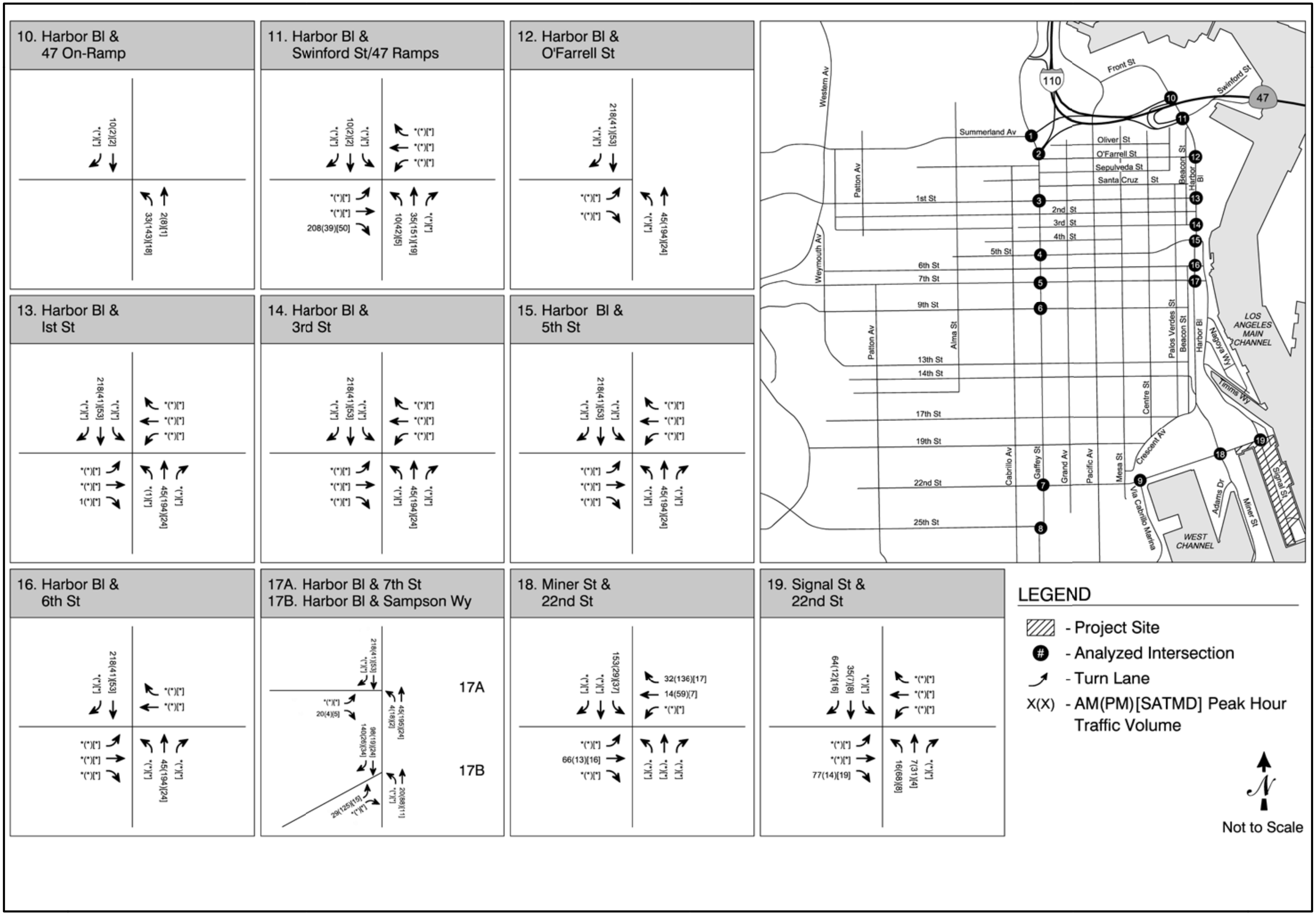
SOURCE: Fehr & Peers (2012)

Figure 3.11-3b
Project Only Peak Hour Intersection Volumes (Phase 1)
City Dock No. 1 Marine Research Center Project



SOURCE: Fehr & Peers (2012)

Figure 3.11-4a
Project Only Peak Hour Intersection Volumes (Phase 2)
City Dock No. 1 Marine Research Center Project



K:\Irvine\GIS\Projects\POLA\00211_11\mapdoc\Traffic\Fig3_11_4b_Project Peak Hour Volumes_Phase2.ai BB (05-21-12)

SOURCE: Fehr & Peers (2012)

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Figure 3.11-4b
Project Only Peak Hour Intersection Volumes (Phase 2)
City Dock No. 1 Marine Research Center Project

Projections of Total Traffic under the Proposed Project

The proposed project-generated traffic volumes were added to the Without Project traffic projections to develop the proposed project contribution forecasts for the interim year 2016 and the full buildout year 2024. The resulting forecasted traffic volumes provided the basis for the intersection impact analysis of the proposed Project.

3.11.4.1.2 Marine

Impacts on marine transportation were assessed by determining how increased vessel traffic resulting from the proposed Project would affect the ability of the harbor to safely handle vessel traffic and by determining the potential of the proposed project–related construction or operational activities to increase risks to vessel traffic. Existing regulations regarding vessel safety are designed to avoid potential impacts and are considered standard practice.

3.11.4.2 Thresholds of Significance

3.11.4.2.1 Surface Transportation

A project or action is considered to have a significant transportation/circulation impact if the project or action would result in one or more of the following occurrences. Relevant criteria were taken from the *L.A.CEQA Thresholds Guide* (City of Los Angeles 2006) and other criteria applied to Port projects.

TC-1: A project would have a significant impact if construction of the project would result in a short-term, temporary increase in construction-related truck and auto traffic that could result in decreases in roadway capacity, potential safety hazards, and disruption of travel for vehicular and non-motorized travelers.

TC-2: A project would have a significant impact if it would degrade the LOS of an intersection, neighborhood street, or CMP facility (described earlier in this section) beyond adopted guidelines, namely:

- **TC-2a:** A project would have a significant impact if an intersection would result in an increase in V/C ratio equal to or greater than 0.04 for intersections operating at LOS C, equal to or greater than 0.02 for intersections operating at LOS D, and equal to or greater than 0.01 for intersections operating at LOS E or F (summarized in Table 3.11-6).
- **TC-2b:** A project would have a significant impact if a CMP facility would have an increase in V/C by 0.02 or greater and would cause the facility to operate at LOS F (V/C > 1.00) or, if the facility is already at LOS F, a significant impact would occur when the project increases V/C by 0.02 or greater (described in Section 3.11.3.1.3).

TC-3: A project would have a significant impact on local transit services if it would increase demand beyond the supply of such services anticipated at project buildout.

TC-4: A project would have a significant impact if it results in violation of the City's adopted parking policies, or if project parking demand would exceed supply.

TC-5: A project would have a significant impact if design elements of the project, or project construction, would result in conditions that would increase the risk of accidents, either for vehicular or non-motorized traffic. Elements that could result in safety impacts include poor sight distance, sharp curves, or substantial differences in speed between project-related and general-purpose traffic.

3.11.4.2.2 Marine

Under CEQA, potential impacts are identified by comparing conditions under the proposed Project to baseline conditions. According to the *L.A. CEQA Thresholds Guide*, the determination of significance for marine transportation impacts has to be made on a case-by-case basis. The following criterion was developed in cooperation with LAHD for the proposed Project:

VT-1: A project would have a significant impact on marine transportation if it would interfere with the operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, East Basin Area, or precautionary areas.

3.11.4.3 Impacts and Mitigation

3.11.4.3.1 Proposed Project

Impact TC-1: Construction of the proposed Project would result in a short-term, temporary increase in construction-related truck and auto traffic, decreases in roadway capacity, and disruption of vehicular and non-motorized travel.

Demolition and landside construction associated with various elements of the proposed Project would generate truck and other vehicular traffic associated with construction worker commutes, transport and staging of construction equipment, transport of construction materials to the construction site, and hauling excavated and demolished materials away from the site. Proposed project construction is expected to occur between 2012 and 2024. During the construction period, Port operations would continue at usual levels. Potential construction effects on roadway operations include the following:

- a temporary increase in traffic associated with construction worker commutes, delivery of construction materials, hauling of demolished and/or excavated materials, and general deliveries would increase travel volumes on roadways;
- temporary roadway lane closures (i.e., Signal Street) or narrowings in areas directly abutting construction activities (i.e., the eastbound lane of 22nd Street) would reduce capacity of roadways;

- during proposed project construction, parking demand would increase from construction workers and construction equipment that is not in use. In addition, parking spaces located adjacent to construction activities would be temporarily closed;
- temporary sidewalk and lane closures (i.e., 22nd Street) could occur adjacent to proposed project elements that are under construction, which would interfere with bicycle or pedestrian circulation in these areas and
- heavy and slow-moving construction vehicles would mix with general-purpose vehicular and non-motorized traffic in the area.

See Chapter 2, "Project Description," for detailed descriptions of the construction activities and planned phasing of the elements associated with the proposed Project.

Impact Determination

Proposed project construction would result in a temporary increase in traffic volumes and a decrease in roadway capacity due to temporary lane closures on Signal Street and possibly on 22nd Street. The following impacts would result from the proposed Project.

- reduced roadway capacity and an increase in construction-related congestion would result in temporary localized increases in traffic congestion that exceed applicable LOS standards;
- construction activities would disrupt pedestrian and bicycle travel. Impacts may include temporary sidewalk or roadway closures that would create gaps in pedestrian or bicycle routes and could interfere with safe travel; and
- construction activities would temporarily increase the mix of heavy construction vehicles with general purpose traffic. Impacts include an increase in safety hazards due to a higher proportion of heavy trucks.

The impact of construction-generated traffic on transportation operations without mitigation is considered significant. Therefore, mitigation is required.

Mitigation Measures

MM TC-1: Develop and Implement a Traffic Control Plan throughout Proposed Project Construction. In accordance with the City's policy on street closures and traffic diversion for arterial and collector roadways, the construction contractor will prepare a traffic control plan (to be approved by City engineers) before construction. The traffic control plan will include:

- a street layout showing the location of construction activity and surrounding streets to be used as detour routes, including special signage;
- a tentative start date and construction duration period for each phase of construction;

- the name, address, and emergency contact number for those responsible for maintaining the traffic control devices during the course of construction; and
- written approval to implement traffic control from other agencies, as needed.

Additionally, the traffic control plan will include the following stipulations:

- provide access for emergency vehicles at all times;
- avoid creating additional delay at intersections currently operating at congested conditions, either by choosing routes that avoid these locations, or constructing during nonpeak times of day;
- maintain access for driveways and private roads, except for brief periods of construction, in which case property owners will be notified;
- provide adequate off-street parking areas at designated staging areas for construction-related vehicles;
- maintain pedestrian and bicycle access and circulation during proposed project construction where safe to do so; if construction encroaches on a sidewalk, a safe detour will be provided for pedestrians at the nearest crosswalk; if construction encroaches on a bike lane, warning signs will be posted that indicate bicycles and vehicles are sharing the roadway;
- utilize flag persons wearing OSHA–approved vests and using a “Stop/Slow” paddle to warn motorists of construction activity;
- maintain access to Metro and LADOT transit services and ensure that public transit vehicles are detoured if necessary;
- post standard construction warning signs in advance of the construction area and at any intersection that provides access to the construction area;
- post construction warning signs in accordance with local standards or those set forth in the *Manual on Uniform Traffic Control Devices* (FHWA 2009) in advance of the construction area and at any intersection that provides access to the construction area;
- during lane closures, have contractor and/or LAHD notify LAFD and LAPD, as well as the Los Angeles County Sheriff’s and Fire Departments, of construction locations to ensure that alternative evacuation and emergency routes are designed to maintain response times during construction periods, if necessary;
- provide written notification to contractors regarding appropriate routes to and from construction sites, and weight and speed limits for local roads used to access construction sites; submit a copy of all such written notifications to the City of Los Angeles Planning Department; and
- repair or restore the road right-of-way to its original condition or better upon completion of the work.

Residual Impacts

Impacts would be less than significant after mitigation.

Impact TC-2a: Operation of the Proposed project would increase traffic volumes and degrade LOS at intersections within the proposed project vicinity.

The proposed Project would increase demand for expanded commercial, recreational, and other proposed waterfront facilities and would therefore increase the number of people traveling to and from the San Pedro Waterfront area. The resulting increase in traffic volumes on the surrounding roadways would in turn degrade intersection operations.

Impact Determination

Tables 3.11-8 and 3.11-9 summarize the projected LOS and V/C at intersections within the vicinity for Without Project and With Project conditions, for the years 2016 and 2024, respectively. To determine whether significant impacts would occur at the study intersections, the proposed project operating conditions for each phase were compared to the baseline, or Without Project, operating conditions documented in 2011.

Table 3.11-8 shows that projected increases in intersection V/Cs resulting from proposed project–generated traffic during Phase I of the proposed Project are not expected to exceed the adopted thresholds. Thus, impacts through 2016 would be less than significant.

Table 3.11-9 shows that projected increases in intersection V/Cs resulting from proposed project–generated traffic during Phase II of the proposed Project are not expected to exceed the adopted thresholds. Thus, impacts through 2024 would be less than significant.

Table 3.11-8. Intersection LOS – Existing Plus Project Phase I (2016) Conditions

		Existing Baseline		*Existing + Project (Phase I)*			
Intersection	*Peak Hour*	*V/C*	*LOS*	*V/C*	*LOS*	*Change*	*Impact*
Gaffey Street/ Summerland Avenue	AM	0.704	C	0.705	C	0.001	NO
	PM	0.813	D	0.814	D	0.001	NO
	WK	0.584	A	0.585	A	0.001	NO
Gaffey Street/ I-110 Ramps	AM	0.377	A	0.378	A	0.001	NO
	PM	0.514	A	0.515	A	0.001	NO
	WK	0.429	A	0.431	A	0.002	NO
Gaffey Street/ 1st Street	AM	0.860	D	0.860	D	0.000	NO
	PM	0.825	D	0.826	D	0.001	NO
	WK	0.778	C	0.779	C	0.001	NO
Gaffey Street/ 5th Street	AM	0.715	C	0.715	C	0.000	NO
	PM	0.634	B	0.636	B	0.002	NO
	WK	0.674	B	0.675	B	0.001	NO

Intersection	Peak Hour	Existing Baseline		Existing + Project (Phase I)			
		V/C	*LOS*	*V/C*	*LOS*	*Change*	*Impact*
Gaffey Street/ 7th Street	AM	0.627	B	0.627	B	0.000	NO
	PM	0.593	A	0.595	A	0.002	NO
	WK	0.622	B	0.623	B	0.001	NO
Gaffey Street/ 9th Street	AM	0.650	B	0.650	B	0.000	NO
	PM	0.611	B	0.613	B	0.002	NO
	WK	0.633	B	0.634	B	0.001	NO
Gaffey Street/ 22nd Street	AM	0.330	A	0.338	A	0.008	NO
	PM	0.333	A	0.342	A	0.009	NO
	WK	0.427	A	0.433	A	0.006	NO
Gaffey Street/ 25th Street	AM	0.358	A	0.362	A	0.004	NO
	PM	0.325	A	0.327	A	0.002	NO
	WK	0.466	A	0.468	A	0.002	NO
Via Cabrillo Marina/ 22nd Street	AM	0.136	A	0.142	A	0.006	NO
	PM	0.080	A	0.082	A	0.002	NO
	WK	0.122	A	0.124	A	0.002	NO
Harbor Boulevard/ Swinford Street/ SR-47 Eastbound Ramps	AM	0.505	A	0.519	A	0.014	NO
	PM	0.485	A	0.503	A	0.018	NO
	WK	0.583	A	0.588	A	0.005	NO
Harbor Boulevard/ O'Farrell Street	AM	0.431	A	0.435	A	0.004	NO
	PM	0.493	A	0.498	A	0.005	NO
	WK	0.391	A	0.398	A	0.007	NO
Harbor Boulevard/ 1st Street	AM	0.333	A	0.337	A	0.004	NO
	PM	0.351	A	0.355	A	0.004	NO
	WK	0.245	A	0.253	A	0.008	NO
Harbor Boulevard/ 5th Street	AM	0.258	A	0.269	A	0.011	NO
	PM	0.498	A	0.503	A	0.005	NO
	WK	0.282	A	0.289	A	0.007	NO
Harbor Boulevard/ 6th Street	AM	0.252	A	0.270	A	0.018	NO
	PM	0.282	A	0.289	A	0.007	NO
	WK	0.406	A	0.416	A	0.010	NO
Harbor Boulevard/ 7th Street	AM	0.189	A	0.192	A	0.003	NO
	PM	0.203	A	0.206	A	0.003	NO
	WK	0.135	A	0.139	A	0.004	NO
Harbor Boulevard/ Sampson Way	AM	Intersection Does Not Exist					
	PM						
	WK						
Miner Street/	AM	0.258	A	0.291	A	0.033	NO

Intersection	Peak Hour	Existing Baseline		Existing + Project (Phase I)			
		V/C	LOS	V/C	LOS	Change	Impact
22nd Street	PM	0.301	A	0.317	A	0.016	NO
	WK	0.249	A	0.254	A	0.005	NO

Table 3.11-9. Intersection LOS – Existing Plus Project Buildout (2024) Conditions

Intersection	Peak Hour	Existing Baseline		Existing + Project (Phase I and II)			
		V/C	LOS	V/C	LOS	Change	Impact
Gaffey Street/ Summerland Avenue	AM	0.704	C	0.706	C	0.002	NO
	PM	0.813	D	0.814	D	0.001	NO
	WK	0.584	A	0.585	A	0.001	NO
Gaffey Street/ I-110 Ramps	AM	0.377	A	0.381	A	0.004	NO
	PM	0.514	A	0.517	A	0.003	NO
	WK	0.429	A	0.431	A	0.001	NO
Gaffey Street/ 1st Street	AM	0.860	D	0.861	D	0.001	NO
	PM	0.825	D	0.827	D	0.002	NO
	WK	0.778	C	0.779	C	0.001	NO
Gaffey Street/ 5th Street	AM	0.715	C	0.716	C	0.001	NO
	PM	0.634	B	0.642	B	0.008	NO
	WK	0.674	B	0.675	B	0.001	NO
Gaffey Street/ 7th Street	AM	0.627	B	0.629	B	0.002	NO
	PM	0.593	A	0.601	B	0.008	NO
	WK	0.622	B	0.623	B	0.001	NO
Gaffey Street/ 9th Street	AM	0.650	B	0.652	B	0.002	NO
	PM	0.611	B	0.617	B	0.006	NO
	WK	0.633	B	0.635	B	0.002	NO
Gaffey Street/ 22nd Street	AM	0.330	A	0.359	A	0.029	NO
	PM	0.333	A	0.365	A	0.032	NO
	WK	0.427	A	0.438	A	0.011	NO
Gaffey Street/ 25th Street	AM	0.358	A	0.372	A	0.014	NO
	PM	0.325	A	0.329	A	0.004	NO
	WK	0.466	A	0.469	A	0.003	NO
Via Cabrillo Marina/ 22nd Street	AM	0.136	A	0.159	A	0.023	NO
	PM	0.080	A	0.085	A	0.005	NO
	WK	0.122	A	0.127	A	0.005	NO
Harbor Boulevard/ Swinford Street/ SR-47 Eastbound Ramps	AM	0.505	A	0.559	A	0.054	NO
	PM	0.485	A	0.548	A	0.063	NO
	WK	0.583	A	0.592	A	0.009	NO

Intersection	Peak Hour	Existing Baseline		Existing + Project (Phase I and II)			
		V/C	LOS	V/C	LOS	Change	Impact
Harbor Boulevard/ O'Farrell Street	AM	0.431	A	0.451	A	0.020	NO
	PM	0.493	A	0.507	A	0.014	NO
	WK	0.391	A	0.408	A	0.017	NO
Harbor Boulevard/ 1st Street	AM	0.333	A	0.347	A	0.014	NO
	PM	0.351	A	0.365	A	0.014	NO
	WK	0.245	A	0.263	A	0.018	NO
Harbor Boulevard/ 5th Street	AM	0.258	A	0.323	A	0.065	NO
	PM	0.498	A	0.511	A	0.013	NO
	WK	0.282	A	0.300	A	0.018	NO
Harbor Boulevard/ 6th Street	AM	0.252	A	0.326	A	0.074	NO
	PM	0.282	A	0.304	A	0.022	NO
	WK	0.406	A	0.428	A	0.022	NO
Harbor Boulevard/ 7th Street	AM	0.189	A	0.199	A	0.010	NO
	PM	0.203	A	0.211	A	0.008	NO
	WK	0.135	A	0.146	A	0.011	NO
Harbor Boulevard/ Sampson Way	AM	Intersection Does Not Exist					
	PM						
	WK						
Miner Street/ 22nd Street	AM	0.258	A	0.378	A	0.120	NO
	PM	0.301	A	0.372	A	0.071	NO
	WK	0.249	A	0.258	A	0.009	NO

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact TC-2b: Operation of the Proposed project would not significantly increase traffic volumes or degrade operations on CMP facilities within the proposed project vicinity beyond adopted thresholds.

The proposed Project would increase the number of people traveling to and from the San Pedro Waterfront area. The following trips were estimated to occur at the two CMP arterial monitoring stations as a result of the proposed Project:

- Gaffey Street and 9th Street—The proposed Project is expected to add less than 50 vehicle weekday peak hour trips in 2016 and 2024 at this intersection (see page 50 of the Traffic Study, included in this Draft EIR as Appendix C); and
- Western Avenue and 9th Street—The proposed Project is expected to add less than 50 weekday peak hour trips in 2016 and 2024 at this intersection (see page 50 of the Traffic Study, included in this Draft EIR as Appendix C).

Impact Determination

Trip thresholds for arterial and freeway monitoring stations are defined in the CMP (Metro 2010) and described in Section 3.11.3.1.3 above. Because the proposed Project would add fewer than the arterial threshold of 50 vehicle trips through these arterial monitoring stations, the CMP thresholds are not exceeded, and no further analysis of CMP arterial intersections is required. Thus, CMP arterial intersection impacts are considered to be less than significant.

The CMP mainline freeway monitoring station nearest to the proposed project site is I-110, south of C Street. The Traffic Study analysis indicates that the proposed Project would add fewer than the CMP freeway threshold of 150 trips through this station (see page 50 of the Traffic Study, included in this Draft EIR as Appendix C). Since incremental proposed project–related traffic at this location is projected to be less than the minimum criteria of 150 vehicles per hour, no further CMP freeway analysis is required, and CMP freeway impacts are considered to be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact TC-3: Operation of the Proposed project would not cause increases in demand for transit service beyond the supply of such services.

The proposed Project would increase transit demand due to an increase in the number of people traveling to and from the San Pedro Waterfront area, as described below.

Potential increases in transit person trips generated by the proposed Project were estimated according to a methodology provided in the CMP (Metro 2010) for estimating the number of transit trips expected to result from a project based on the projected number of vehicle trips.

The CMP methodology assumes an average vehicle ridership (AVR) of 1.4 persons per car, in order to estimate the number of person trips to and from a project. The nearest designated CMP transit corridor is the Harbor Freeway Corridor. Since the proposed project site does not qualify as a CMP transit center, a CMP multi-modal transportation center, or a CMP transit corridor under existing conditions, a factor of 3.5% was applied to person trips generated to estimate transit trips (based on CMP guidelines).

As shown in Table 3.11-7, the proposed Project is projected to generate a net increase of approximately 102 vehicle trips during the AM peak hour, 96 vehicle trips during the PM peak hour, and 53 vehicle trips during the weekend peak hour in the Phase I interim year 2016; and it is projected to generate a net increase of approximately 384 trips during the AM peak hour and 343 trips during the PM peak hour at full buildout in year 2024. An AVR of 1.4 was applied to these vehicle estimates for the AM peak hour only because the proposed Project would generate the highest number of trips during the weekday AM peak hour. As such, the following person trip estimates would result during the AM peak hour, which has the greater increase of the two peak periods:

- 143 person trips are projected for the AM peak hour, during the Phase I interim year 2016. Application of the 3.5% transit mode split results in an estimate of proposed project–generated transit trips of approximately 5 persons during the AM peak hour.
- 538 person trips are projected for the AM peak hour during the buildout year 2024. Application of the 3.5% transit mode split results in an estimate of proposed project–generated transit trips of approximately 19 persons during the AM peak hour.

As discussed in Section 3.11.2.1.4, four bus lines provide service in the vicinity of the proposed project site. Based on the existing operating schedules for these transit lines, approximately eight buses serve the vicinity during both the AM and PM peak hours. Using the AM period because it is the greater of the two peak periods, this results in the following conclusions:

- the proposed Project would add less than one person trip per bus during the AM peak hour in the Phase 1 interim year 2016; and
- the proposed Project would add less than two person trips per bus during the AM peak hour in the buildout year 2024.

Impact Determination

Fewer than two people on average per bus amounts to 5% of the capacity of a typical 40-passenger bus. It is expected that the transit system could accommodate this small increase in demand; thus, proposed project-related impacts on the regional transit system would be considered less than significant in both the interim year 2016 and the buildout year 2024. Impacts from rare and temporary special events would be considered less than significant.

Therefore, operational impacts on transit ridership would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact TC-4: Operation of the Proposed project would not result in a violation of the City's adopted parking policies and parking demand would not exceed supply.

The proposed Project would increase parking demand in the San Pedro Waterfront area. Table 3.11-10 presents the parking requirements for the proposed Project at full buildout (year 2024). Parking requirements for the proposed Project were calculated using the City of Los Angeles Zoning Code. As can be seen in the table, a total of 613 off-street parking spaces would be required per Section 12.21 of the Los Angeles Zoning Code.

Table 3.11-10. Parking Assessment

	City of Los Angeles Municipal Code			
Land Use	*Size*	*Required Rate*	*Parking Spaces Required*	*Supply Proposed by Project*
Phase I – Interim Year (2016)				
Research & Development	37.083 KSF	1 space/0.5 KSF	74	619
Warehousing	13.02 KSF	1 space/0.5 KSF (first 10 KSF)	20	
		1 space/5 KSF (after first 10 KSF)	1	
Auditorium	150 seats	1 space/5 seats	30	
Classroom	120 seats	1 space/5 seats	24	
Public Interpretive Center	1.574 KSF	1 space/0.5 KSF	3	
Phase I Subtotal			***152***	
Phase II – Buildout Year (2024)				
Research & Development	230 KSF	1 space/0.5 KSF	460	
Café	0.280 KSF	1 space/0.2 KSF	1	
Phase II Subtotal			***461***	
TOTAL REQUIRED SPACES			**613**	

KSF = 1,000 square feet

Source: Los Angeles Municipal Code Chapter 1, Article 2, Section 12.21.A.4

Impact Determination

The 619 proposed parking spaces would meet the parking requirements per the Los Angeles Zoning Code. As such, this impact is less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact TC-5: The proposed Project does not include design elements that would result in conditions that would increase the risk of accidents, either for vehicular or non-motorized traffic.

The proposed Project does not include elements that would result in poor sight distance, sharp curves, or other factors that would increase safety hazards for vehicular or non-motorized travelers. Elements have been designed to comply with site access and roadway engineering requirements that avoid poor sight distance, sharp curves, or substantial differences in speed between proposed project-related and general-purpose traffic.

Impact Determination

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact VT-1a: Construction of the proposed Project would not interfere with operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, East Basin area, or precautionary areas.

Waterside demolition and waterside construction associated with various elements under the proposed Project would generate trips by barges and other boats used to transport and stage construction equipment, transport construction materials to the construction sites, and haul demolished materials away from the sites. This would result in temporary increases in marine traffic. The exact number of vessels generated by proposed project construction will not be known until detailed construction timing and phasing plans are developed. However, Table 3.11-11 summarizes construction activities that would be expected to generate some level of marine traffic (see Chapter 2, "Project Description," for more detailed descriptions of construction activities).

Table 3.11-11. Marine-Side Construction Associated with the Proposed Project

Proposed Project Element	*Construction Activities*	*Duration of Activities*
Phase I Improvements	■ Construct Floating Docks Adjacent to Berth 57 (12 vessel slips) ■ Install Saltwater Intake/Discharge Infrastructure to Serve City Dock #1 Research Laboratory Buildout ■ Rehabilitate/Repair Berth 57 Wharf ■ Create Berthing for Research Vessels and Loading Space on the Wharf for Crane	2012–2016
Phase II Improvements	■ Provide Berthing Space for Research Vessels at Berths 59–60 ■ Rehabilitate/Repair Berths 58–60 Wharf and Associated Ground Improvements ■ Implement Wharf Maintenance (remove catwalks) at Berths 70–71	2013–2024

Impact Determination

In-water construction activities would require use of marine-based construction equipment. Thus, construction activities would create temporary increases in marine vessels, which in turn would increase the potential for conflict between vessels. This could create in-water hazards related to construction vessel activity and increase the potential for accidents between vessel traffic within the harbor, Main Channel, West Basin, East Basin, and precautionary areas. However, these activities are routinely conducted in the harbor, and contractors performing in-water construction activities are subject to all applicable rules and regulations stipulated in all LAHD contracts (see Sections 3.11.3.2 and 3.11.2.2.1 for descriptions of standard safety precautions). Because the standard safety precautions would be utilized in piloting these vessels, the short-term presence of barges or boats would not reduce the existing level of safety for vessel navigation in the harbor. Therefore, construction impacts on vessel traffic would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact VT-1b: Operation of the proposed Project would not interfere with the operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, or precautionary areas.

The proposed Project would provide new facilities to accommodate vessel traffic, including the use of existing berthing space for research vessels, demolition of existing floating docks at Berth 260, construction of new floating docks (12 slips) in the East Channel, and the provision of berthing space for research vessels at Berths 59–60 and 70–71. Relocation of some facilities associated with the proposed Project would not be expected to generate additional vessel demand but would change the travel patterns of vessels that utilize them. A summary of facilities that would generate marine traffic and/or change marine vessel travel patterns is presented in Table 3.11-12.

Table 3.11-12. Facilities That Could Change Vessel Traffic under the Proposed Project

Proposed Project Element	*Facilities*
Berth 260	■ Move vessels currently docking at Berth 260 floating docks to Berth 57
Berth 57	■ Construction of 12 floating docks would accommodate relocation of vessels from Berth 260 as well as additional vessels
Berths 59–60 and Berths 70–71	■ Provision of berthing space for research vessels would accommodate additional vessels

Impact Determination

Proposed project operations would result in an increase of vessel traffic compared to current conditions. However, vessel trips in the harbor would be shorter than at Berth 260, and all vessels, and more specifically, large research vessels (up to 250 feet), would comply with all mandatory regulations as listed in Section 3.11.3.2, ensuring coordination with other vessel traffic. Therefore, the expected increase in vessel traffic and changes in vessel traffic patterns would not significantly decrease the margin of safety for marine vessels in the harbor, Main Channel, or precautionary areas. Operational impacts on vessel traffic would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

3.11.4.3.2 Summary of Impact Determinations

Table 3.11-13 summarizes the impact determinations of the proposed Project related to transportation and circulation, as described in the detailed discussion in Section 3.11.4.3.1. 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 based on substantial evidence gathered from relevant studies.

For each type of potential impact, the table describes the impact, notes the 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 3.11-13. Summary Matrix of Potential Impacts and Mitigation Measures for Transportation and Circulation (Ground and Marine) Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.11 TRANSPORTATION AND CIRCULATION—GROUND AND MARINE			
TC-1: Construction of the proposed Project would result in a short-term, temporary increase in construction-related truck and auto traffic, decreases in roadway capacity, and disruption of vehicular and non-motorized travel.	Significant	**MM TC-1: Develop and Implement a Traffic Control Plan throughout Proposed Project Construction.** In accordance with the City's policy on street closures and traffic diversion for arterial and collector roadways, the construction contractor will prepare a traffic control plan (to be approved by City engineers) before construction. The traffic control plan will include: ■ a street layout showing the location of construction activity and surrounding streets to be used as detour routes, including special signage; ■ a tentative start date and construction duration period for each phase of construction; ■ the name, address, and emergency contact number for those responsible for maintaining the traffic control devices during the course of construction; and ■ written approval to implement traffic control from other agencies, as needed. Additionally, the traffic control plan will include the following stipulations: ■ provide access for emergency vehicles at all times; ■ avoid creating additional delay at intersections currently operating at congested conditions, either by	Less than significant

Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
		choosing routes that avoid these locations, or constructing during nonpeak times of day; ■ maintain access for driveways and private roads, except for brief periods of construction, in which case property owners will be notified; ■ provide adequate off-street parking areas at designated staging areas for construction-related vehicles; ■ maintain pedestrian and bicycle access and circulation during proposed project construction where safe to do so; if construction encroaches on a sidewalk, a safe detour will be provided for pedestrians at the nearest crosswalk; if construction encroaches on a bike lane, warning signs will be posted that indicate bicycles and vehicles are sharing the roadway; ■ utilize flag persons wearing OSHA–approved vests and using a “Stop/Slow” paddle to warn motorists of construction activity; ■ maintain access to Metro and LADOT transit services and ensure that public transit vehicles are detoured if necessary; ■ post standard construction warning signs in advance of the construction area and at any intersection that provides access to the construction area; ■ post construction warning signs in accordance with local standards or those set forth in the *Manual on Uniform Traffic Control Devices* (FHWA 2009) in advance of the construction area and at any intersection that provides access to the construction area; ■ during lane closures, have contractor and/or LAHD notify LAFD and LAPD, as well as the Los Angeles County Sheriff’s and Fire Departments, of construction locations to ensure that alternative evacuation and emergency routes	

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
		are designed to maintain response times during construction periods, if necessary; ■ provide written notification to contractors regarding appropriate routes to and from construction sites, and weight and speed limits for local roads used to access construction sites; submit a copy of all such written notifications to the City of Los Angeles Planning Department; and ■ repair or restore the road right-of-way to its original condition or better upon completion of the work.	
TC-2a: Operation of the Proposed project would increase traffic volumes and degrade LOS at intersections within the proposed project vicinity.	Less than significant	No mitigation is required.	Less than significant
TC-2b: Operation of the Proposed project would not significantly increase traffic volumes or degrade operations on CMP facilities within the proposed project vicinity beyond adopted thresholds.	Less than significant	No mitigation is required.	Less than significant
TC-3: Operation of the Proposed project would not cause increases in demand for transit service beyond the supply of such services.	Less than significant	No mitigation is required.	Less than significant
TC-4: Operation of the Proposed project would not result in a violation of the City's adopted parking policies and parking demand would not exceed supply.	Less than significant	No mitigation is required.	Less than significant
TC-5: The proposed Project does not include design elements that would result in conditions that would increase the risk of accidents, either	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
for vehicular or non-motorized traffic.			
VT-1a: Construction of the proposed Project would not interfere with operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, East Basin area, or precautionary areas.	Less than significant	No mitigation is required.	Less than significant
VT-1b: Operation of the proposed Project would not interfere with the operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, or precautionary areas.	Less than significant	No mitigation is required.	Less than significant

3.11.4.4 Mitigation Monitoring

Table 3.11-14. Mitigation Monitoring for Transportation and Circulation

Impact TC-1: Construction of the proposed Project would result in a short-term, temporary increase in construction-related truck and auto traffic, decreases in roadway capacity, and disruption of vehicular and non-motorized travel.	
Mitigation Measure	**MM TC-1: Develop and Implement a Traffic Control Plan throughout Proposed Project Construction.**
Timing	Prior to construction and issuance of the construction permits
Methodology	Implement a traffic control plan that addresses temporary impacts at 22nd Street and Signal Street by providing detours and other temporary solutions
Responsible Parties	LAHD and Construction Manager
Residual Impacts	Less than significant

3.11.4.5 Significant Unavoidable Impacts

There would be no significant unavoidable impacts.

3.12

UTITLTIES

3.12

UTILITIES

3.12.1 Introduction

This section identifies the existing utility service systems (water, wastewater, storm drains, solid waste, electricity, and natural gas) within the proposed project area, presents the regulatory setting, and analyzes potential impacts on these systems that could result from development of the proposed Project.

As fully discussed in Section 3.12.4, “Impact Analysis,” the proposed Project would not result in any significant impacts related to utilities. No mitigation is required.

3.12.2 Environmental Setting

The public utility providers that serve the proposed project area within the Port include the City of Los Angeles Department of Public Works Bureau of Sanitation (BOS), LADWP, Los Angeles County Department of Public Works (LACDPW), and Southern California Gas Company (SCGC). Each utility has been actively growing in concert with local communities and the region. The individual provisions for providing and delivering service within the particular geographic areas, as well as each utility’s planning efforts to accommodate anticipated future growth, are discussed in detail below.

3.12.2.1 Water

Water service is provided to the proposed project area by the LADWP, which is responsible for conserving, treating, and distributing water for domestic, industrial, agricultural, and firefighting purposes within the City. Water sources utilized by LADWP consist of both local sources, such as wells and recycled water (for non-potable uses), and imported water, including water obtained via the Los Angeles Aqueducts and purchases from the Metropolitan Water District of Southern California (Metropolitan). Metropolitan imports water from the Colorado River via the Colorado River Aqueduct, from northern California via the State Water Project’s California Aqueduct, and from various groundwater sources.

3.12.2.1.1 Water Supply

In a continuing effort to ensure a reliable water supply for future years, LADWP has invested in various sources, including groundwater, recycled water, and water conservation. Specific supply and demand side management strategies are designed to provide a "hedge" against droughts and variability of surface water. The Urban Water Management Plan (UWMP) estimates water demand and supply through a 25-year outlook period, and is updated every 5 years by LADWP. The UWMP assumes future development as prescribed by the General Plan of the City of Los Angeles when planning future water demand. Correspondingly, development projects that are consistent with the General Plan's land use designation and planned densities are taken into account in the calculations used to predict water demand for future years. Calculations are also based on assumptions regarding the various supplies of water available and existing and projected levels of water conservation. In 2009, an economic recession and water supply shortage required LADWP to impose mandatory conservation. In 2010, mandatory conservation continued as the economic recession became more severe, resulting in a 19% decrease in water use (LADWP 2010a).

Categorically, conservation can be grouped into two main types; active and passive conservation. Passive conservation accounts for the improved water use efficiency of retrofitted and new residential homes and commercial buildings from plumbing code changes. The passive conservation that resulted from the 1991 and 2010 plumbing code updates is accounted for in the 2010 water demand forecast model. Therefore, both cases of demand forecast are presented in the 2010 UWMP. Based on these assumptions, LADWP has predicted service reliability for average and single dry-year conditions and expects to be able to meet future demand with a combination of existing supplies, planned supplies, and Metropolitan purchases (LADWP 2010a).

According to the 2010 UWMP, the average water demand for the LADWP service area from 2005-2010 was approximately 621,458 afy. The UWMP forecasted that the City of Los Angeles would grow 0.4% annually over the next 25 years, or by approximately 367,000 persons over the next 25 years. Total citywide demand for water is predicted to be 675,604 acre-feet in 2025 and 710,760 acre-feet in 2035 with passive water conservation. Total citywide demand for water is predicted to be 632,275 acre-feet in 2025 and 641,622 acre-feet in 2035 with passive and active water conservation. According to the 2010 UWMP, under wet, average, and dry years throughout the 25-year projection period, LADWP's supply portfolio is expected to be reliable, with adequate supplies available to meet projected demands through 2035 (LADWP 2010a).

According to LADWP's *Water System Capital Improvement Program*, 23% of LADWP's 10-year capital budget is allocated to water supply to ensure adequate sources and supply of water for the City. Projects dedicated to water supply involve maintaining groundwater supplies, increasing recycled water supplies, developing new sources of water supply, enhancing water conservation, and ensuring efficient environmental restoration activities in the Eastern Sierra (LADWP 2010b).

Table 3.12-1 identifies the existing land uses, the square footages, and the water demand of the existing uses that would be altered, removed, or otherwise affected under the proposed Project. Based on the existing land uses, the existing water demand of the study area is estimated to be 4,298 gallons per day (gpd).

Table 3.12-1. Existing Water Use in the Study Area (Estimated)

Location	*Existing Land Use*	*General Land Use*	*Area (gsf)* [a]	*Water Consumption Rate*[b]	*Gallons per Day*	*Gallons per Year*
Berth 56	Vacant land	Vacant, barren lot	28,314	0	0	0
Berth 57	Transit Shed	Warehouse	46,000	22.2 gpd/ 1,000 gsf	1,021	372,738
Berths 58–60	Transit Shed (Vacant)	Warehouse (Vacant)	180,000	0	0	0
Berth 260	SCMI Office	Office	19,000	166.5 gpd/ 1,000 gsf	3,163	1,154,678
Berth 260	SCMI Ancillary Uses	Storage/Workshop	5,100	22.2gpd/ 1,000 gsf	113	41,325
				Total Water Use	**4,298**	**1,568,741**

[a] gsf = gross square feet

[b] Based on the wastewater generation rates from the proposed Project Sewer Capacity Study (BOS 2012), factored at 111% of the wastewater generation rate

3.12.2.1.2 Conveyance Infrastructure

Water supply and conveyance structures comprise a series of reservoirs and a network of pipelines, including reservoir outlets, major trunk lines, and other delivery lines. Trunk lines are pipes with a diameter ranging in size from 20 to 144 inches that transport water from wells and aqueducts to reservoirs, and enable the movement of water from one area of the City to another. Trunk lines connect to smaller pipes known as distribution mains that supply water to the customer's service connection. A total of 36% of LADWP's 10-year capital budget is allocated to infrastructure reliability, mostly work on distribution mains, major system connections, and reservoir improvements (LADWP 2010b).

Distribution water mains are located in and around the proposed project area. Specifically, these mains are located within Harbor Boulevard and Sampson Way, throughout the existing World Cruise Center area, 7th Street, Ports O' Call, the Outer Harbor Terminal, and along Shoshosean Road to Cabrillo Beach. The proposed project site is serviced by a 12-inch water main located within Signal Street.

LADWP requires consultation with applicants, by means of a Service Advisory Request (SAR), to assess whether the current infrastructure would be able to accommodate the increased water demand based on fire flow requirements. If the SAR determines that current infrastructure would not support a project, LADWP requires that additional infrastructure (i.e., water lines) be constructed at the applicant's expense (LADWP 2011a). This consultation is done once all design plans are complete and would typically take place after the CEQA process has concluded. Should any physical improvements be needed, the impacts may need to be assessed in a subsequent CEQA document (i.e., Addendum, Supplemental EIR).

3.12.2.2 Wastewater

The BOS provides wastewater treatment and sewer service to the City, operating wastewater treatment and reclamation facilities that serve most of its incorporated areas and several other cities and unincorporated areas in the Los Angeles basin and San Fernando Valley. The existing system consists of two treatment plants; two water reclamation plants; a collection system consisting of over 6,500 miles of local, trunk, mainline, and major interceptor sewers; five major outfall sewers; and 48 pumping plants.

3.12.2.2.1 Treatment

The Terminal Island Water Reclamation Plant (TIWRP) is located at 455 Ferry Street and treats wastewater for the communities of Wilmington, San Pedro, a portion of Harbor City, and the heavily industrialized Terminal Island (LA Sewers 2011). The TIWRP provides pretreatment, primary sedimentation, secondary treatment, tertiary treatment (filtration), advanced treatment (microfiltration and reverse osmosis), sludge digestion, and drying. The TIWRP treats all flow received to at least first-stage tertiary levels. Some wastewater is further treated for reuse in irrigation and industrial water supplies. The liquid effluent flows to the Outer Harbor to a point approximately 3,000 feet off shore via a 60-inch diameter outfall. The TIWRP is designed to treat 30 million gallons per day (mgd). Currently, the plant is processing at approximately 57% capacity, treating between 16 and 17 mgd. (BOS 2004; City of Los Angeles Stormwater Program 2011).

3.12.2.2.2 Conveyance Infrastructure

According to the Sewer Capacity Study (Appendix F) prepared for the proposed Project, several functioning sewer lines exist in and around the proposed project area and are currently being used by the existing development. The proposed project area is served by two existing 8-inch lines on Signal Street and Signal Street Right-of-Way (RW). There are also two pump stations located within the vicinity of the proposed Project: Signal Pumping Plant and the 22nd and Signal Pumping Plant. The Signal Pumping Plant is located within the proposed project boundaries along Signal Street between the Westway Terminal and Berth 58. The 22nd and Signal Pumping Plant is located just outside the proposed project boundaries at the intersection of 22nd Street and Signal Street.

The sewage from both 8-inch lines feed into the Signal Pumping Plant on Signal Street. The sewage then continues north into the 22ndand Signal Pumping Plant on Signal Street before discharging into a 33-inch sewer line on Beacon Street. Sewage flow from the proposed project area is ultimately conveyed to the TIWRP. According to the specifications of the 22nd and Signal Pumping Planted detailed in Appendix F, during peak flows the maximum capacity of this pumping plant is reached. The wastewater generated by existing uses in the study area is estimated to be 3,872 gpd. Table 3.12-2 lists existing (estimated) wastewater generated on site.

Table 3.12-2. Existing Wastewater Generation in the Study Area (Estimated)

Location	*Existing Land Use*	*General Land Use*	*Area (gsf)* [a]	*Wastewater Generation Rate*[b]	*Gallons per Day*	*Gallons per Year*
Berth 56	Vacant land	Vacant, barren lot	28,314	0	0	0
Berth 57	Transit Shed	Warehouse	46,000	20 gpd/1,000 gsf	920	335,800
Berths 58–60	Transit Shed (Vacant)	Warehouse (Vacant)	180,000	0	0	0
Berth 260	SCMI Office	Office	19,000	150 gpd/1000 gsf	2,850	1,040,250
Berth 260	SCMI Ancillary Uses	Storage/Workshop	5,100	20 gpd/1,000 gsf	102	37,230
				Total Wastewater	**3,872**	**1,413,280**

[a] gsf = gross square feet

[b] Based on the wastewater generation rates per the Sewer Capacity Study (Appendix F).

Compiled by ICF 2011.

3.12.2.3 Storm Drainage

Storm drains are located throughout the proposed project area and are maintained by LAHD, the City, and Los Angeles County. Storm drains within the proposed project vicinity have sufficient capacity to accommodate current demands and are designed to accommodate 10-year storm events. As development occurs, upgrades to the existing storm drainage are made as needed to accommodate the stormwater discharge requirements of the development project in compliance with the local stormwater ordinances. The local ordinances are prepared in compliance with the Municipal Stormwater NPDES Permit and often implemented through a SUSMP. These regulations are described in Section 3.12.3.1.6 below.

3.12.2.4 Solid Waste

Existing development in the proposed project area generates solid waste consisting of nonhazardous materials (e.g., food and beverage containers, paper products, and other miscellaneous personal trash) and hazardous materials (e.g., storage tank residue), although with the removal of the Westway Terminal liquid bulk storage tanks,[1] oil tank residue and waste from the proposed project site would be substantially reduced. All solid waste generated by existing development must comply with federal, state, and local regulations and codes pertaining to nonhazardous and hazardous solid waste disposal.

[1] The Westway Terminal is no longer operational. Removal of the Westway Terminal's tanks was approved under the 2009 SPW EIR/EIS and is not a feature of the proposed Project.

The BOS, in general, and Browning Ferris Industries (BFI, a private waste management service) provide solid waste collection and disposal services for the proposed project area currently. However, private waste haulers, such as BFI, would vary depending on the individual tenant's choice over time. Most of the nonhazardous solid waste generated within the proposed project area is disposed of at the Sunshine Canyon City/County Landfill, located at 14747 San Fernando Road in Sylmar, California. Sunshine Canyon is owned by BFI and has a maximum allotted throughput of 12,100 tons per day. Sunshine Canyon has a remaining capacity of 112,300,000cubic yards and an operation cease date of December 31, 2037 (CalRecycle 2011a).

Los Angeles County Ordinance 7A prohibits solid waste generated in the City of Los Angeles from being handled by or disposed of in facilities and landfills operated by the LACSD. Therefore, the proposed Project would not be permitted to dispose of solid waste at any LACSD facility including: the Calabasas Landfill, Puente Hills Landfill, Scholl Canyon Landfill, and the Puente Hills Intermodal Facility.

There are two transfer stations that serve the proposed project area: the Falcon Refuse Center in the Wilmington Community and the Southeast Resource Recovery Facility in the City of Long Beach. The Falcon Refuse Center is operated by Allied Waste Transfer Services of California and receives an average of 1,850 tons per day. The permitted capacity of this facility is 3,500 tons per day. The center accepts solid waste from construction and demolition activities, as well as industrial and mixed-municipal sources (CalRecycle 2011b).

The Southeast Resource Recovery Facility (SERRF) is located in the City of Long Beach, west of the Terminal Island Freeway, just north of Ocean Boulevard at 120 Pier S Avenue. The facility is owned by a separate authority created by a joint powers agreement between the Sanitation Districts and the City of Long Beach, but is operated under contract by a private company. The site is not open to the public and only pre-approved and pre-registered licensed waste haulers may use the facility. The facility accepts only nonhazardous municipal solid waste. Currently the maximum daily permitted tonnage is 1,380 tons per day. The average daily tonnage being accepted is 1,290 tons per day (LACSD 2011a, 2011b).

In 2010, the Port alone disposed of approximately 11,803 tons of waste and diverted approximately 22,158 tons, achieving a diversion rate of 54.5%. The waste reduction and recycling assessments in 2009–2010 showed that the tenants audited disposed of 22,735 tons and diverted 55,818 tons, for an overall diversion rate of 68.0% (Garrett pers. comm .). Currently, the City has a recycle diversion rate of 65%, with a goal of 70% by 2013 and a zero waste goal (90% or greater diversion) by 2025 (Pereira pers. comm. 2011).

LAHD's Construction and Maintenance Division recycles asphalt and concrete demolition debris by crushing and stockpiling the crushed material to use on other Port projects. Additionally, LAHD recycles and diverts ferrous metals and inert materials. LAHD's diversion rates vary from year to year largely due to fluctuations in construction project waste, which is heavily recycled. In 2010, LAHD's diversion rate for construction and development was 99.1%, or 60,166 tons (Garrett pers. comm.). The combined waste diversion from Port programs and construction is

96.3%. The following programs are implemented by LAHD to assist in waste diversion:

- Duplex Printing and Photocopying
- Wood Waste Diversion Program
- Green Waste Recycling Program
- Administrative Office Recycling Program
- Toner Cartridge Recycling
- Ferrous Metals Recovery Program
- Inerts Recycling Program
- Motor Oil Recycling Program
- Tire Recycling Program
- Office Paper
- Cardboard Recycling Program
- Scrap Metal
- Beverage Container Recycling
- Fish Sludge Recovery
- Wood Waste Collection Program
- Non-Food Donation
- Office Furniture Source Reduction

Hazardous materials generated by tenants are disposed or recycled as appropriate. The only Class I landfill operating in Southern California is the Kettleman Hills facility in Kings County. The facility has a maximum permitted capacity of 10,700,000 cubic yards with a remaining capacity of 6,000,000 cubic yards. The landfill has maximum allotted throughput of 8,000 tons per day (CalRecycle 2011c).

The estimated solid waste generated by existing uses in the study area totals 4.91 tons per day (1,791.16 tons per year). Table 3.12-3 lists existing (estimated) solid waste generation on site.

Table 3.12-3. Existing Solid Waste Generation in the Study Area (Estimated)

Location	*Existing Land Use*	*General Land Use*	*Building Area (gsf)*	*Solid Waste Generation Factor Used to Estimate Pounds per Day*[a]	*Tons per Day*	*Tons per Year*
Berth 56	Vacant land	Vacant, barren lot	28,314	Assume 0	0	0
Berth 57	Transit Shed	Warehouse	46,000	30.62 tons/1,000 gsf/year	3.86	1,408.52
Berths 58–60	Transit Shed (Vacant)	Warehouse	180,000	Assume 0	0	0
Berth 260	SCMI Office	Office	19,000	11.92 tons/1,000 gsf/year	0.62	226.48
Berth 260	SCMI Ancillary Uses	Storage/Workshop	5,100	30.62 tons/1,000 gsf/year	0.43	156.16
				Total Solid Waste	**4.91**	**1,791.16**

[a] Solid waste disposal rates based on California Emissions Estimator Model (CalEEMod) User's Guide Appendix, Table 10.1, for Climate Zone 11, based on CalRecycle data

3.12.2.5 Electrical Service

The proposed project site is located within the service area of LADWP, which maintains various generating and distribution substations throughout the greater Los Angeles area, including generating and distribution centers within and near the Port. LADWP supplies electricity generated by its system of resources, which include a mix of renewable energy; hydro, gas-fired, coal-fired, and nuclear generation; and purchases from others in the west.

The industrial power station closest to the Port has four main 138-kilovolt (kV) supply lines, two from the Harbor Generating Station and two from North Wilmington. Several other electrical power cables are distributed throughout the harbor area. LADWP maintains the Harbor Generating Station at the intersection of Island Avenue and Harry Bridges Boulevard. Receiving Station Q and numerous above- and below-ground electrical transmission lines are located in the proposed project area. Overall, LADWP supplies more than 22 million kilowatt (kW) hours of electricity a year to the City's 1.4 million electric customers (LADWP 2011b).

LADWP has adequate generation to serve the current customer load. LADWP has produced its IRP, which anticipates load growth and includes plans for new generating capacity or demand side management programs to meet load requirements for future customers. The effect of the recent recession depressed electricity consumption by approximately 4% in 2009 and 2010. However, the construction, real estate, retail, and leisure sectors are expected to recover as the economy expands. The electricity consumption within LADWP's service territory is predicted to continue to decline slowly over the next few years by another 0.6% and then increase slightly in 2012–2013. The growth in annual peak demand over the next 20 years is estimated to be about 1.3%, or approximately 100 megawatts (MW) per year. Currently, LADWP has a total generating capacity of about 7,125 MW per day to serve a peak Los Angeles demand of about 6,142 MW (LADWP 2010c). As discussed in the San Pedro Waterfront EIS/EIR, through the IRP and LADWP's current generating capacity, LADWP has adequate generation to serve the current customer load (Holloway pers. comm. 2007).

The estimated electricity consumption by existing uses in the study area that would be altered, removed, or otherwise affected under the proposed Project totals 1,505 kilowatt hours (kWh) per day (549,307 kWh per year). Table 3.12-4 lists existing (estimated) electricity consumption on site.

Table 3.12-4. Existing Electricity Consumption in the Study Area (Estimated)

Location	*Existing Land Use*	*General Land Use*	*Building Square Footage*	*Consumption Factor Used to Estimate[a] (kWh/gsf/year)*	*Electricity Consumption (kWh/day)*	*Electricity Consumption (kWh/year)*
Berth 56	Vacant land	Vacant, barren lot	28,314	0	0	0
Berth 57	Transit Shed	Warehouse	46,000	4.57	576	210,220

Location	*Existing Land Use*	*General Land Use*	*Building Square Footage*	*Consumption Factor Used to Estimate*[a] *(kWh/gsf/year)*	*Electricity Consumption (kWh/day)*	*Electricity Consumption (kWh/year)*
Berths 58–60	Transit Shed (Vacant)	Warehouse (Vacant)	180,000	0	0	0
Berth 260	SCMI Office	Office	19,000	16.62	865	315,780
Berth 260	SCMI Ancillary Uses	Storage/Workshop	5,100	4.57	64	23,307
				Total Electricity Use	**1,505**	**549,307**

[a] Electricity consumption factor for Parking Lot, Commercial/General Office Building, Warehouse/Unrefrigerated Warehouse – No Rail, and Industrial/General Light Industry uses from California Emissions Estimator Model (Environ 2011).

3.12.2.6 Natural Gas Service

Natural gas service to the proposed project site is supplied by SCGC via a 2-inch gas line located under Signal Street. As a public utility, SCGC is under the jurisdiction of the California Public Utilities Commission (CPUC) and can be affected by actions of federal regulatory agencies. California's natural gas demand, in general, is expected to grow at a rate of 0.07% per year from 2010 to 2030. This forecast considers a combination of moderate growth in the residential, core commercial, and electric generation markets, tempered by the declining demand in the noncore commercial and industrial markets. Demand in the core commercial market is expected to grow at an annual rate of 0.22%; whereas demand in the industrial noncore sector is estimated to decline by -0.58% annually as California continues to transition from a manufacturing-based to a service-based economy (California Gas and Electric Utilities 2010).

California's existing gas supply is regionally diverse (the southwestern United States, the Rocky Mountains, and Canada) and includes supplies from on- and offshore sources. Additionally, in 2008 the Energia Costa Azul Liquefied Natural Gas (LNG) receiving terminal in Baja California became another source of supply for California. This proposed Project has the potential to re-gasify 1billion cubic feet a day of LNG. There remains some uncertainty about the volume of LNG supplies that will be delivered to California from the Costa Azul terminal in the coming year, but it is likely that these will begin to play a more significant role in serving demand in the Southern California area (California Gas and Electric Utilities 2010).

The gas demand projections for Southern California are determined in large part by the long-term economic outlook for SCGC's service territory. As of mid-2010, Southern California's economy seemed to be bottoming out of its most severe slump since the 1930s. After peaking in 2007, area employment shrank in 2008, plummeted in 2009, dropped further in 2010, and is expected to rise in 2011. Since 2007, SCGC's service area has been overwhelmed in a serious housing slump. As a result, SCGC projects gas demand for all its market sectors to contract at an annual average rate of approximately 0.212% from 2010 to 2030. Demand is expected to be virtually flat for the next 21 years because of modest economic growth, CPUC-mandated demand-side management and renewable electricity goals, decline in commercial and industrial demand, continued increased use of non-utility pipeline systems by enhanced oil recovery customers, and savings linked to advanced metering modules. The 2010 California Gas Report predicts the total capacity available to remain constant at 3,875 million cubic feet per day (MMcf/day) through 2030. The report also estimates the total annual gas supply taken to be 2,733 MMcf/day in 2015 and 2,661 MMcf/day in 2030 (California Gas and Electric Utilities 2010).

The estimated natural gas consumption by existing uses in the proposed project area that would be altered, removed, or otherwise affected under the proposed Project totals 769 thousand British thermal units (kBtu) per day (280,764 kBtu per year). Table 3.12-5 lists existing (estimated) gas consumption on site.

Table 3.12-5. Existing Natural Gas Consumption in the Study Area (Estimated)

Location	*Existing Land Use*	*General Land Use*	*Building Square Footage*	*Consumption Factor Used to Estimate[a] (kBtu/gsf/yr)[b]*	*Natural Gas Consumption (kBtu/day)*	*Natural Gas Consumption (kBtu/year)*
Berth 56	Vacant land	Vacant, barren lot	28,314	0	0	0
Berth 57	Transit Shed	Warehouse	46,000	1.04	131	47,840
Berths 58–60	Transit Shed (Vacant)	Warehouse (Vacant)	180,000	0	0	0
Berth 260	SCMI Office	Office	19,000	11.98	624	227,620
Berth 260	SCMI Ancillary Uses	Storage/Workshop	37,500	1.04	14.5	5,304
				TOTAL	**769**	**280,764**

Notes:
[a] Natural gas consumption factor for Parking Lot, Commercial/General Office Building, Warehouse/Unrefrigerated Warehouse-No Rail and Industrial/General Light Industry uses from California Emissions Estimator Model (Environ 2011).
[b] kBtu = 1,000 British thermal units.

3.12.3 Applicable Regulations

3.12.3.1 State Regulations

3.12.3.1.1 SB 610 Water Supply Assessment

SB 610(Chapter 643, Statues of 2001) amended state law, effective January 1, 2002, to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 seeks to promote more collaborative planning between local water suppliers and cities and counties. The statute requires detailed information regarding water availability to be provided to the city and county decision-makers prior to approval of specified large development projects. The statute also requires this detailed information be included in the administrative record that serves as the evidentiary basis for an approval action by the city or county on such projects. The measure recognizes local control and decision making regarding the availability of water for projects and the approval of projects.

Under SB 610, waster assessments must be furnished to local governments for inclusion in any environmental documentation for certain projects (as defined in Water Code 10912[a]) subject to the California Environmental Quality Act. Per the California Water Code section 10912 [a], a "project" means any of the following:

- A proposed residential development of more than 500 dwelling units.
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
- A proposed hotel or motel, or both, having more than 500 rooms.
- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- A mixed-use project that includes one or more of the projects specified in this subdivision.
- A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project (approximately 127,650 gpd[2]).

[2] Based on the wastewater generation rates from the City of Los Angeles CEQA Thresholds for 3-bedroom duplex/townhome/single-family residential (230 gallons per day), factored at 111% of the wastewater generation rate.

3.12.3.1.2 California Urban Water Management Act

The California Urban Water Management Planning Act requires urban water suppliers to initiate planning strategies that make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry-water years. LADWP would be the water supplier, and as such the proposed Project would be under the jurisdiction of the LADWP UWMP, prepared pursuant to the California Urban Water Management Planning Act.

3.12.3.1.3 AB 1327: California Solid Waste Reuse and Recycling Access Act

The California Solid Waste Reuse and Recycling Access Act of 1991 (AB 1327) was enacted on October 11, 1991 and added Chapter 18 to Part 3 of Division of the Public Resources Code. It required each jurisdiction to adopt an ordinance by September 1, 1994, requiring any “development project” for which an application for a building permit is submitted to provide an adequate storage area for collection and removal of recyclable materials. AB 1327 regulations govern the transfer, receipt, storage, and loading of recyclable materials at the Port.

3.12.3.1.4 AB 939: California Integrated Waste Management Act

The State of California requires that all jurisdictions achieve compliance with AB 939 (Public Resources Code Sections 40000 et seq.), a state mandate that requires reaching 50% diversion of solid waste from landfills by 2000. AB 939 further requires each city to conduct a Solid Waste Generation Study and to annually prepare a Source Reduction and Recycling Element (SRRE) to describe how it will reach its goals. AB 939 was designed to focus on source reduction, recycling and composting, and environmentally safe landfilling and transformation activities. This act required cities and counties to divert 25% of all solid waste from landfills and transformation facilities by 1995, and 50% by 2000. The City of Los Angeles met and exceeded the year 2000 goals; in 2011, the City’s diversion rate was 65% (Pereira pers. comm. 2011).

3.12.3.1.5 California’s Building Code 24 CCR 6

Title 24, Part 6 of the CBC describes California’s energy efficiency standards for residential and nonresidential buildings. These standards were established in 1978 in response to a legislative mandate to reduce California’s energy consumption and have been updated periodically to include new energy efficiency technologies and methods. Title 24 requires building according to energy efficient standards for all new construction, including new buildings, additions, alterations, and, in nonresidential buildings, repairs.

3.12.3.1.6 Standard Urban Stormwater Mitigation Plan

On December 13, 2001, the RWQCB issued a Municipal Storm Water NPDES Permit (CAS004001) that requires new development and redevelopment projects to incorporate stormwater mitigation measures. This permit was amended on April 14, 2011. In compliance with the permit, permittees have implemented a stormwater quality management program (SQMP) with the ultimate goals of accomplishing the requirements of the permit and reducing the amount of pollutants in stormwater and urban runoff. The SQMP is broken up into six separate programs, one of which is the Development Planning Program.

A Standard Urban Stormwater Mitigation Plan (SUSMP) is one specific requirement of the Development Planning Program. It is generally required to reduce the quantity and improve the quality of rainfall runoff that leaves a site. Developers are encouraged to begin work on complying with these mandatory regulations by consulting with the RWQCB Watershed Protection Division (WPD) in the design phase of their projects.

3.12.3.2 Regional and Local Regulations

3.12.3.2.1 LADWP Urban Water Management Plan

Consistent with the California Urban Water Management Planning Act, LADWP has prepared a UWMP to describe how water resources are used and to present strategies that will be used to meet the City's current and future water needs. To meet the objectives of the California Urban Water Management Planning Act, the LADWP UWMP focuses primarily on water supply reliability and water use efficiency measures. The California Urban Water Management Planning Act requires water suppliers to develop water management plans every 5years. LADWP most recently completed this 5-year update in 2010. This plan, the *2010 Urban Water Management Plan*, was completed as an update to the previous 2005 UWMP. LADWP also published annual fiscal year updates in the 2010 UWMP. The plan projects water demand and supplies through 2035; total demand for water is predicted to be 675,604 acre-feet in 2025 and 710,760 acre-feet in 2035 with passive water conservation, and 632,275 acre-feet in 2025 and 641,622 acre-feet in 2035 with passive and active water conservation. LADWP expects it will be able meet this demand with a combination of existing supplies, planned supplies, and MWD purchases (existing and planned) (LADWP 2010a).

3.12.3.2.2 City of Los Angeles Low Impact Development (LID) Ordinance (Ordinance 181899)

The LID Ordinance became effective in November 2011 and amends and expands on the existing SUSMP requirements (which have been in effect since 2002) by incorporating LID practices & principles and expanding the applicable development categories. This ordinance requires all development /redevelopment to capture and manage 100% of the first 0.75-inch storm event onsite. This may be achieved by implementing onsite infiltration, capture and use, and bio-filtration/bio-treatment BMPs to the maximum extent feasible. The concept of LID is consistent with the recommendations and strategies identified in the IRP, Water Quality Compliance Master Plan (WQCMP), all of the City's watershed specific TMDL Implementation Plans, the Department of Water and Power's Water Supply Action Plan, and the Los Angeles River Revitalization Plan. The Ordinance includes offsite mitigation as a potential alternative to achieve compliance. LID requirements will become operative May 12, 2012 (180 days from adoption).

3.12.3.2.3 City of Los Angeles Emergency Water Conservation Plan (Ordinance No. 181288)

An ordinance amending Chapter XII, Article I of the Los Angeles Municipal Code to clarify prohibited uses and modify certain water conservation requirements of the Water Conservation Plan of the City of Los Angeles was adopted in August 2010. The purpose of the Ordinance is to provide a mandatory water conservation plan to minimize the effect of a shortage of water on the customers of the City and to adopt provisions that will significantly reduce the consumption of water over an extended period of time, thereby extending the available water required for the customers of the City while reducing the hardship of the City and the general public to the greatest extent possible. The revised Water Conservation Ordinance contains five water conservation "phases," which correspond to severity of water shortage, with each increase in phase containing more stringent conservation measures. Phase II is currently in effect. Water conservation phases define outdoor watering restrictions as appropriate, including sprinkler use restrictions and other prohibited water uses.

3.12.3.2.4 Wastewater Facilities Plan/Integrated Resources Plan

The Federal Clean Water Act (See Section 3.13, "Water Quality, Sediments, and Oceanography") requires publicly owned sewage treatment works to prepare and periodically update wastewater facilities plan. The City prepared its first wastewater facilities plan in 1982 and updated it in 1991. Then in 2006 the City adopted the IRP, which incorporates a future vision of water, wastewater, and runoff management that explicitly recognizes the complex relationships that exist among all the City's water resources activities and functions. The basic goal of the plan is to integrate water supply, water conservation, water recycling, and runoff management issues with wastewater facilities planning through a regional watershed approach.

3.12.3.2.5 Industrial Waste Control Ordinance

The Industrial Waste Management Division, of the BOS was established to protect the local receiving waters by regulating industrial wastewater discharge to the City's sewer system and by administering and enforcing the Industrial Waste Control Ordinance (Los Angeles Municipal Code Section 64.30) as well as federal EPA pretreatment regulations.

Industrial facilities and certain commercial facilities which plan to discharge industrial wastewater to the City's sewage collection and treatment system are required to first obtain an industrial wastewater permit. Permits are issued when a determination has been made by the Board of Public Works for the City of Los Angeles that the wastewater to be discharged will not violate any provisions of the ordinance, the Board's Rules and Regulations, the water quality objectives for receiving waters established by the California Water Quality Control Board, Los Angeles Region, or an applicable federal or state statutes, rules or regulations.

3.12.3.2.6 City of Los Angeles Solid Waste Management Policy Plan

The CiSWMPP is a long-term planning document adopted by the City Council in November 1994 containing goals, objectives, and policies for solid waste management for the City. It specifies Citywide diversion goals and disposal capacity needs. The mandate was enacted to encourage reduction, recycling, and reuse of solid waste generated in the state to preserve landfill capacity, conserve water, energy, and other natural resources, and to protect the state's environment (City of Los Angeles 2006).

3.12.3.2.7 Port of Los Angeles Sustainability Plan

The development of the Port of Los Angeles Sustainability Plan is in response to the Mayoral-initialized Executive Directive No. 10, "Sustainable Practices in the City of Los Angeles," passed in June 2007. "This directive sets forth his vision to transform Los Angeles into the most sustainable large city in the country and includes goals in the areas of energy and water, procurement, contracting, waste diversion, non-toxic product selection, air quality, training, and public outreach" (LAHD 2008). There are 32current LAHD environmental programs that already meet, in varying degrees, all the goals of Executive Directive No. 10. However, there are identified areas of improvement, specifically in the areas of employee training and public outreach. Development of the Port of Los Angeles Sustainability Plan is still in progress.

3.12.3.2.8 Green Building Policy

On August 27, 2003, the Board of Harbor Commissioners approved the LAHD Environmental Management Policy, which includes guidelines on implementation of LEED certification and standards for new and existing building construction and/or renovation.

The LEED Green Building Rating System is voluntary, consensus-based, and market-driven, and is based on existing, proven technology that evaluates environmental performance in five categories:

- sustainable site planning,
- improving energy efficiency,
- conserving materials and resources,

- embracing indoor environmental quality, and
- safeguarding water.

Points are earned for goals accomplished in each category, and the certification level for a building is determined by the total number of points (100 base points). There are four LEED certification levels: Certified (40–49 points), Silver (50–59 points), Gold (60–79 points), and Platinum (80–100 points).

The City has adopted the policy that all new City buildings of 7,500 square feet or more should be designed, whenever possible, to meet the LEED Certified level. LAHD has taken this policy further, and under the jurisdiction of the Harbor Department, all construction must meet the following:

- new construction (i.e., office buildings) 7,500 square feet or greater, without compromising functionality, will be designed to a minimum level of LEED NC Gold;
- new construction (i.e., marine utilitarian buildings such as equipment maintenance), without compromising functionality, will be designed to a minimum level of LEED NC Silver;
- existing buildings of 7,500 square feet or greater will be inventoried as evaluated for their applicability to the LEED Existing Building Standards. Priority for certification will be determined by building operation and maintenance procedures;
- all other buildings will be designed or constructed to meet the highest achievable LEED standard to the extent feasible for the building's purpose;
- all Port buildings will include solar power to the maximum extent feasible, as well as incorporation of the best available technology for energy and water efficiency; and
- a sustainability staff has been created to continuously evaluate and advance LAHD's sustainability practices, as well as develop green guidelines and sustainable strategies.

3.12.4 Impact Analysis

3.12.4.1 Methodology

Assessment of the proposed Project's impacts on utilities (water, wastewater, solid waste) and energy providers (electricity and natural gas) varies depending on the utility but generally includes a comparison of the proposed project-generated demand against existing and anticipated resource supplies and/or conveyance and storage capacities. Quantifications of demands and generations were included based on factors provided by the applicable agencies, as shown in Tables 3.12-1 through 3.12-5.

3.12.4.1.1 Water Supply

Water supply or conveyance impacts are typically evaluated by estimating water consumption factors associated with proposed project site land uses or, for nonresidential development, unit demand factors per acre or gross square foot, as established by the City (*L.A. CEQA Thresholds Guide 2006*:M.1-4). Table 3.12-6 shows the water demand that would be generated from the proposed Project.

In accordance with LAHD's commitment to reduce and conserve the amount of water used in the proposed project area, infrastructure would be incorporated to support the use of reclaimed water for landscaping purposes. Therefore, the proposed Project would use recycled water provided by the LADWP when the service is made available to the area. Furthermore, the proposed research facilities at Berths 57-60 and the wave tank proposed at Berth 70-71 would use a seawater system with intake from the harbor and would not use potable or recycled (purple pipe) water.

1 **Table 3.12-6.** Water Demand for the Proposed Project (Estimated)

Location	*Proposed Project Designated Land Use*	*General Land Use*	*Area (gsf)*	*Water Consumption Rate*[a]	*Gallons per Day*	*Gallons per Year*
Berth 56	Learning Center	School	11,500	222 gpd/1,000 gsf	2,553	931,845
Berth 57	Office-Related Space	Office	12,000	166.5 gpd/1,000 gsf	1,998	729,270
	Laboratory-Related Space	Research & Development	34,500[b]	111gpd/1,000 gsf	3,830	1,397,768
	Outdoor Space	Public Plaza/Recreation	8,200	0	0	0
	Public Interpretive Center	Office	3,600	166.5 gpd/1,000 gsf	599	218,781
	Public Plaza	Recreation	7,500	0	0	0
	Floating Docks	Recreation	18,500	0	0	0
Berths 58–60	Office-Related Space	Office	70,000	166.5 gpd/1,000 gsf	11,655	4,254,075
	Laboratory-Related Space	Research & Development	110,000[b]	111gpd/1,000 gsf	12,210	4,456,650
	Outdoor Space	Warehouse	16,400	22.2 gpd/1,000 gsf	364	132,889.20
	Public Plaza	Recreation	6,000	0	0	0
	Waterfront Café	Restaurant	1,000	333 gpd/1,000 gsf	333	121,545.00
Berths 70–71	NOAA Administration & Research Facility	Office	50,000	166.5 gpd/1000 gsf	8,325	3,038,625
	Wave Tank	Office/Laboratory	20,000[c]	166.5 gpd/1,000 gsf[b]	3,330	1,215,450
				Total	**45,197**	**16,496,898**

Notes:

[a] Based on the wastewater generation rates from the proposed Project Sewer Capacity Study (BOS 2012), factored at 111% of the wastewater generation rate

[b] Conservative estimate since laboratory space includes use of seawater systems.

[c] Based on 20,000 gsf of office use; 80,000 gsf laboratory portion of the wave tank area to use seawater only

3.12.4.1.2 Wastewater

Assessment of impacts on sewers or wastewater treatment systems generally includes the comparison of the project-related, land use–based wastewater flow generation to the existing and projected wastewater treatment capacity of the treatment plant. The wastewater generation factors are based on rates in the Sewer Capacity Study (Appendix F) prepared for the proposed Project and assumes all indoor water use is treated as wastewater. Additionally, the Sewer Capacity Study accounts for the discharge of seawater from the seawater circulation system and wave tank to be discharged to the local collection system. Since the exact seawater system(s), life support, and treatment systems to be utilized for the proposed Project are currently unknown, conservative intake and discharge estimates for each type of seawater system are included to ensure potential impacts of both potential marine research facility seawater systems are evaluated and addressed.

Elements of the proposed Project have been revised since the preparation of the Sewer Capacity Study and the estimated proposed project wastewater generation has been reduced. The Sewer Capacity Study is assumed to account for a conservative worst-case scenario and states that if the proposed Project discharge flows prolong the peak hours of the 22nd and Signal Pump Station, the proposed Project may be required to upgrade the pump capacity or regulate the discharge so as not to strain the operation of the sewer system. Final approval for sewer capacity and connection has not yet been provided. However, should the proposed Project be required to upgrade the pump capacity, this would be incorporated into proposed project design once the facility designs are further defined and would be located within the proposed project site and entail minor upgrades to the existing pump. Table 3.12-7 shows the total wastewater that would be generated under all conditions.

3.12.4.1.3 Storm Drainage Facilities

Storm drains within the proposed project vicinity have sufficient capacity to accommodate current demands and are designed to accommodate 10-year storm events. However, the ground improvements that are necessary to improve the existing sea wall will potentially damage the existing system (which runs under the transit sheds at Berth 57 and Berths 58-60). Therefore, new storm drain improvements are likely necessary on the land side of the buildings (from the sea wall back toward signal street) (Fredricks pers. comm. 2011). The proposed Project would include any required installation and expansion of stormwater drainage facilities necessary to accommodate any stormwater runoff. Furthermore, since the proposed Project would redevelop the existing setting, the proposed Project would also include design elements for capturing stormwater for reuse, as well as permeable paving and bio-swales in parking areas to reduce the stormwater drainage requirements of the proposed Project. Thus, storm drainage facilities will not be discussed further in this section. For additional details regarding the existing hydrology and storm drainage characteristics of the area, please refer to Section 3.13, "Water Quality, Sediments, and Oceanography."

3.12.4.1.4 Solid Waste

Impacts related to solid waste generally involve the estimation of the project-related, land use–based, solid waste generation compared to the capacity of the landfills serving the proposed project area. The solid waste generated under the baseline, proposed Project, was determined using generation factors based on the California Emissions Estimator Model (Environ 2011).

Table 3.12-7. Wastewater Generation from the Proposed Project (Estimated)

Location	*Proposed Project Designated Land Use*	*General Land Use*	*Area (gsf)*	*Wastewater Generation Rate*[a]	*Gallons per Day*	*Gallons per Year*
Berth 56	Learning Center	School	11,500	200 gpd/1,000 gsf	2,300	839,500
Berth 57	Office-Related Space	Office	12,000	150 gpd/1,000 gsf	1,800	657,000
	Laboratory-Related Space	Research & Development	34,500	100 gpd/1,000 gsf	3,450	1,259,250
	Outdoor Space	Public Plaza/Recreation	8,200	0	0	0
	Public Interpretive Center	Office	3,600	150 gpd/1,000 gsf	540	197,100
	Public Plaza	Recreation	7,500	0	0	0
	Floating Docks	Recreation	18,500	0	0	0
Berths 58–60	Office-Related Space	Office	70,000	150 gpd/1,000 gsf	10,500	3,832,500
	Laboratory-Related Space	Research & Development	110,000	100 gpd/1,000 gsf	11,000	4,015,000
	Outdoor Space	Warehouse	16,400	20 gpd/1,000 gsf	328	119,720.00
	Public Plaza	Recreation	6,000	0	0	0
	Waterfront Café	Restaurant	1,000	300 gpd/1,000 gsf	300	109,500
Berths 57–60	Seawater System[b]	--	--[c]	--	27,397	9,999,905
Berths 70–71	NOAA Administration & Research Facility	Office	50,000	100 gpd/1,000 gsf	5,000	1,825,000
	Wave Tank (Office)	Office	20,000	150 gpd/1,000 gsf	3,000	1,095,000
	Wave Tank (Seawater)	Laboratory	80,000	----[e]	----[e]	--[e]
				Total	**65,615**	**23,949,475**

Notes:

[a] Based on the wastewater generation rates per the Sewer Capacity Study (Appendix F). Note that the proposed Project gsf has been revised since the preparation of the sewer capacity study.

[b] As a worst-case scenario, assume a fully contained 100% recycling system and assume 100% sewer discharge.

[c] Aggregate Tank Volume of 1,000,000 gallons; assume a turnover rate of 10 times per year on a recirculating system.

[d] Based on 20,000 gsf of office use; 80,000 gsf laboratory portion of the wave tank area to use a flow through system.

[e] On rare occasions, water levels in the wave tank may need to be lowered for a specific study. Seawater may be discharged to the harbor or the sanitary sewer. Discharge volumes to the sanitary sewer would be controlled over several days or months to ensure both conveyance capacity and water treatment plant operations are not impacted, as would be required in the related Industrial Discharge permit issued by the City of Los Angeles Bureau of Sanitation.

Table 3.12-8. Solid Waste Generation from the Proposed Project (Estimated)

Location	*Proposed Project Designated Land Use*	*General Land Use*	*Building Area (gsf)*	*Solid Waste Generation Factor Used to Estimate Pounds per Day*[a]	*Tons per Day*	*Tons per Year*
Berth 56	Learning Center	School	11,500	4.86 tons/1,000 gsf/year	0.15	55.89
Berth 57	Office-Related Space	Office	12,000	11.92 tons/1,000 gsf/year	0.39	143.04
	Laboratory-Related Space	Research & Development	34,500	8.03 tons/1,000 gsf/year	0.76	277.04
	Outdoor Space	Public Plaza/ Recreation	8,200	4.86 tons/1,000 gsf/year	0.11	39.85
	Public Interpretive Center	Office	3,600	11.92 tons/1,000 gsf/year	0.12	42.91
	Public Plaza	Recreation	7,500	4.86 tons/1,000 gsf/year	0.10	36.45
	Floating Docks	Recreation	18,500	4.86 tons/1,000 gsf/year	0.25	89.91
Berths 58-60	Office-Related Space	Office	70,000	11.92 tons/1,000 gsf/year	2.29	834.40
	Laboratory-Related Space	Research & Development	110,000	8.03 tons/1,000 gsf/year	2.42	883.30
	Outdoor Space	Warehouse	16,400	30.62 tons/1,000 gsf/year	1.38	502.17
	Public Plaza	Recreation	6,000	4.86 tons/1,000 gsf/year	0.08	29.16
	Waterfront Café	Restaurant	1,000	3.0 tons/1,000 gsf/year	0.01	3.00
Berths 70-71	NOAA Administration & Research Facility	Office	50,000	11.92 tons/1,000 gsf/year	1.63	596.00
	Wave Tank	Office	20,000[b]	11.92 tons/1,000 gsf/year[c]	0.65	238.40
				Total	**10.33**	**3,771.52**

[a] Solid waste disposal rates based on California Emissions Estimator Model (CalEEMod) User's Guide Appendix, Table 10.1, for Climate Zone 11, based on CalRecycle data.

[b] Only 20,000 gsf of office use in the wave tank area.

[c] Based on 20,000 gsf of office use; 80,000 gsf laboratory portion of the wave tank area to use seawater only.

3.12.4.1.5 Energy

The determination of impacts on electricity and natural gas supplies depends on an estimation of demand generated by the proposed project uses compared to availability and capacity of existing supplies and the conveyance infrastructure. The electricity and natural gas consumption rates are based on energy use rates in the *California Emissions Estimator Model (CalEEMod) User's Guide Appendix*.

Table 3.12-9 shows the electricity consumption for the proposed Project, and Table 3.12-10 shows the natural gas consumption.

1 **Table 3.12-9.** Electricity Consumption of the Proposed Project (Estimated)

Location	*Proposed Project Designated Land Use*	*General Land Use*	*Area (gsf)*	*Consumption Factor Used to Estimate (kWh/gsf/year)*[a]	*Electricity Consumption (kWh/day)*	*Electricity Consumption (kWh/year)*
Berth 56	Learning Center	School	11,500	7.08	223	81,420
Berth 57	Office-Related Space	Office	12,000	16.62	546	199,440
	Laboratory-Related Space	Research & Development	34,500	12.54	1,185	432,630
	Outdoor Space	Public Plaza/ Recreation	8,200	0	0	0
	Public Interpretive Center	Recreation	3,600	0	0	0
	Public Plaza	Recreation	7,500	0	0	0
	Floating Docks	Recreation	18,500	0	0	0
Berths 58-60	Office-Related Space	Office	70,000	16.62	3,187	1,163,400
	Laboratory-Related Space	Research & Development	110,000	12.54	3,779	1,379,400
	Outdoor Space	Warehouse	16,400	4.57	205	74,948
	Public Plaza	Recreation	6,000	0	0	0
	Waterfront Café	Restaurant	1,000	12.54	34	12,540
Berths 57-60	Seawater System	--	--[b]	--	25,150[c]	9,179,750
Berths 70-71	NOAA Administration & Research Facility	Office	50,000	16.62	2,277	831,000
	Wave Tank (Office)	Office	20,000	16.62	911	332,400
	Wave Tank (Laboratory)	Labor	80,000	12.54	2,748	1,003,200
				Total	**40,411**	**14,749,960**

Notes:

[a] Electricity and natural gas consumption based on energy use rates in the California Emissions Estimator Model (CalEEMod) User's Guide Appendix, Table 9.1, for Climate Zone 11, as taken from the California Energy Commission report (http://www.energy.ca.gov/ceus/)

[b] Aggregate Tank Volume of 1,000,000 gallons; assume a turnover rate of 10 times per year on a recirculating system.

[c] Energy consumption estimate based on operation of a cooling tower, chiller, boiler,185 Jacuzzi pumps (1 hp each), 90 fiberglass pumps (10 hp each), and 4 circulation pumps

(50 hp each) operating at a constant 1/3 load. The 2 circulation pumps for wave tank would only run a few hours per year and therefore the energy requirement is negligible and not included in the daily and annual consumption estimates.

Table 3.12-10. Natural Gas Consumption of the Proposed Project (Estimated)

Location	*Proposed Project Designated Land Use*	*General Land Use*	*Area (gsf)*	*Consumption Factor Used to Estimate (kBtu/gsf/year)*[a]	*Natural Gas Consumption (kBtu/day)*	*Natural Gas Consumption (kBtu/year)*
Berth 56	Learning Center	School	11,500	11.79	371	135,585
Berth 57	Office-Related Space	Office	12,000	11.98	394	143,760
	Laboratory-Related Space	Research & Development	34,500	19.80	1,872	683,100
	Outdoor Space	Public Plaza/ Recreation	8,200	0.0	0	0
	Public Interpretive Center	Recreation	3,600	0.0	0	0
	Public Plaza	Recreation	7,500	0.0	0	0
	Floating Docks	Recreation	18,500	0.0	0	0
Berths 58-60	Office-Related Space	Office	70,000	11.98	2,298	838,600
	Laboratory-Related Space	Research & Development	110,000	19.80	5,967	2,178,000
	Outdoor Space	Warehouse	16,400	1.04	47	17,056
	Public Plaza	Recreation	6,000	0.0	0	0
	Waterfront Café	Restaurant	1,000	0.0	0	0
Berths 57-60	Seawater System	--	--	--	325,479	118,799,835
Berths 70-71	NOAA Administration & Research Facility	Office	50,000	11.98	1,641	599,000
	Wave Tank	Office/Laboratory	100,000[b]	11.98	656	239,600
				Total	**338,843**	**123,677,664**

Location	*Proposed Project Designated Land Use*	*General Land Use*	*Area (gsf)*	*Consumption Factor Used to Estimate (kBtu/gsf/year)*[a]	*Natural Gas Consumption (kBtu/day)*	*Natural Gas Consumption (kBtu/year)*

Notes:

[a] Electricity and natural gas consumption based on energy use rates in the California Emissions Estimator Model (CalEEMod) User's Guide Appendix, Table 9.1, for Climate Zone 11, as taken from the California Energy Commission report (http://www.energy.ca.gov/ceus/)

[b] Only 20,000 gsf of office use in the wave tank area; no natural gas use is anticipated for laboratory space.

Appendix F of the State CEQA Guidelines states that EIRs are required to include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy (see Appendix C of the State CEQA Guidelines for those regarding energy conservation). A discussion is provided in Impact UT-6 below.

3.12.4.2 Thresholds of Significance

The following significance criteria are based on the *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006) and other criteria applicable to Port projects. According to the *L.A. CEQA Thresholds Guide*, a project would normally be considered to have a significant impact on utilities based on several underlying factors that can affect the need for additional infrastructure to maintain service.

The proposed Project would have a significant impact on public utilities if it would:

UT-1: Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

UT-2: Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

UT-3: Not have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.

UT-4: Not result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

UT-5: Not be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

UT-6: Require new, offsite energy supply and distribution infrastructure, or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs.

The Initial Study determined that the proposed Project would have no impact for one of the thresholds of significance included in Appendix G of the State CEQA Guidelines. Accordingly, it is not discussed further in this document. The threshold is as follows:

- would the Project comply with federal, state, and local statutes and regulations related to solid waste?

3.12.4.3 Impacts and Mitigation

Impact UT-1: The proposed Project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

Discharge to the Sewer System

The existing proposed project site is currently connected to the sanitary sewer system. During construction, the proposed Project would be in the process of upgrading plumbing to the existing facilities as well as constructing new lines to the new buildings. Such activities could require temporary shutdown of the plumbing within the affected buildings as upgrades are implemented. During this time, use of the plumbing fixtures would not be possible. However, portable temporary facilities would be available for construction workers during this time. Such facilities would be hauled away and the waste disposed of in accordance with the RWCQB's regulations. Once operational, the proposed Project would be fully connected to the sanitary sewer system where wastewater would be processed and sanitized at the TIWRP.

As described under Section 3.12.2.2, "Wastewater," the TIWRP has additional capacity of between 13 and 14 mgd (approximately 43%) to process wastewater. Based on the generation rates provided in the Sewer Capacity Study (Appendix F) and subtracting the existing generation of 3,872 gpd that would be replaced by the proposed Project, the proposed Project would contribute approximately 61,743 gpd to the TIWRP's daily wastewater processing capacity, which constitutes approximately 0.005% (61,743 ÷ 13,000,000) of the TIWRP's available capacity.

Therefore, because the TIWRP operates in compliance with the RWQCB's requirements and has sufficient capacity to accommodate the proposed Project's wastewater generation, wastewater discharged into the sewer system would not exceed the requirements of the Los Angeles RWQCB.

Discharge to the Harbor

In addition, as with the existing condition, runoff water from the proposed project site would drain into the harbor. During demolition, grading, and construction activities, a SWPPP would be implemented to ensure discharge to the harbor would be minimized and that which would discharge to the harbor would be treated through BMP identified in the SWPPP. For more information on water quality during construction, see Section 3.13, "Water Quality, Sediments, and Oceanography," specifically the analysis provided under Impact WQ-4a.Construction water runoff to the harbor would not exceed the Los Angeles RWQCB's requirements and impacts would be less than significant.

Furthermore, during operation, if a 100% flow-through seawater system or a hybrid version of such a system is implemented, direct discharge to the harbor would occur. Should the seawater flow-through option (or a hybrid thereof) be selected over the

100% sewer discharge option, any discharge to the ocean would be tested and monitored to ensure the discharge is complaint with RWQCB regulations and does not cause the water body to exceed the permitted TMDLs. Non-compliance would result in penalties and, depending the degree of the violation, possible shut down of discharge operations. See Section 3.13, "Water Quality, Sediments, and Oceanography," for more detailed information. As a result of the treatment, testing and monitoring, construction and operational discharge to the harbor would not exceed the LARWQCB's requirements. Impacts would be less than significant.

Impact Determination

Discharge to the sanitary sewer would meet LARWQCB requirements as there is sufficient capacity at the TIWRP and discharge from the TIWRP to the ocean is already regulated by the LARWQCB. Discharge to the harbor during construction would be minimized by the implementation of a SWPPP and during operation by being treated, tested, and monitoring in compliance with LARWQCB requirements as described in Section 3.13, "Water Quality, Sediments, and Oceanography." Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact UT-2: The proposed Project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Water Facilities

The proposed Project would result in a water demand of approximately 45,197gpd. This would be an increase of approximately 40,899 gpd from the baseline. As discussed in the Existing Conditions, a 12-inch water main currently aligns within Signal Street and services the existing uses within the proposed project site and. based on the projected water demand from the proposed Project the 12-inch line would be sufficient to convey all water for proposed project operations (Grossi pers. comm.). Since no improvements related to the expansion of existing water facilities would be anticipated and impacts would therefore be less than significant.

Wastewater Facilities

Under the worst-case scenario, the proposed Project would generate approximately 65,615 gpd of wastewater with the potential of all this wastewater (including saltwater discharge) being discharge to the sanitary sewer and on to TIWRP. This scenario assumes a 100% re-circulating seawater system. Such a seawater system would contribute approximately 27,397 gpd or 42% of the total project contribution to the sewer system.

During peak flows, the maximum capacity of the 22nd and Signal Pump Station is reached. According to the Sewer Capacity Study (Appendix F), the proposed Project would not have any major impact on the local collection system provided no substantial dischargers connect ahead of the proposed Project. If the proposed project discharge flows prolong the peak hours of the pump station, the proposed Project may be required to upgrade the pump capacity or regulate the discharge rate so as to not strain the operation of the sewer system. The upgrade would consist of switching the current pump with a larger capacity pump. The new pump would be located within an underground vault within the Signal Street public right-of-way, which would be located within the proposed project site boundary. A final assessment of sewer capacity and connection permitting would be made by the BOS after final design and during the permit process phase.

Therefore, no new major utility lines or facilities would need to be constructed in the proposed project area. All infrastructure connections and improvements, including the pump upgrade, would: occur within existing or proposed city streets and right-of-ways; comply with the City's municipal code; and be performed under permit by the City Bureau of Engineering and/or LADWP.

Impact Determination

There is available capacity using the existing water and wastewater infrastructure during average demand. During prolonged peak hour flows, however, the 22nd and Signal Street Pump Station operates at maximum capacity. Implementation of the proposed upgrades at the 22nd and Signal Street Pump Station, as identified in the proposed Project's Sewer Capacity Study, would provide additional wastewater capacity which would alleviate capacity issues at times of prolonged peak flow. With implementation of water conservation and wastewater reduction measures required by City ordinances, LAHD Sustainable Design Guidelines, and RWQCB regulations, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact UT-3: The proposed Project would have sufficient water supplies available to serve the project from existing entitlements and resources, and would not require new or expanded entitlements.

For purposes of determining whether the proposed Project is a water demand project under SB 610, as described in Section 3.12.3.1.1, the proposed Project is considered an industrial park project with a total building square footage of 411,000 and employment of less than 1,000 persons. Additionally, the proposed Project would generate a demand of 45,197 gpd, which is less demand for water than an amount equivalent to, or greater than, the amount required by a 500 dwelling unit project (approximately 127,650 gpd). Consequently, the proposed Project is not considered a water demand project and a water supply assessment is not required.

During construction the proposed Project would use water for various purposes, such as dust suppression, mixing and pouring concrete, and other construction-related activities. Typically, the majority of water use during construction is associated with dust suppression during grading or trenching, which is generally performed by water trucks that use non-potable water from offsite sources. The additional water use would not be substantial, and no impact on water supply would occur.

Operation of the proposed Project would result in a water demand increase over baseline conditions of approximately 40,899 gpd. Further, water conservation technology and use of recycled water for irrigation are proposed project elements. This would represent less than 0.01% of the existing water demand and the projected water demand estimated in the UWMP for 2025 with passive water conservation. Given that the UWMP projects adequate supplies are available to meet projected demands in the City through 2035, and that the proposed Project would require a relatively small increase in water supply to the proposed project site, it is expected that water would be available for the proposed Project. Therefore, the proposed Project would not negatively impact future water supply such that new or expanded entitlements would be required.

Impact Determination

Impacts associated with demand on available water supplies would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact UT-4: The proposed Project would result in a determination by the wastewater provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

As discussed above under Impact UT-1, the proposed Project would not exceed wastewater treatment requirements of the RWQCB.

Proposed project activities would generate approximately 65,615gpd of wastewater, an increase of approximately 61,743 gpd from the baseline percentage going toward the TIWRP daily capacity. As discussed under Impact UT-2, because the TIWRP currently has 43% capacity and the addition of the proposed Project's wastewater generation would amount to 0.05% of this available capacity; the increased wastewater generated by the proposed Project would be easily accommodated. The proposed Project would not exceed the capacity of the TIWRP to accommodate anticipated increases and impacts would be less than significant.

Impact Determination

The proposed Project would not exceed the TIWRP wastewater facility capacity, and impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact UT-5: The proposed Project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

Construction and demolition activities would generate debris that would require disposal in a landfill. Construction and demolition materials would include asphalt, concrete, building materials, and solids. In 2010, the LAHD has achieved a 99% diversion rate for construction debris. The proposed Project consists of new building construction and adaptive reuse of existing warehouses and reconstruction and repair of 2,500 linear feet of wharf. One 3,600-square-foot building at Berth 57 and one 19,000-square-foot building at Berth 270 are slated for demolition. Berth s70–71 demolition of Westway facilities was previously assessed, and no additional demolition would be required under the proposed Project. Street sections would be repaired and repaved, not reconstructed. Therefore, debris from demolition would be relatively small quantities. With implementation of the Port's Green Building Policy, construction recycling programs, and waste diversion strategies, impacts would be less than significant.

In the event that unidentified hazardous materials are encountered during proposed roadway improvements and/or proposed project construction, recycling options would be explored. However, if recycling is not an option, disposal of hazardous materials at a Class I landfill would be based on facility and hazardous material requirements. Although hazardous materials could be encountered and require disposal during construction activities, several contaminated soil treatment and disposal options and Class I landfills are available for offsite disposal, providing adequate capacity.

The proposed Project would generate approximately 10.33 tons of solid waste per day, which is an increase of 5.42 tons per day. However, not all solid waste created by the proposed Project would be sent to Sunshine Canyon City/County Landfill. Currently, the City of Los Angeles has a recycle diversion rate of 65%, with a goal of 70% by 2013 and a zero waste goal (90% or greater diversion) by 2025(Pereira pers. comm. 2011). With the current recycle diversion rate of 65%, the amount of solid waste that would go to the landfill represents 0.03% of the permitted daily throughput of 12,100 tons. If the goal of 70% diversion is achieved by 2013, that amount would remain at 0.03%. Finally, if the goal of zero waste (90% or greater diversion) is achieved by 2030, the amount of solid waste sent to Sunshine Canyon City/County Landfill would be less than 0.01% in 2037. It is important to note that these goals are optimistic but obtainable, and should be analyzed.

The negligible increases in solid waste that would be diverted to the Sunshine Canyon City/County Landfill are considered less than significant. Additionally, proposed project operation would be required to comply with all existing hazardous waste laws and regulations, as discussed in Section 3.7 “Hazards and Hazardous Materials,” including the federal RCRA and CERCLA, as well as Titles 22 and 26 of the CCR. The Sunshine Canyon City/County Landfill would be able to accommodate the negligible increase in solid waste generated by proposed project operations. Additionally, with anticipated recycle diversion rates for the area, solid waste removal and disposal would be adequately provided for in the proposed project area, and there would no longer be an impact during proposed project operations.

Impact Determination

Based on the discussion above, the proposed Project would result in less-than-significant impacts on landfill capacities. With implementation of the Port’s Green Building Policy, construction recycling programs, and waste diversion strategies, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact UT-6: The proposed Project would not require new, offsite energy supply and distribution infrastructure, or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs.

Energy (diesel fuel and electricity) would be used during construction of the proposed Project. Energy expenditures during construction would be short term in nature, occurring periodically during each of the proposed project construction phases. Construction would not result in substantial waste or inefficient use of energy because construction would be competitively bid, which would facilitate efficiency in all construction stages. Current LAHD bid specifications include provisions to reduce energy consumption, such as staging work during non-peak hours when appropriate. Additionally, construction of modern buildings and structures incorporates energy-efficient designs that are mandated by current building codes. LAHD policies, such as the LEED discussed in Section 3.12.3.2.8, would aim to make construction and development projects more energy efficient.

Furthermore, LAHD’s goal is for the Port of Los Angeles to be the most energy efficient port to date. To accomplish this task, LAHD has committed to design any new building over 7,500 square feet with a minimum LEED Gold or Silver certification, depending on whether the proposed building is of a type intended for LEED NC certification (e.g., new office buildings). As such, energy efficiency standards would be incorporated on various buildings to decrease energy demands.

Electricity demand at the proposed project site would be mainly related to office use, research and development, and classes, with the majority of the demand stemming from running the proposed Berths 57–60 seawater system. In total, the proposed Project would consume 40,247 kWh per day, with the Berths 57–60 seawater system constituting approximately 62% of the total demand. This is an increase of 38,742 kWh per day.

Natural gas demand at the proposed project site would be primarily oriented to water heating. The proposed Project would have a natural gas demand of 338,725 kBtu per day, which is approximately a 337,956 kBtu per day increase over the existing condition. The 2010 California Gas Report predicts the total capacity for natural gas to be 3,875 MMcf/day through 2030 with the projected annual gas supply taken to be approximately 2,733 MMcf/day in 2015 and 2,661 MMcf/day in 2030. Therefore, the California Gas Report predicts the total capacity for natural gas to be greater than the demand predicted through 2030.

Compared to the California Gas Report estimates, the proposed project would have a natural gas demand of approximately 33.9 MMcf/day which equates to approximately 1.2% of the supply taken in 2015, 1.3 % of the supply taken in 2030, and approximately 0.9% of the total capacity through 2030.

Impact Determination

POLA has committed to design of new buildings over 7,500 square feet to be built with minimum LEED Gold or Silver certification depending on the type of building proposed. As such, energy efficiency standards would be incorporated on various buildings to decrease energy demands. LADWP's IRP anticipates load growth and plans new generating capacity or demand-side management programs to meet load requirements for future customers. Additionally, the proposed Project would incorporate energy conservation measures in compliance with California Building Code Title 24 that requires energy efficiency standards for new construction, including requirements for new buildings, additions, alterations, and repairs to nonresidential buildings. Incorporation of these design standards, as required by state law, combined with the Port's Green Building Policy would minimize energy consumption. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

3.12.4.3.2 Summary of Impact Determinations

Table 3.12-11 summarizes the impact determinations of the proposed Project related to utilities, as described in the detailed discussion in Section 3.12.4.3.

Table 3.12-11. Summary Matrix of Potential Impacts and Mitigation Measures for Utilities Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.12 UTILITIES			
UT-1: The proposed Project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.	Less than significant	No mitigation is required.	Less than significant
UT-2: The proposed Project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	Less than significant	No mitigation is required.	Less than significant

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
UT-3: The proposed Project would have sufficient water supplies available to serve the project from existing entitlements and resources, and would not require new or expanded entitlements.	Less than significant	No mitigation is required.	Less than significant
UT-4: The proposed Project would result in a determination by the wastewater provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.	Less than significant	No mitigation is required.	Less than significant
UT-5: The proposed Project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.	Less than significant	No mitigation is required.	Less than significant
UT-6: The proposed Project would not require new, offsite energy supply and distribution infrastructure, or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs.	Less than significant	No mitigation is required.	Less than significant

3.12.4.4 Mitigation Monitoring

Impacts would be less than significant, and no mitigation is required.

3.12.4.5 Significant Unavoidable Impacts

There would be no significant unavoidable impacts.

3.13

WATER QUALITY, SEDIMENTS, AND OCEANOGRAPHY

3.13

WATER QUALITY, SEDIMENTS, AND OCEANOGRAPHY

3.13.1 Introduction

This section describes the existing environmental 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. As discussed below in Section 3.13.4 “Impact Analysis,” construction and operational impacts from the proposed Project on water quality, sediments, and oceanography would be less than significant. No mitigation measures are required.

3.13.2 Environmental Setting

The following discussion addresses the existing water quality, sediments, and oceanography within the study area, defined for the purposes of this Draft EIR as the Outer Los Angeles Harbor (i.e., waters south of the Vincent Thomas Bridge) and Fish Harbor (Figure 2-2). The discussion relies upon the most recent available data that represents the environmental baseline, most of which was collected between 2007 and 2010. This time period represents an interval with relatively representative climate and homogeneous patterns of harbor utilization, and is thus presumed to be representative of environmental baseline conditions.

3.13.2.1 Regional Setting

The proposed project 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, and averages 12.1 inches per year (MEC 2004).

The proposed project area, like all of Los Angeles Harbor, is located in the Dominguez Watershed, which drains approximately 133 square miles of western Los Angeles County, including the harbor area itself. Los Angeles Harbor occupies the western end of San Pedro Bay, and is adjacent to Long Beach Harbor (Figure 2-2). Los Angeles Harbor is divided for the purpose of managing water and sediment quality into two major areas; the Outer Harbor, which encompasses the open waters between the landmass and the federal breakwaters; and the Inner Harbor, which comprises the channels and basins that provide vessel access to the various berths and piers. The East Channel and Main Channel of Los Angeles Harbor, where the proposed Project would be located, are part of the Inner Harbor.

Both harbors function oceanographically as one unit due to connections via the Cerritos Channel and the Outer Harbor area behind the federal breakwaters. Los Angeles Harbor was created by extensive dredging and filling of the original marshes and sloughs, and the construction of the breakwaters, in the first half of the twentieth century. The combined Los Angeles/Long Beach Harbor oceanographic unit is comprised mainly of marine waters of the harbor, and is primarily influenced by the Southern California coastal marine environment known as the Southern California Bight. The harbors connect to the coastal ocean through two deep channel openings in the protective breakwaters, through the opening to eastern San Pedro Bay, and by exchange through the porous breakwaters themselves.

The main freshwater influx into the Los Angeles Harbor is through the Dominguez Channel Estuary, which enters the harbor about 4 miles northeast of the proposed project area and conveys the drainage of the majority of the Dominguez Watershed. Another freshwater contributor to the harbor is the discharge of treated wastewater effluent from TIWRP into the Outer Harbor off Pier 400, about 3 miles east of the proposed project area. Sheet runoff and storm drain discharges during and after storm events also add freshwater to the harbor. Despite these inputs, freshwater is a relatively minor component of the harbor waters, which consistently maintain oceanic salinities.

3.13.2.1.1 Surface Freshwater

Surface freshwater in the proposed project area is entirely stormwater runoff, which enters the harbor from numerous storm drains or drainage systems, including the Dominguez Channel. The East Channel receives stormwater from adjacent lands (most of which are paved) via small, local storm drains. Those stormwater systems are relatively old and have no associated treatment systems, discharging directly to the East Channel via a system of catch basins, ditches, and culverts. Stormwater from the southeastern portion of the proposed project area drains into the Main Channel through small, local drains.

There are no lakes, streams, or other natural surface water bodies in the proposed project area. The largest stormwater conveyance is the Dominguez Channel, which drains into the Consolidated Slip of the harbor, approximately 4 miles northeast of the proposed project area. That drainage does not directly affect the proposed project area, but it does have some influence on overall harbor water quality. Most land in the watershed is developed (93%), and 62% of stormwater runoff from these lands drains into the Dominguez Channel (LACFCD 2004, Section 1.4). As of 2008, there were a total of 62 active NPDES permitted discharges in the Dominguez Watershed (LARWQCB 2012). All of the developed upland areas in the Dominguez Watershed have storm drains that are designed for a 10-year event. These drains are inspected at least annually and maintained as necessary.

3.13.2.1.2 Marine Waters

The existing beneficial uses of coastal and tidal waters in the Inner Harbor areas of Los Angeles Harbor, as identified in the Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (LARWQCB 1994), 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. Waters in the proposed project area that are 303(d)-listed for impairment, all as a result of sediment or tissue (fish or benthic invertebrates) contamination, include the Los Angeles/Long Beach Inner Harbor (LARWQCB and USEPA 2011). Other 303(d)-listed waters in Los Angeles Harbor are summarized in Table 3.13-1.

Table 3.13-1. 2008/2010 Section 303(d)-Listed Waters in Los Angeles Harbor

Listed Waters/Reaches	*Impairments*
Los Angeles/Long Beach Outer Harbor, inside breakwater (4,042 acres)	Tissue: DDT, PCBs Sediment: Toxicity
Cabrillo Marina (77 acres)	Tissue: DDT, PCBs Sediment: Benzo(a)pyrene
Inner Cabrillo Beach (82 acres)	Tissue: DDT, PCBs Sediment: none
Los Angeles/Long Beach Inner Harbor (3,003 acres)	Tissue: DDT, PCBs Sediments: Benthic community effects, toxicity, benzo(a)pyrene, chrysene, copper, zinc
Fish Harbor (91 acres)	Tissue: DDT, PCBs Sediment: Toxicity, chlordane, DDT, PCBs, PAHs, benzo[a]anthracene, benzo[a]pyrene, chrysene, dibenz[a,h]anthracene, phenanthrene, pyrene, copper, lead, mercury, zinc
Consolidated Slip (36 acres)	Tissue: Chlordane, dieldrin, DDT, PCBs, toxaphene Sediments: Benthic community effects, toxicity, chlordane, DDT, PCBs, benzo[a]anthracene, benzo[a]pyrene, chrysene, phenanthrene, pyrene, 2-methynaphthalene, cadmium, chromium, copper, lead, mercury, zinc
Dominguez Channel Estuary	Tissue: chlordane, dieldrin, DDT, lead Sediment: Benthic community effects, benzo[a]pyrene, benzo[a]anthracene, chrysene, phenanthrene, pyrene, DDT, PCBs, zinc

Notes:
PCBs = polychlorinated biphenyls
DDT = dichloro-diphenyl-trichloroethane
PAHs = polycyclic aromatic hydrocarbons

Source: LARWQCB & USEPA 2011.

Additionally, certain water-quality limited waters have designated plans, called Total Maximum Daily Load (TMDL) plans, which are designed to limit further impairments and to bring the affected waters into compliance with applicable water quality criteria. 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 approved by the LARWQCB, responsibility for reducing pollution among point sources (wastewater NPDES permit holders) and non-point (diffuse) sources (such as runoff from urban and agricultural sources, leaking underground storage tanks, and septic systems) is assigned so that water quality standards are no longer violated.

A bacteria TMDL for Los Angeles Harbor (Main Channel and Inner Cabrillo Beach) has been in effect since 2005. Recently, a toxics TMDL for the entire harbor complex and lower reaches of the Dominguez Channel was adopted by the LARWQCB (May 5, 2011, Resolution R11-008) and approved by the SWRCB and the EPA. The toxics TMDL took effect on March 23, 2012, and is now the governing document for managing water and sediment contamination in the harbor. The TMDL is implemented as an amendment to the Basin Plan. When LARWQCB issues permits such as NPDES permits or Clean Water Act Section 401 certifications, they will include permit conditions that ensure compliance with the TMDL.

3.13.2.1.3 Water Quality

This summary of water quality conditions in the harbor complex and proposed project area is taken from a 2008 baseline biological study (SAIC 2010), a comprehensive water quality monitoring program conducted by LAHD in 2008, and a long-term water sampling program conducted by LAHD. The LAHD program's results through 2008 are summarized in Weston (2009), and more recent data are available from the LAHD Environmental Management Division. Although LAHD has been conducting routine monitoring since the 1960s, LAHD began a Port Wide Water Quality study in 2004 to establish a baseline of physical and chemical parameters in harbor waters for use in future water quality programs.

In the port-wide program, Station LA-22A is located in the Main Channel adjacent to the City Dock No. 1 site at Berth 70, Station LA-23 is located on the other side of the Main Channel, Station LA-05 is located in the Outer Harbor south of the City Dock No. 1 site, and Station LA-14 is located in Fish Harbor near the existing SCMI facility (Figure 3.13-1); no stations are located in the East Channel. Stations LA-22A and LA-14 are the closest to the proposed project area, and therefore of most interest, but the other stations provide additional relevant data.

Water quality sampling data from 2005 through 2011 did not reveal temporal trends, indicating that data from all years represent baseline conditions. Water quality in the Los Angeles Harbor is influenced by a number of factors including climate, circulation, biological activity, surface runoff (including storm drain inputs), effluent discharges, and accidental discharges of pollutants related to shipping activities. Parameters such as salinity, pH, temperature, and transparency/turbidity are influenced primarily by large-scale oceanographic and meteorological conditions, while dissolved oxygen and nutrients are related to local processes such as land runoff and plant photosynthesis in addition to regional conditions. Water and sediment quality within the harbor are affected by inputs of chemical contaminants, including historical deposition, municipal and industrial wastewaters, marine vessel activities, and stormwater runoff (Anchor et al. 2005; LARWQCB 2007).

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Figure 3.13-1
Water Quality Monitoring Locations
City Dock No. 1 Marine Research Center Project

Discharges from storm drains into the East Channel and Main Channel, and from Terminal Island storm drains into Fish Harbor, also can affect water quality in receiving waters of the study area. Information to characterize the quality of this storm runoff is unavailable.

Temperature

The seasonal and spatial variation in water temperature in the harbor reflects the influence of the ocean, local climate, the physical configuration of the harbor, and circulation patterns. Inter-annual or longer-term patterns in water temperatures reflect the influences of oceanographic conditions, such as those associated with El Niño/La Niña cycles (MEC 2002). General seasonal trends in water temperature consist of uniform, cooler temperatures throughout the water column in the winter and spring, and of stratified, warmer temperatures with cooler waters at the bottom in the summer and fall. For example, in July 2010, sampling at Station LA-14 in Fish Harbor (Table 3.13-2) measured a temperature of 67.3°F at the surface and 62.1°F at the bottom in a water depth of 24 feet, and sampling at Station LA-22A, near City Dock No. 1, measured 63.0°F at the surface and 54.1°F the bottom, in approximately 45 feet of water (LAHD 2011). The water column, even in relatively shallow Fish Harbor, was strongly stratified from surface to bottom. By contrast, sampling at the two stations in December 2010 found less than 0.2°F difference in temperature between the surface and the bottom, indicating an unstratified water column.

The stratified summer and fall conditions may be attributed to warmer ocean currents, local warming of surface waters through insolation (especially in the confined waters of Fish Harbor), and reduced runoff into nearshore waters. In winter and spring, stronger winds and currents and less solar heating allow the water column to become isothermal (the same temperature), which removes the barrier to mixing.

Table 3.13-2. Summer and Winter Values of Water Quality Constituents in Harbor Waters of the Proposed Project Area.

Station		*LA-14 (Fish Harbor)*		*LA-22A (City Dock No. 1)*	
Date (2010)		*July 14*	*December 1*	*July 14*	*December 1*
Dissolved Oxygen (mg/l)	Surface	7.81	5.84	6.87	5.89
	Bottom	8.95	5.85	5.50	5.90
pH	Surface	8.3	7.9	8.1	8.0
	Bottom	8.0	7.9	8.0	8.0
Salinity (ppt)	Surface	35.1	33.3	32.8	33.2
	Bottom	33.6	33.3	33.6	33.2
Temperature (°F)	Surface	67.3	57.6	62.9	56.8
	Bottom	62.06	57.4	54.1	56.8

Station		*LA-14 (Fish Harbor)*		*LA-22A (City Dock No. 1)*	
Transparency (%)	Surface	47.2	77.8	53.4	78.3
	Bottom	53.1	74.5	75.8	79.1
Source: LAHD 2011					

Dissolved Oxygen

Dissolved oxygen (DO) is a principal indicator of water quality. EPA and 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 at some locations in Los Angeles Harbor were so low that little or no marine life could survive. Since that time, regulations have reduced direct waste discharges into the harbor, resulting in improved DO levels throughout the harbor (MEC 2002).

Algal (dinoflagellate) blooms occur occasionally within the harbor, typically associated with high solar radiation and nutrient levels, such as on sunny days following storm events, particularly in the summer. These blooms can severely reduce DO levels, but the effects are usually localized and short-lived. Disturbances of anaerobic sediments by dredging activities also result in short-term, localized DO reductions due to resuspension of materials with a high oxygen demand. Water quality monitoring associated with a dredging operation at Southwest Slip in June 2003 recorded DO concentrations from 7.8 to 7.9 mg/l throughout the water column (POLA 2007), indicating that in this case dredging did not result in reduced DO concentrations.

Water quality monitoring data from 1999 to 2008 (POLB and POLA 2009) showed that surface DO at stations in the Outer Harbor, adjacent to the City Dock No. 1 site, averaged 7.39 mg/l and dropped below 5 mg/l in only 2 of the 280 samples. The 2010 monitoring (the baseline year) found that DO concentrations at Station LA-22A ranged between 4.7 and 9.0 mg/l at Station LA-22A near City Dock No. 1 (LAHD 2011). In Fish Harbor, ten years of sampling at two stations showed that surface DO fell below 5 mg/l in 9 of the 243 samples, with one value as low as 1 mg/l, and averaged approximately 7.17 mg/l (AMEC 2009). In 2010, sampling at Station LA-14 measured concentrations between 5.0 and 9.6 mg/l (LAHD 2011). The lowest DO concentrations at both stations occurred during September to November, which is consistent with previous monitoring (e.g., LAHD 2008; SAIC 2010). In warm months there was a marked difference between DO concentrations near the surface and those near the bottom (see Table 3.13-2) because of depletion by intense biological activity and lower solubility in the warm water at the surface. Overall, DO concentrations near the proposed project area rarely fall below LARWQCB standards.

Hydrogen Ion Concentration

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 resuspension of bottom sediments. 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). In the Outer Harbor, pH levels have ranged from 8.1 (upper level in warmer months) to 7.4 (lower levels in cooler months). Samples collected in 2010 at Stations LA-14 and LA-22A showed a similar range, although phytoplankton activity in the restricted basin of Fish Harbor in July 2010 drove pH up to 8.3 (Table 3.13-2).

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, commonly measured as transmissivity. Increased turbidity usually results in decreased transparency, and transparency, which is simpler to measure, is often used as an indicator of turbidity. Transparency generally decreases as a result of one or a combination of the following: suspended sediment from terrestrial runoff, phytoplankton blooms, wind-generated turbulence, vessel-related disturbances, and dredging (MEC 2002). In general, the transparency of the harbor has improved since 1967, although individual measurements vary substantially (LAHD 2002).

Transparency values at Stations LA-14 and LA-22A ranged from 47 to 79% (Table 3.13-2). The effects of algal blooms can be seen in the reduced transparency at the surface in July, a common occurrence in the harbor.

Salinity

Variations in salinity occur due to the effects of stormwater runoff, waste discharges, rainfall, and evaporation (LAHD 2002). Deeper Outer Harbor locations are typically more saline than shallower locations (SAIC 2010), although evaporation in the confined waters of Fish Harbor can cause locally higher salinity. Nevertheless, salinity in the harbor is typically around 33.5 ppt, similar to that of coastal marine water. Measurements at LA-11 during 2008 showed a salinity of 33.4 (SAIC 2010) and other studies have shown values ranging from 32.8 to 33.6 ppt in surface and bottom waters (MEC 2002; MBC 2003). Sampling in 2010 at the proposed project area (Stations LA-14 and LA-22A) yielded salinities between approximately 33 and 35 ppt (Table 3.13-2).

Storm drains empty into both the Fish Harbor and City Dock No. 1 sites; therefore, stormwater discharges probably cause reduced salinity during storm runoff events. This phenomenon is particularly marked in surface waters because freshwater is lighter and floats on top of the denser seawater (POLA 2007). However, stormwater is quickly diluted by the ocean, and salinities typically return to normal within a day or two of a storm event.

Nutrients

Nutrients are necessary for primary production of organic matter by phytoplankton. Low nutrient concentrations can limit the photosynthetic production, whereas excess nutrient concentrations can cause eutrophication and promote harmful algal blooms. Major nutrients that may limit phytoplankton photosynthesis are phosphates and nitrates. 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. Point source discharges are regulated through discharge permits, and stormwater discharges are regulated though municipal and industrial stormwater permits. The harbor, as an enclosed water body, has different seasonal and spatial variation in nutrient concentration than what is observed outside the breakwater (LAHD 2002)

Data on total Kjeldahl nitrogen (a measure of nitrogen available as a plant nutrient) collected at nine stations throughout the harbor by the Port in January 2008 (POLA 2008) varied from 0.56 to 0.98 mg/l, with two samples measured below the detection limit of 0.50 mg/l. These are very low values, indicating that nitrogen, at the time of measurement, was likely not contributing to water quality limitations in the harbor. However, it is possible that higher nitrogen concentrations occur at other times of the year or in response to isolated events such as a flush of stormwater from upland areas adjoining the harbor. In the Los Angeles Harbor, no data relevant to the environmental baseline are available to describe other measures of nutrient abundance such as phosphate, nitrate, or nitrite concentrations. However, the generally high dissolved oxygen values listed in Table 3.13-2 are consistent with a diagnosis that harbor waters are generally not limited by excessive nutrient loading.

Chemical Contaminants

Contaminants in harbor waters can originate from a number of sources within and outside of the Port. Potential sources of trace metals and organics include municipal and industrial wastewater discharges, stormwater runoff, dry weather flows, leaching from ship hull anti-fouling paints, petroleum or waste spills, atmospheric deposition, and resuspension of bottom sediments containing legacy (i.e., historically deposited) contaminants such as DDT and PCBs. Most of the metal, pesticide, and PAH contaminants that enter the harbor have a low solubility in water and adsorb onto particulate matter that eventually settles to the bottom and accumulates in bottom sediments. Dredging projects in both the Inner and Outer Harbor areas, including the Los Angeles Harbor Deepening Project (USACE and LAHD 1984, in LAHD 2002), have removed contaminated sediments from the harbor. In addition, some contaminated sediment areas have been covered by less contaminated sediments as part of construction of landfills or shallow water habitat, thereby sealing them from exchange with the overlying water. Controls on other discharge sources have also contributed to decreases over time in the input of contaminants.

Metals: Sampling for the enhanced water quality monitoring program at Stations LA-05, LA-22A, and LA-23 (Figure 3.13-1) between May 2005 and September 2008 found concentrations of metals consistently well below regulatory limits, except that dissolved copper reached 2.8 micrograms per liter (µg/l) at Station LA-05 in May 2008 (the lowest regulatory limit is 3.1 µg /l); in all other samples from the City Dock No.1 area copper concentrations ranged from 0.5 to 1.5 µg/l.

At Station LA-14, in Fish Harbor, dissolved copper concentrations have regularly exceeded 2 µg/l since monitoring began in 2005, but have never exceeded the regulatory limit of 3.1 µg/l. No other metals have approached regulatory limits.

Organic Compounds: Organic compounds of concern in harbor waters include organotins (butylated tin, used in anti-fouling paint), PCBs, pesticides, phthalates (an ingredient of many plastics), phenols, and PHAs (common products of combustion and components of many heavier petroleum fractions). Most organic compounds of concern are not very soluble in water, and in addition, volatile organic compounds (gasoline components and solvents) tend to evaporate rapidly, so it is typical to find organic compounds at very low concentrations (parts per trillion, or nanograms per liter [ng/l]), if at all. These compounds are of concern, even at low concentrations, because of the combination of their toxicity and their bioaccumulative tendencies. There are, as yet, few regulatory criteria for organic compounds; therefore, it is difficult to interpret the significance of the concentrations reported in harbor waters.

Near the City Dock No. 1 site, organic tin in the form of tributyltin (TBT) was detected at LA-23 in May 2008, but not thereafter, in concentrations not exceeding water quality criteria. PCBs and pesticides have not been detected at any of the monitoring stations. Phthalates in the form of bis (2-ethylhexyl) phthalate have been detected sporadically at low concentrations, and with the ultra-sensitive methods used during the 2008 surveys, PAHs were detected at stations LA-05, LA-22A, and LA-23 at concentrations ranging from non-detectable up to 50 ng/l, depending upon the specific compound.

In Fish Harbor, concentrations of organic compounds tend to be somewhat higher than at the City Dock No. 1 site. TBT was detected twice, in May 2005 and May 2008, both times at concentrations exceeding regulatory criteria. PCBs and pesticides have not been detected in the waters of Fish Harbor, but bis (2-ethylhexyl) phthalate has been detected on two occasions. PAHs are typically present at two to three times the concentrations observed at the City Dock No. 1 stations.

3.13.2.1.4 Marine Sediments

Sediments in 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. The MEC (2002) biological study results suggest that the removal of contaminated sediments during the Channel Deepening Project has led to a significant improvement in the environmental quality of the Harbor. Although Inner Harbor sediments are significantly cleaner than they were 25 years ago, some areas still exhibit the effects of historic deposits of pollution in the sediments and of existing point and nonpoint discharges (LARWQCB 2010). Sediment quality in the study area is characterized in accordance with California's Water Quality Control Plan for Enclosed Bays and Estuaries (SWRCB 2009), which includes both narrative and numerical sediment quality objectives (SQOs). The evaluation employs a "multiple lines of evidence" approach that considers the condition of the benthic invertebrate community, numerical values of sediment chemistry, and measured sediment toxicity. In addition, fish tissue objectives protect human health and wildlife.

The SQOs established by the SWRCB were used in the designation of impaired waterbodies and the promulgation of TMDLs for those waterbodies. As described above, various areas in the Los Angeles/Long Beach Harbor complex are listed as impaired waterbodies under Section 303(d) of the Clean Water Act for specific sediment contaminants (see Table 3.13-1). The TMDLs contain waste load allocations designed to remedy those impairments (see Section 6 of LARWQCB & USEPA 2011).

Potential contaminants in the sediments in the proposed project area include:

- metals (e.g., copper, lead, mercury, silver, and zinc),
- chlorinated hydrocarbons (particularly chlordane and DDT and derivatives),
- PAHs (benzo[a]anthracene, benzo[a]pyrene, chrysene, dibenz[a,h]anthracene, phenanthrene, pyrene), and
- PCBs.

These contaminants have been found in harbor sediments and are on the California 303(d) list for various portions of Los Angeles Harbor (LARWQCB & USEPA 2011; Table 3.13-1). Although a large portion of contaminated sediments have been removed via channel deepening and maintenance dredging activities, contaminated sediments remain in localized areas (LARWQCB 2007; POLB and POLA 2009), and the level of contamination varies substantially throughout the Los Angeles Inner Harbor (LARWQCB 2007).

The most recent sediment quality survey, based upon both field sampling and a literature review, was completed in 2008 (Weston 2008), and represents baseline conditions for the proposed Project. Few samples have been collected in the area of the City Dock No. 1 site, and none in the East Channel, but extensive data are available for the sediments within Fish Harbor, including data from samples collected by Weston at four stations in 2008.

Past sampling near the City Dock No. 1 site (summarized in Weston 2008) found sediments with relatively low levels of contamination. For example, whereas the threshold for the 303(d) listing is 270 parts per billion (ppb, or micrograms per gram of sediment), concentrations in the sediments in the lower reaches of the Main Channel did not exceed approximately 70 ppb. Lead, mercury, silver, and zinc were present at similarly low concentrations relative to listing criteria. The chlorinated pesticide chlordane has been detected at high concentrations in the sediments of dead-end slips and basins in Los Angeles Harbor, but concentrations in Main Channel sediments are a fraction of the listing criterion of 6 ppt (parts per trillion, or micrograms per kilogram of sediment). The harbor is listed on the basis of elevated concentrations of DDTs in fish tissues, but although DDTs are ubiquitous in harbor sediments, the harbor is not listed on the basis of sediment concentrations because concentrations do not exceed the listing criterion. Historic data indicate that sediment DDT concentrations in the Main Channel, including near the City Dock No. 1 site, are lower than in basins and slips. PCBs were detected at low concentrations (less than 50 ppt) in the Main Channel off the City Dock No.1 site. As with DDT, the harbor is listed for PCBs in fish tissue but not sediments.

Numerous sediment quality analyses have been performed in Fish Harbor. The most representative data, however, and the information that constitutes the baseline, was collected in 2008 by Weston (2008); older data summarized by Weston (2009) are useful to provide an historical context. Sampling in Fish Harbor in 2008 found copper in surficial sediments at concentrations of between 30 and 320 ppb, meaning that some samples exceeded the 303(d) listing criterion of 270 ppb. Previous sampling studies also found elevated copper concentrations (POLB and POLA 2009). Concentrations of lead in the 2008 samples and historical samples rarely exceeded the listing criterion of 112 ppb but sometimes exceeded the numeric target of 46.7 ppb (Weston 2008, 2009). In the case of mercury, most samples collected in 2008 and in earlier studies exceeded the numeric target of 0.15 ppb (there is no TMDL listing value). Silver and zinc were present in elevated concentrations in surface sediments collected in 2008 (Weston 2008). No historical analysis of silver was conducted, but Weston (2008) points out that elevated silver concentrations are widespread in Los Angeles Harbor. Zinc has been consistently found at elevated concentrations in Fish Harbor, with about half of the samples evaluated by Weston (2009) being above the numeric target of 150 ppb.

Fish Harbor sediments also contain elevated concentrations of certain organic compounds of concern. As Table 3.13-1 shows, Fish Harbor is listed on the basis of elevated concentrations of DDT and PCBs in fish tissue and of a variety of contaminants in sediments. The 2008 sampling detected total DDTs at concentrations well below the listing criterion in all of the surface sediment samples (Weston 2008), and the range of earlier samples evaluated by Weston (2009) showed a similar pattern. Neither study found chlordane or dieldrin at concentrations exceeding listing criteria.

Total PCBs and total PAHs in sediments did not exceed the listing criterion at any of the Fish Harbor stations in the 2008 sampling (Weston Solutions 2008). In the earlier samples evaluated by Weston (2009), 3 of the 11 samples analyzed for PCBs and 1 of the 33 samples analyzed for PAHs exceeded the listing criteria.

The pattern of contaminants in Fish Harbor sediments is consistent with historical shipbuilding and boat repair activities, which tend to release heavy metals, and with the harborwide inputs of DDT that are a legacy of the manufacture and use of that compound up to the 1970s.

3.13.2.2 Oceanography

Although Los Angeles Harbor is the southern extension of a relatively flat coastal plain, it is bounded on the west by the Palos Verdes Hills, which offer protection to the bay from prevailing westerly winds and ocean currents. The harbor is the result of 100 years of development of the Los Angeles/Long Beach Harbor complex, through dredging, filling, and channelization that has established a different physiography from the original bay-estuary system. The oceanography of the harbor is dominated by tidal cycles, oceanic waves, and local winds.

3.13.2.2.1 Tides

Tides are the result of astronomical and, to a lesser extent, meteorological conditions. The tidal cycle along the coast of Southern California produces two high and two low tides each day, characterized as a diurnal inequality, or mixed semidiurnal tide. The result is two high waters of unequal height and two low waters of unequal height each day ("water" is commonly used in this context instead of "tide"). These tides are denoted as "higher high water" (HHW), "lower high water" (LHW), "higher low water" (HLW), and "lower low water" (LLW). Other factors cause these extremes to vary in height from day to day, so that tidal characteristics are more usefully expressed in terms of long-term mean values, the common data being MLLW, which is the long-term average of all the LLWs, and MSL. MLLW is the datum from which southern California tides are measured (i.e., 0 feet MLLW = -2.8 feet MSL; LAHD 2002)

The mean diurnal tidal range for the Outer Harbor, calculated by averaging the difference between all the HHW and LLW, is approximately 5.6 feet (USACE and LAHD 1992). The extreme tidal range (between maximum high and maximum low waters) is about 10.6 feet; the highest and lowest tides reported are 8 feet above MLLW and 2.6 feet below MLLW, respectively (USACE and LAHD 1992).

3.13.2.2.2 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 shelter 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.

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).

Northern Hemisphere swells occur primarily from November through April, with wave periods generally ranging from 12–18 seconds (LAHD 2002). Deepwater wave heights have ranged up to 20 feet, but are typically less than 12 feet.

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)

3.13.2.2.3 Circulation

Circulation patterns in Los Angeles Harbor are established and maintained by tidal currents, which in turn are affected by the presence of the breakwaters and piers. In addition to the physical protection the Federal Breakwater provides to the Los Angeles and Long Beach Harbors, the breakwater also reduces water exchange between the Ports and San Pedro Bay (MEC 2002). Wind plays a strong role in harbor circulation by altering surface currents, particularly in the Outer Harbor.

Flood (rising) tides in Los Angeles Harbor flow into the harbor through the Angel's Gate and divide around Pier 400 to flow northwestward up the Main Channel and northeastward into the Outer Harbor, while during ebb (falling) tides the pattern essentially reverses (POLA & POLB 2009). Tidal currents are generally not strong, with typical maximum tidal currents in open water areas of less than 0.24 feet per second (fps). Tidal currents entering and exiting Angel's Gate and Queen's Gate are higher, but are in general less than (0.6 fps). Overall daily tidal exchange rates fluctuate between 8 and 25% of the harbor volume, with the flushing rate estimated at 90 tidal cycles (Maloney and Chan 1974; as cited in LAHD 2002).

3.13.2.2.4 Flooding

Much of the harbor area, including the City Dock No. 1 and Fish Harbor sites, was formerly a marsh and barrier island complex. Over the past 100 years the area has been modified by dredging, filling, and the construction of piers and wharves, so that current elevations are 10 to 15 feet above sea level. Portions of the Fish Harbor site adjacent to the water are within the 100-year flood zone (Zone X, Los Angeles County DPW 2011), and therefore within the 50-year zone, but because of its height above sea level, none of the City Dock No. 1 site is within the 100-year or 50-year flood zone. Both sites in the proposed project area are predominantly paved or otherwise impervious, resulting in minimal surface water infiltration during rainfall events and flooding. The only potential sources of flooding at the sites would be storm surge, tsunami, or seiche. The latter two sources are discussed in Section 3.5, "Geology and Soils." Storm surge is the elevation of the water level that results from reduced barometric pressure and wind stress during storm events. Storm surge is relatively small (less than 1 foot) along the Southern California coast when compared with tidal fluctuations. For example, the winter storm of January 17 and 18, 1988, produced the all-time record low barometric pressure. Measured water level at the Los Angeles Harbor gauge during this event was 0.7 foot above predicted astronomical levels (Rossmiller 2007). Thus, storm surge is likely to make at most a minor contribution to flooding in the Los Angeles Harbor area.

3.13.3 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.

3.13.3.1 Federal Regulations

3.13.3.1.1 Clean Water Act

The federal Water Pollution Control Act Amendments of 1972, better known as the Clean Water Act (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 act 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 (Section 3.13.3.2.3).
- 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 act. 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.

3.13.3.2 State Regulations

3.13.3.2.1 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 California 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 California 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 California 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.

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

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

The Basin Plan specifies water quality objectives for a number of constituents and characteristics that could be affected by the proposed Project. These constituents include: bioaccumulation, biostimulatory substances, chemical constituents, dissolved oxygen, oil and grease, pesticides, pH, polychlorinated biphenyls, suspended solids, toxicity, and turbidity. With the exceptions of DO and pH, water quality objectives for most of these constituents are expressed as descriptive rather than numerical limits. For example, the Basin Plan defines limits for chemical contaminants in terms of bioaccumulation, chemical constituents, pesticides, PCBs, and toxicity as follows:

- toxic pollutants shall not be present at levels that bioaccumulate in aquatic life to levels which are harmful to aquatic life or human health;
- surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use;
- no individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in pesticide concentrations found in bottom sediments or aquatic life; and
- all waters shall be maintained free of toxic substances in concentrations that are toxic to, or produce detrimental physiological responses in human, plant, animal, or aquatic life. There shall be no chronic toxicity in ambient waters outside mixing zones.

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

Construction and Industrial Permitting

LARWQCB administers the NPDES permitting program for construction and industrial activities. Two of these permits, issued by the California SWRCB, are a statewide general construction activities stormwater permit (GCASP) and a statewide general industrial activities stormwater 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 off site 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 a SWPPP to reduce or prevent industrial pollutants in stormwater discharges;
- eliminate unauthorized non-storm discharges; and
- conduct visual and analytical stormwater discharge monitoring to indicate the effectiveness of the SWPPP in reducing or preventing pollutants in stormwater discharges.

Best management practices 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. BMPs are best used in combination to most effectively remove target pollutants.

Post-Construction Permitting

On January 26, 2000, 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 SUSMPs on March 8, 2000. The California 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 inch of rainfall (or equivalent numerical design criteria) prior to its discharge to a stormwater conveyance system.

3.13.3.2.3 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 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.

3.13.3.2.4 California Ocean Plan

The California Ocean Plan was developed and is maintained via periodic updates by the SWRCB (2009) in order to protect the quality of ocean waters by controlling discharges to those waters. The plan sets numerical water quality objectives for the state's ocean waters and establishes procedures for determining effluent limitations. Although the plan does not cover Los Angeles Harbor, which is an "enclosed bay," the plan's standards and objectives are often used as an indication of water quality.

3.13.3.3 Local Regulations

3.13.3.3.1 City of Los Angeles Ordinances

The Stormwater Ordinance, LAMC 64.70, makes it a crime (misdemeanor, punishable by fine, imprisonment, or both) to discharge pollutants into a stormwater disposal system. The Stormwater Ordinance is the primary vehicle for City enforcement of NPDES permits.

In December 2010 the City of Los Angeles developed an ordinance that amended the LAMC to include Low Impact Development (LID) practices in new development and redevelopment projects. LID refers to the method of developing or redeveloping urban areas that serves to both reduce the quantity and improve the quality of stormwater that discharges from the development, essentially seeking to maintain or restore the natural pre-development hydrologic characteristics of the site.

The intention of the LID ordinance is to:

- require the use of LID standards and practices in future developments and redevelopments to encourage use of rainwater and urban runoff;
- reduce stormwater/urban runoff while improving water quality;
- promote rainwater harvesting;
- reduce off-site runoff and provide increased groundwater recharge;
- reduce erosion and hydrologic impacts downstream; and
- enhance the recreational and aesthetic values in communities.

The LID ordinance essentially expands the SUSMP requirements by increasing the number of new and redevelopment conditions under which stormwater mitigation measures must be implemented. As with SUSMP requirements, the LID requirements would need to be met for a building permit to be issued. For new nonresidential development or for redevelopment projects that result in an alteration of at least 50% or more of the impervious surfaces of an existing developed site, the entire site shall comply with the standards and requirements of the ordinance and of the LID section of the Development BMP Handbook.

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

3.13.3.3.2 Port of Los Angeles Tariff No. 4

Port of Los Angeles Tariff No. 4 describes the rates, charges, rules, and regulations of the Port of Los Angeles. The tariff applies to all persons making use of the navigable waters of Los Angeles Harbor. Included is information about pilotage, dockage, wharfage, passengers, free time, wharf demurrage, wharf storage, space assignments, cranes, and other operational rules and regulations. Certain provisions of Tariff No. 4 are intended to ensure safe and lawful operations of vessels while in the Port and thereby function to minimize the risk of accidents that could cause impairment of water quality. Sections of Tariff No. 4 that have particular relevance to water quality regulation include Section 17, which governs the handling of hazardous materials; and Section 18, which includes prohibitions related to waste oil, materials dumping, oil discharges, regulation of ballast water, and any related activities that may potentially affect water quality.

3.13.3.3.3 Port of Los Angeles Clean Marinas Program

The Clean Marinas Program for the Port of Los Angeles is a non-regulatory program that encourages recreational boaters and marina operators to use BMPs to prevent the discharge of pollutants into the 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.

3.13.3.3.4 Water Resources Action Plan

In 2009 the ports of Los Angeles and Long Beach, with the cooperation of EPA and the Los Angeles RWCQB, developed the WRAP to direct their implementation of programs aimed at protecting and enhancing water and sediments in the harbors. The WRAP has two main driving forces: (1) the ports' need to achieve their broad mission to protect and improve water and sediment quality, and (2) the imminent promulgation by the Los Angeles RWQCB and the EPA of TMDLs for harbor waters, and the associated CWA permits. The WRAP contains a variety of control measures to address four basic types of sources: land-use discharges (i.e., from terminals and other landside uses), on-water discharges (from vessels and in-water structures), sediments, and watershed discharges (i.e., uses outside of the ports). The control measures consist of both improvements on current control measures such as housekeeping practices, BMPs, and permit compliance programs, and the addition of new measures such as development of standards, guidance materials, and new policies.

3.13.4 Impact Analysis

3.13.4.1 Methodology

Potential impacts of the proposed Project 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 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.

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

- an individual NPDES permit for construction-related stormwater discharges or coverage under the General Construction Activity Storm Water Permit for the onshore portions of the proposed Project would be obtained by the tenant. The associated SWPPP would contain the following measures:
    - equipment would be inspected regularly (daily) during construction, and any leaks found would be repaired immediately;
    - refueling of vehicles and equipment would be in a designated, contained area;
    - drip pans would be used under stationary equipment (e.g., diesel fuel generators), during refueling, and when equipment is maintained;
    - drip pans would be covered during rainfall to prevent washout of pollutants; and
    - appropriate containment structures would be built and maintained to prevent offsite transport of pollutants from spills and construction debris.
- monitoring would be performed to verify that the BMPs were implemented and kept in good working order;
- other standard operating procedures and BMPs for Port construction projects would be followed;
- all onshore contaminated upland soils would be characterized and remediated in accordance with LAHD, LARWQCB, DTSC, and Los Angeles County Fire Department protocol and clean-up standards;
- the tenant would obtain and implement the appropriate stormwater discharge permits for operations;
- a Section 404 (of the CWA) and Section 10 (of the Rivers and Harbors Act) permit from USACE would be secured for construction activities in waters of the harbor;

- a Section 401 (of the CWA) Water Quality Certification from LARWQCB, including standard Waste Discharge Requirements (WDRs), would be secured for in-water work activities;
- a Debris Management Plan and SPCC Plan would be prepared and implemented prior to the start of demolition and construction activities associated with the proposed Project;
- tarps or other barriers would be rigged in areas of over-water work so as to prevent demolition or construction debris from falling into the water; and
- an individual NPDES permit for any discharge of seawater from the facility.

3.13.4.2 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 on water resources. The thresholds guide does not address some of the potential impacts of the proposed Project related to modification of aquatic sediments and flushing within the harbor; these potential impacts are discussed here under threshold WQ-2.

The following thresholds are unique to the proposed Project. Thresholds related to groundwater impacts are not included here; however, see Section 3.6, "Groundwater and Soils," for a discussion of the impacts on groundwater resources. The following criteria were used to determine significance for water quality, sediments, and oceanography.

WQ-1: A project would have a significant impact if it would substantially reduce or increase the amount of surface water in a water body.

WQ-2: 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.

1. "**Pollution**" means an alteration of the quality of the waters of the state to a degree that unreasonably affects either of the following: (1) the waters for beneficial uses; or (2) facilities that serve these beneficial uses. "Pollution" may include "Contamination."

2. "**Contamination**" means an impairment of the quality of the waters of the state by waste to a degree that creates a hazard to the public health through poisoning or through the spread of disease. "Contamination" includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.

3. "**Nuisance**" means anything that meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life

or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and (3) occurs during, or as a result of, the treatment or disposal of wastes.

As discussed in the Initial Study, the proposed Project was determined to result in no impact related to the following four other criteria from Appendix G of the State CEQA Guidelines and are not considered further in the analysis below:

- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?
- Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows?

3.13.4.3 Impacts and Mitigation

3.13.4.3.1 Construction Impacts

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

The proposed Project does not include any substantial filling of water area or removal of land area. Installation of piles for the wharf improvements would not have a measurable effect on the East Channel or the volume of water in the harbor, or adversely affect beneficial uses.

Impact Determination

Because the proposed Project would result in a negligible change in the amount of surface area and water volume in the East Channel and, by extension, in Los Angeles Harbor, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact WQ-2a: 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.

Removal and Placement of Pilings

The removal of concrete pilings in the East Channel and the installation of new steel and concrete pilings in the East Channel could generate localized turbidity underneath the dock as a result of resuspended sediment. Existing concrete pilings would be cut at the mudline and left in place, while new piles would be installed adjacent to them. Piles placed for seismic upgrade purposes would be driven through an existing rock blanket and would not, therefore, result in substantial sediment resuspension and turbidity. Piles driven for the floating docks adjacent to Berth 57 would resuspend small amounts of sediment. The resuspended sediments could have temporary, very localized effects on water quality in the East Channel, but these effects would be minimal.

Installation of Water Intake and Discharge Pipes for Research Facilities

The installation of the seawater intake pipes would require in-water work. A seawater intake structure would be constructed for the research operations for SCMI and other research facilities within the proposed project study area, which would be located at the southern end of City Dock No. 1, near Berth 60 and Warehouse No. 1. A second intake and discharge, for the wave tank, may be constructed at Berth 70-71. A small number of piles may be needed to support the structures, depending on the intakes' design and the distance it extends offshore. While a majority of the construction would be accomplished with shore-based equipment, some piles could be installed from a barge, temporarily anchored offshore or moored adjacent to the wharfs (Chapter 2, "Project Description," provides a description of the intake structure and other associated components of the proposed Project).

The potential effects of the limited pile driving activities associated with the installation of the seawater intake pipes would be similar to those described above for installing the wharf piles. If required for direct discharge of spent seawater from the proposed Project facilities, an outfall pipe would be constructed. The location of one outfall pipe is expected to be under the East Channel wharf, adjacent to Berth 60. Another outfall pipe, to serve the wave tank if necessary, may be constructed at Berths 70-71. It is assumed that the end of the seawater discharge pipes (invert elevation) will be above the high water level, to allow access for periodic water quality sampling of the discharge water. Therefore, no in-water work is expected, and these construction activities would have no effect on water quality conditions in the area. This discharge pipes would not be constructed if it is decided to discharge all effluent seawater to the existing TIWRP.

Spills and Leaks

Accidents resulting in spills of fuel, lubricants, or hydraulic fluid from equipment used during 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 3.13.3.2.2, "Water Quality Control Plan" (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.

Some pile removal and installation activities along with floating dock installation would be performed with the assistance of barge- and boat-mounted equipment. Accidents or spills from such in-water construction equipment could result in direct releases of petroleum materials or other contaminants to harbor waters. Precautions would be taken to minimize this risk, and contractors would have spill response materials on hand.

Stormwater Runoff

Land-based construction 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. Thus, impacts on surface water quality related to onshore construction would be limited to waters of the harbor that receive runoff from the construction site. Runoff from onshore construction sites could enter harbor waters 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.

The WDRs for stormwater 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. A construction SWPPP will be prepared in accordance with the GCASP and implemented prior to start of any construction activities. This construction SWPPP would specify BMPs to prevent/contain releases of soils and contaminants. BMPs such as wheel washing, dust control activities, and structural measures such as soil barriers, sedimentation basins, and site contouring would be employed () Standard Port BMPs specify procedures for handling, storage, and disposal of contaminated materials encountered during excavation. Regulatory guidance and requirements with respect to handling and disposing of lead-based paint and asbestos-containing materials (see Section 3.7, "Hazards and Hazardous Materials") would ensure that those substances would not enter stormwater runoff. 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.

Impact Determination

The limited extent of in-water construction would minimize turbidity and any associated water quality impacts. Furthermore, BMPs and other construction controls that would be employed, as described above, in compliance with the construction and discharge requirements of the relevant permits would minimize the likelihood and severity of contaminant inputs to harbor waters. Any such discharges would be small and result in temporary, localized impacts to water quality that would not violate water quality standards. Accordingly, impacts of construction-related water quality standards and discharge requirements would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

3.13.4.3.2 Operational Impacts

Impact WQ-1b: Operation of the proposed Project would not substantially reduce or increase the amount of surface water in a water body.

Operation of the proposed Project would withdraw seawater from the harbor for use in research, holding, and aquaculture facilities, and discharge the spent water either back to the harbor or into the sanitary sewer system. In either case, the amount of water consumed would be negligible in the context of the volume of the East Channel. Fresh water used at the facility would come from the municipal water supply (see Section 3.12, "Utilities") and thus would not deplete local natural water bodies. Operations would place no fill in harbor waters and would not increase the surface area of the harbor. Thus, there is no mechanism by which operation of the proposed Project could affect the amount of surface water in Los Angeles Harbor.

Impact Determination

The proposed Project would have no effect on the amount of surface water in the East Channel, Fish Harbor, or Los Angeles Harbor as a whole. No impacts would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact WQ-2b: 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.

Seawater discharge from the flow-through portion of the system is estimated at 2,000,000 gallons per day (twice the volume of the tanks). Seawater discharge from the recirculating portion of the system would consist of spent seawater and water from filter backwash. The discharge volume under the recycled system scenario is estimated at no more than 28,000 gallons per day.

Seawater used for life support of indigenous marine organisms could be discharged with minimal treatment, as its use would not alter its chemical characteristics. Seawater used in experiments or procedures involving chemical additives, non-indigenous species, or altered temperatures could contain, in addition to the normal constituents of harbor water, elevated BOD and ammonia from animal and plant wastes, and elevated concentrations of plant nutrients such as nitrogen and phosphorus. In addition, the likelihood that research would involve the mixing of various antibiotics, hormones, and test substances (e.g., for toxicity testing) to the seawater, means that prior to discharge, spent seawater could contain elevated concentrations of volatile and semi-volatile hydrocarbons, as well as heavy metals. Therefore, seawater used for research would be processed through enhanced treatment systems, such as micro-filtration, protein skimmers, and ozone treatment, before being discharged to the harbor.

Seawater in the wave tank would partially discharge on rare occasions to accommodate different research projects and scenarios. The volume of discharge cannot be estimated but would be minimal since discharge would occur on only rare occasions. Moreover, the water would contain chemicals added to inhibit the growth of marine organisms within the tank. Accordingly, prior to any discharge the water would be tested and treated to ensure compliance with all applicable discharge requirements, similar to treatment described in the paragraph above.

Any water that could not be treated to meet water quality standards for discharge to the harbor would have to be discharged to the sanitary system. Pre-treatment would be required if it is determined necessary in order to meet the Bureau of Sanitation's requirements for discharge. The proposed Project's infrastructure would include the facilities necessary to accomplish that treatment, and its operating permits would specify treatment requirements.

Monitoring results of water discharged by the existing SCMI Fish Harbor facility during 2009 and 2010 illustrates probable water quality in the spent seawater discharge of the proposed City Dock No. 1 facility (Table 3.13-3). The table includes both the intake water (i.e., the source water in Fish Harbor) and the effluent (i.e., the spent seawater discharged to the harbor). In 2009, heavy metals and semi-volatile hydrocarbons (primarily PAHs such as chrysene, fluoranthene, and pyrene) were substantially lower in the effluent than in the source water, presumably as a result of both the treatment method and adsorption by the organisms and filters in the system. In 2010, however, values in the source water and the discharge were not very different, although effluent values were generally somewhat higher than intake values. Accordingly, it is unlikely that, under normal operating conditions, the spent seawater discharged from the proposed Project would introduce substantial amounts of contaminants to harbor waters. This conclusion is supported by an SWRCB assessment of effluent discharge from the Monterey Bay Aquarium (SWRCB 2011), which found that aquarium effluent contained low levels of waste, but that none of the samples exhibited toxicity effects. The possibility that non-indigenous organisms used in research and development programs could be discharged to harbor waters is addressed in Section 3.3, "Biological Resources."

Table 3.13-3. Water Quality in the Intake and Discharge Waters of the SCMI Facility in Fish Harbor, 2009 and 2010.

Monitoring Parameter		*2009*	*2010*
Copper (µg/l)	Intake	8.0	4.8
	Effluent	3.4	6.0
Lead (µg/l)	Intake	6.0	0.6
	Effluent	0.1	1.1
Mercury (µg/l)	Intake	ND	ND
	Effluent	ND	ND
Zinc (µg/l)	Intake	9.3	ND
	Effluent	4.5	26.5
Anthracene (ng/l)	Intake	87	22
	Effluent	14	19
Benzo(a)pyrene (ng/l)	Intake	114	3
	Effluent	46	15
Chrysene (ng/l)	Intake	374	18
	Effluent	389	125
Fluoranthene (ng/l)	Intake	356	75
	Effluent	196	123

Monitoring Parameter		*2009*	*2010*
Pyrene (ng/l)	Intake	190	19
	Effluent	136	76
Dissolved Oxygen (mg/l)	Effluent	6.8–8.4	6.4–8.2
BOD_5 (mg/l)	Effluent	ND–8.7	ND–3.5
Oil & Grease (mg/l)	Effluent	ND–1.0	ND
Ammonia (mg/l)	Effluent	0.1–0.3	ND–0.2
Nitrate & Nitrite Nitrogen (mg/l)	Effluent	0.1	ND–1.1
Suspended Solids (mg/l)	Effluent	1.5–2.8	ND–1.5
ND – Non-detection Source: SCMI 2011.			

Any discharge of spent seawater to the East Channel would occur per the terms and conditions of NPDES permits issued by LARWQCB, which would specify discharge limits protective of harbor water quality and designed to comply with applicable TMDLs (see Section 3.13.3.1.1, "Clean Water Act") established by EPA and the LARWQCB. The NPDES permit would define a mixing zone in the immediate vicinity of the discharge (typically, within 300 feet) beyond which water quality standards and discharge limitations could not be exceeded. Individual research laboratories would be required to meet the discharge limits before adding their spent seawater to the discharge stream. For example, a laboratory that used antibiotics, hormones, or other test substances would be required to remove any residual additives to a point that is at or below permit limits before releasing to the discharge stream, or to dispose of its wastewater by another means such as sending it to an approved wastewater treatment facility or discharging to the sanitary sewer.

The discharge of non-toxic substances and components such as BOD, nutrients, and pH would not cause water quality standards to be exceeded outside of the mixing zone because the relatively small amount of effluent would be quickly diluted by the volume of the harbor. The total quantity of BOD and nutrients that could be discharged into the harbor (the "load") would be specified by the NPDES permit. Regular monitoring in accordance with the requirements of the permit would take place to ensure that effluent limits and total loads were not exceeded. Accordingly, discharge of spent seawater from operation of the proposed Project would not cause pollution, contamination, or a nuisance in harbor waters.

Stormwater runoff from the proposed Project area would be collected by the storm drain system and discharged to the harbor in quantities and at locations similar to existing conditions. Implementation of the proposed Project would include structural (e.g. SUSMP requirements) and procedural (housekeeping) BMPs that are not part of the baseline. Because stormwater in the area currently receives no treatment, the stormwater treatment BMPs to be implemented under the proposed Project would likely result in a reduction in the concentrations of pollutants that are commonly present in stormwater runoff from industrialized areas, such as the proposed Project area. In addition, the facilities associated with the proposed Project would be operated in accordance with one or more industrial SWPPPs that would contain monitoring requirements to ensure that stormwater quality complies with permit conditions. The proposed Project would have the potential to also affect harbor water quality through discharges from vessels. Oceangoing vessels have the potential to discharge fuels, lubricants, waste oil, and gray water as a result of spills or illegal discharges. It is possible that NOAA research vessels up to 250 feet would be homeported at the proposed Project.

While there is some risk of accidental spills and illegal discharges, the additional calls would not appreciably increase that risk compared to baseline conditions. Even large research vessels are typically much smaller than cargo vessels which are frequently 3 to 4 times larger than what would be anticipated at the proposed project site. Accordingly, the amount of pollutants that could be released would be much smaller than would be expected for the same number of cargo vessels. Vessels calling at the City Dock No. 1 facility would be subject to the requirements of various federal and state regulations governing discharges to state waters (see, for example, POLB and POLA 2010), and the Port of Los Angeles Tariff No. 4 (see Section 3.13.3.3.2). These regulations prohibit a number of discharges in coastal waters, including oily bilge water, sewage, and various other wastes, and restrict the types of maintenance activities that can be performed in bays and harbors.

Furthermore, Los Angeles-Long Beach Harbor has a long-established spill response system, overseen by the US Coast Guard and the California Department of Fish and Game's Office of Oil Spill Response (OSPR; see www.dfg.ca.gov/ospr/Admin/). Under this program, vessels are required to maintain oil spill contingency plans and to have the financial resources to support a spill response. The US Coast Guard conducts regular inspections of vessels to ensure seaworthiness and verify that appropriate pollution control mechanisms are in place.

Impact Determination

Point source discharge of spent seawater from research facilities would be controlled by permit conditions protective of harbor water quality, and would be subject to monitoring and treatment to ensure compliance with those permits. Accordingly, the impacts of point source discharges to the harbor relative to water quality standards and discharge requirements would be less than significant.

Discharges of stormwater would comply with NPDES discharge permit limits and would, because of modern BMPs, likely have less impact on harbor water quality than under baseline conditions. Therefore, the impacts of stormwater discharges relative to water quality standards and discharge requirements would be less than significant.

Given the small size and number of vessels that might use the proposed Project facilities, and the mechanisms in place to control spills, operation of the proposed Project would result in minimal increases in discharges or other water quality impacts associated with vessel traffic. Impacts related to vessel discharges would be less than significant.

Consequently, the impact on water quality from operational discharges would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

3.13.4.3.3 Summary of Impact Determinations

Table 3.13-4 summarizes the impact determinations of the proposed Project related to water quality, sediments, and oceanography, as described in the detailed discussion in Section 3.13.4.3.2. 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 impact determination, 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 3.13-4. Summary Matrix of Potential Impacts and Mitigation Measures for Water Quality, Sediments, and Oceanography Associated with the Proposed Project

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.13 WATER QUALITY, SEDIMENTS, and OCEANOGRAPHY			
Construction			
WQ-1a: Construction of the proposed Project would not substantially reduce or increase the amount of surface water in a water body.	Less than significant	No mitigation is required.	Less than significant
WQ-2a: 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.	Less than significant	No mitigation is required.	Less than significant

Operations			
WQ-1b: Operation of the proposed Project would not substantially reduce or increase the amount of surface water in a water body.	No impact	No mitigation is required.	No impact
WQ-2b: 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.	Less than significant	No mitigation is required.	Less than significant

3.13.4.4 Mitigation Monitoring

No significant adverse impacts on water quality, sediments, and oceanography would occur as a result of the proposed Project; therefore, no mitigation is required.

3.13.4.5 Significant Unavoidable Impacts

No significant unavoidable impacts on water quality, sediments, and oceanography would occur during construction or operation of the proposed Project.

4.0

CUMULATIVE IMPACTS

4.0 CUMULATIVE EFFECTS

4.1 Introduction

This chapter presents CEQA requirements for cumulative impact analysis and analyzes the potential for the proposed Project to have significant cumulative effects when combined with other past, present, and reasonably foreseeable future projects in each resource area's cumulative geographic scope. The cumulative geographic scope may differ by resource, and the cumulative regions of influence are further documented in Section 4.2, "Cumulative Impact Analysis," and presented within each of the respective resource discussions as appropriate. The presentation of requirements related to cumulative impact analyses and a description of the related projects are discussed in Sections 4.1.1 and 4.1.2, respectively. Cumulative impacts for the proposed Project when combined with other reasonable and foreseeable projects in the area are organized by resource topic and analyzed in Section 4.2.

4.1.1 Requirements for Cumulative Impact Analysis

The State CEQA Guidelines (14 CCR 15130) require a reasonable analysis of the significant cumulative impacts of a proposed project. Cumulative impacts are defined by CEQA as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (State CEQA Guidelines, Section 15355).

Cumulative impacts are further described as follows:

a) The individual effects may be changes resulting from a single project or a number of separate projects.

b) The cumulative impacts from several projects are the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (State CEQA Guidelines, Section 15355[b]).

Furthermore, according to State CEQA Guidelines Section 15130(a)(1):

> As defined in Section 15355, a "cumulative impact" consists of an impact that is created as a result of the combination of the project evaluated in the EIR together

> with other projects causing related impacts. An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.

In addition, as stated in the State CEQA Guidelines, Section 15064(h)(4):

> The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable.

Therefore, the following cumulative impact analysis focuses on whether the impacts of the proposed Project are cumulatively considerable within the context of impacts caused by other past, present, or future projects (Section 15065(a)(3)). The cumulative impact scenario considers other projects proposed within the area defined for each resource that have the potential to contribute to cumulatively considerable impacts.

For this EIR, related area projects with a potential to contribute to cumulative impacts were identified using one of two approaches or a hybrid of the two: (1) the "list" methodology, or (2) the "projection" methodology. Most of the resource areas were analyzed using a list of closely related projects that would be constructed in the cumulative geographic scope (which differs by resource and sometimes for impacts within a resource; cumulative regions of influence are documented in Section 4.2, "Cumulative Impact Analysis"). The list of related projects is provided in Section 4.1.2.

Air quality, noise, and traffic/circulation analyses use a projection, or a combined list and projection approach as described below. Cumulative analysis of air quality impacts uses projections from the SCAB 2007 AQMP and the MATES-II. The traffic/circulation cumulative analysis uses ambient growth in traffic, which is described in Section 3.11, "Transportation and Circulation—Ground and Marine." The cumulative analysis of noise impacts uses a hybrid approach, as it relies on both the annual regional growth rates utilized for traffic (because traffic is an important contributor to noise impacts) and the list of related projects documented in Section 4.1.2.

4.1.2 Projects Considered in the Cumulative Analysis

This section describes past, present, and reasonably foreseeable projects in the area that affect cumulative conditions at the Port of Los Angeles.

4.1.2.1 Past Projects

The following discussions describe the past projects that have contributed to cumulative impacts related to the proposed Project.

4.1.2.1.1 History of the Port of Los Angeles

The Port of Los Angeles is located on the San Pedro Bay at the southernmost point of Los Angeles County, approximately 20 miles from downtown Los Angeles. Because of its proximity to the Pacific Ocean, San Pedro Bay has a long history of maritime activity.

In 1822, under the newly independent Mexican government, San Pedro became a robust commercial center and an attractive home for new settlers. The Mexican government granted three ranchos near the bay: Rancho San Pedro, Rancho Los Palos Verdes, and Rancho Los Cerritos. On February 2, 1848, when California came under American control, business at San Pedro Harbor was booming. It was evident, however, that the harbor needed to be expanded to accommodate the increasing cargo volume coming into the bay. In 1906 the city annexed a 16-mile strip of land on the outskirts of San Pedro and Wilmington.

The Port was officially founded in 1907 with the creation of the Los Angeles Board of Harbor Commissioners. Between 1911 and 1912, the first 8,500-foot section of the breakwater was completed, and the Main Channel was widened to 800 feet and dredged to a depth of 30 feet to accommodate the largest vessels of that era. Concurrently, Southern Pacific Railroad completed its first major wharf in San Pedro, allowing railcars to efficiently load and unload goods simultaneously. The Port continued to grow through the twentieth century.

Following World War II, LAHD launched a broad restoration program. Many of the facilities in the harbor required maintenance that had been delayed during the war years. Then, the advent of containerization in the 1950s resulted in dramatic changes at the Port. Because of this new mode of shipping, the Port, like many major new and old harbors, modernized facilities to meet the needs of the new geometry required by containerization. In addition to new configurations (container-sized and shape-driven), larger cranes and concrete wharves (replacing timber) were required to handle the dramatically increased weight of cargo containers. Other major harbor improvements included deepening the main channel to accommodate the larger container vessels entering the bay, purchasing land to expand terminals, and replacing older wharves that could not bear the increased weight of newer containers.

4.1.2.1.2 History of the Proposed Project Area

Historically, the proposed project area (see Figures 2-1 and 2-2 in Chapter 2, “Project Description”) has been intensively used for various Port activities. Historic topographic maps of San Pedro from the middle and late nineteenth century show that prior to modern development, the LA/LB Harbor was a low-lying coastal marsh called Wilmington Lagoon or San Pedro Creek (Schell et al. 2003). The lagoon had a complex network of estuaries, stream channels, tidal channels, sand spits, beaches, and marshy inlands. Major streams draining the Los Angeles Basin, including the Los Angeles River, Compton Creek, and possibly the San Gabriel River, emptied into the lagoon primarily from the east. Smaller local creeks draining from the Palos Verdes Hills and the Torrance Plain entered the lagoon from the west (Schell et al. 2003).

In anticipation of increased shipping resulting from construction of the Panama Canal, to be completed in 1914, the Los Angeles Board of Harbor Commissioners initiated several improvements at the Port of Los Angeles in the early 1910s to capture a greater portion of the increased shipping traffic in the Pacific. Improvements to the Outer Harbor included the construction of the massive Municipal Pier No. 1. Work on the pier began with the filling of the Huntington Concession (also called the "Huntington Fill") during the spring of 1912. Over 60 acres were in-filled with materials taken from dredging the adjacent channel to a new depth of 35 feet (Appendix F). Municipal Pier No. 1 was completed in 1914. At that time, the pier was about 2,520 feet long and 650 feet wide.

Los Angeles Municipal Shed No. 1 (Berths 58–60) was constructed on site by 1915 (Appendix F). The shed, a one-story steel-frame building, measured 1,800 feet long by 100 feet wide, and was constructed for, and operated by, the American-Hawaiian Steamship Company. Additional transit sheds and other structures were added to the dock over the next several years, including Municipal Warehouse No. 1, a massive, six-story concrete warehouse, which was completed in 1917 (Appendix F).

Municipal Warehouse No. 1 was constructed in 1917, and was constructed with steel reinforced, poured-in place concrete. The building sits at the southeastern end of Municipal Pier No. 1 adjacent to Berths 59–60, between Signal Street to the west, the Main Ship Channel on the east, and the Outer Harbor to the south. Warehouse No.1 served as the Port's only bonded warehouse for the temporary storage of goods that would go through customs. During the era of break-bulk cargo handling, Warehouse No.1 served a leading role in warehousing at the Port of Los Angeles from 1917 through the 1950s (Jones & Stokes 1999). With these facilities in place, the Port of Los Angeles entered into international commerce, and by 1923 had surpassed all the other west coast ports in tonnage and value of cargo (Jones & Stokes 1999).

The Transit Shed at Berth 57 was constructed in 1923, immediately north of Municipal Shed No. 1 (Sheds at Berths 58–60), and measured 93 feet wide by 500 feet long. The all-concrete wharf was constructed in 1938, which widened the pier by another 30 feet and provided new trackage for railcars loading and unloading goods at Berths 57–60.

In 1923 the Pan American Petroleum and Transport Company entered into a 30-year lease with the LAHC for seven acres of Pier No. 1 to construct a fire-proof oil loading station along the Port's Main Channel (Westway Terminal at Berths 70–71). The purpose of the facility was to transport oil for shipment from the company's refinery at Watson via three oil lines to the Marine Loading Station located at Berths 70–71.

The SCMI facility located at Berth 260 on Terminal Island consists of a 19,000-square-foot office and research building, a 2,700-square-foot storage warehouse, and a 2,400-square-foot shop storage. This collection of modern buildings dates to the early 1970s.

Historical development of the proposed project area, the Port, and the general vicinity has had various environmental effects, which are described in individual resource analysis sections below (Section 4.2.2).

4.1.2.1.3 Current and Future Projects

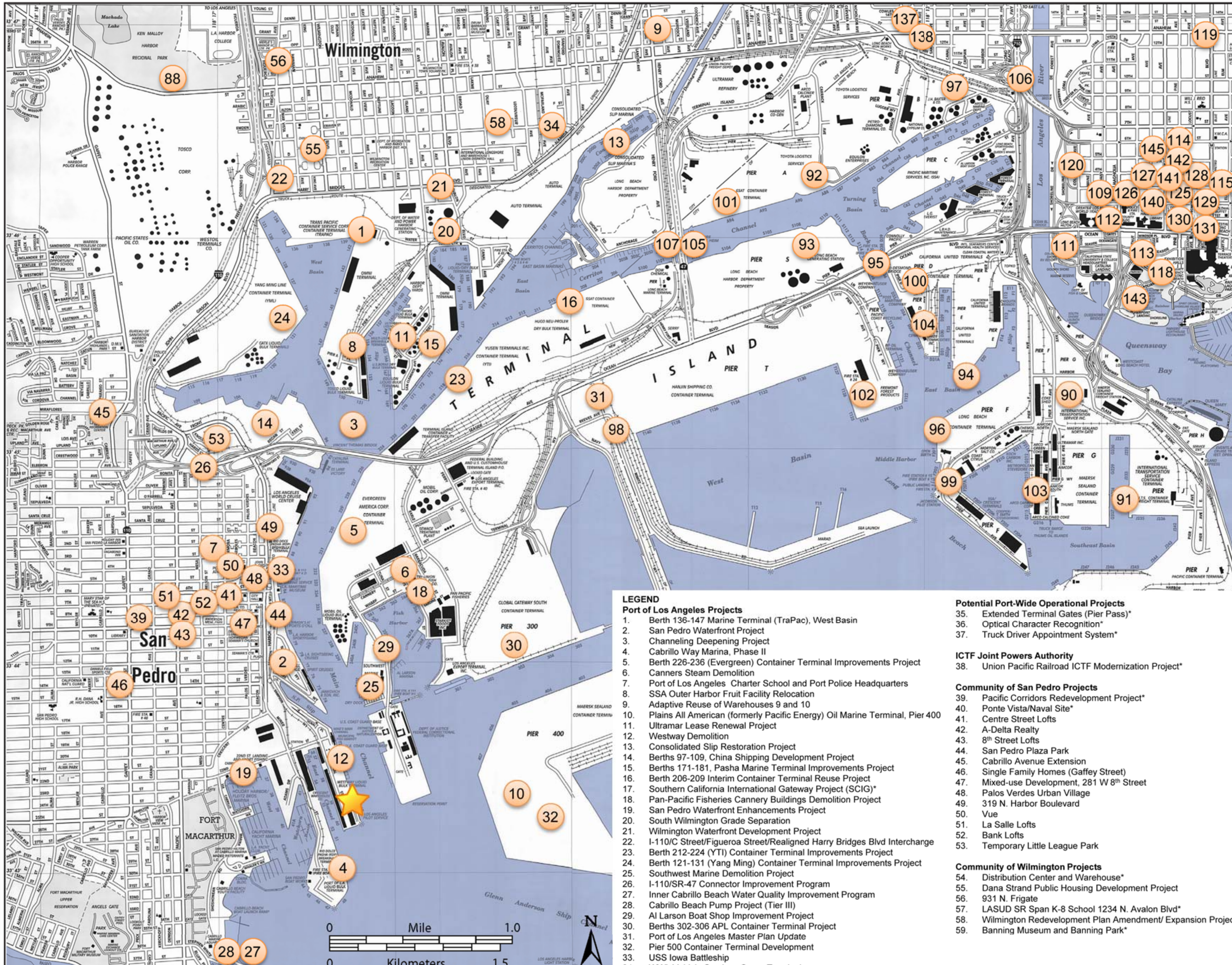
A total of 146 present or reasonably foreseeable future projects (approved or proposed) were identified within the general vicinity of the proposed Project that could contribute to cumulative impacts (Figure 4-1). A corresponding list of the cumulative projects provided by LAHD, the Port of Long Beach, and the LADOT is provided in Table 4-1. Specific projects identified in the cumulative analysis below are cross-referenced using the numbering system identified in Table 4-1 and on Figure 4-1. As discussed in Section 4.1.1 and further in the resource-specific sections below, some resource analyses use a projection approach encompassing a larger cumulative geographic scope; for those resources a larger set of past, present, and reasonably foreseeable future projects was included for analysis of cumulative impacts.

For the purposes of this EIR, the timeframe of present or reasonably foreseeable future projects extends from 2012 to 2024 (proposed project buildout), and the vicinity is defined as the area over which effects of the proposed Project could contribute to cumulative effects. The cumulative regions of influence for individual resources are documented further in each of the resource-specific subsections in Section 4.2, "Cumulative Impact Analysis."

Table 4-1. Related and Cumulative Projects

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
Port of Los Angeles Projects			
1	Marine Terminal, West Basin, Berths 136–147	Element of the West Basin Transportation Improvement Projects. Reconfiguration of wharves and backlands. Expansion and redevelopment of the TraPac Terminal.	Final EIR certified by the Los Angeles Board of Harbor Commissioners in December 2007. Construction started in 2009 and ongoing through 2015.
2	San Pedro Waterfront Project	The San Pedro Waterfront Project is a 5 to 7 year plan to develop along the west side of the Main Channel, from the Vincent Thomas Bridge to the 22nd Street Landing Area Parcel up to and including Crescent Avenue. Key components of the project include construction of a Downtown Harbor Promenade, construction of a Downtown Civic Fountain, enhancements to the existing John S. Gibson Park, construction of a Town Square at the foot of 6th Street, construction of a 7th Street Pier, construction of a Ports O'Call Promenade, development of California Coastal Trail along the waterfront, construction of additional cruise terminal facilities, construction of a Ralph J. Scott Historic Fireboat Museum, relocation of the Catalina Cruises Terminal and the S.S. Lane Victory, extension of the Waterfront Red Car line, and related parking improvements. The City Dock No. 1 project was	An NOP/NOI was released in August 2005. The LAHC certified the EIR and approved the project on September 29, 2009. Construction expected 2012–2020.

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
		evaluated programmatically as a conceptual project as part of the San Pedro Waterfront program.	
3	Channel Deepening Project	Dredging and sediment disposal. This project deepened the Main Channel of the Los Angeles Harbor to a maximum depth of –53 feet MLLW; (lesser depths are considered as project alternatives) by removing between approximately 3.94 million and 8.5 million cubic yards of sediments. The sediments were disposed at several sites for up to 151 acres of landfill. The EIR/EIS certified for the project identified significant biology, air, and noise impacts. A Supplemental EIS/EIR was prepared for new fill locations in 2008. The Additional Disposal Capacity Project would provide approximately 4 million cubic yards of disposal capacity needed to complete the Channel Deepening Project and maximize beneficial use of dredged material by constructing lands for eventual terminal development and would provide environmental enhancements at various locations in the Port of Los Angeles.	The LAHC certified the EIR and approved the project on April 29, 2009. Construction expected 2010–2012. Completion set for 2013.
4	Cabrillo Way Marina, Phase II, Port of Los Angeles	Redevelopment of the old marinas in the Watchorn Basin and development of the backland areas for a variety of commercial and recreational uses.	EIR certified December 2, 2003. Construction complete.
5	Evergreen Container Terminal Improvements Project, Berths 226–236	Proposed redevelopment of existing container terminal, including improvements to wharves, adjacent backland, crane rails, lighting, utilities, new gate complex, grade crossings, and modification of adjacent roadways and railroad tracks.	On hold.
6	Canners Steam Remediation	Remediation of the former Canner's Steam Plant in the Fish Harbor area of the Port of Los Angeles.	On hold.
7	Port of Los Angeles Charter School and Port Police Headquarters, San Pedro	Proposal to lease property for the Port of Los Angeles Charter School and to construct a Port Police Headquarters and office. 330 S. Centre Street, San Pedro.	Completed.
8	SSA Outer Harbor Fruit Facility Relocation	Proposal to relocate the existing fruit import facility at 22nd and Miner to Berth 153.	On hold.
9	Adaptive Reuse of Warehouses 9 and 10	Adaptive reuse of Warehouses 9 and 10 for visitor-serving uses to complement recreational activity at adjacent 22nd Street Park. Proposal to lease property to Crafted at the Port of Los Angeles.	Addendum to San Pedro Waterfront EIR completed. Construction expected 2012–2013.



Projects in Harbor City, Lomita, and Torrance
60. Harbor City Child Development Center*
61. Kaiser Permanente South Bay Master Plan*
62. Ponte Vista, 26900 Western Avenue (near Green Hills Park), Lomita*
63. 2244 Pacific Coast Highway (new address: 25820 Lucille), Lomita*
64. 25316 Ebony Lane, Lomita*
65. 25819-25 Eshelman Avenue, Lomita*
66. 262nd/Western, Lomita*
67. 25829-25837 Eshelman Ave., Lomita*
68. Sepulveda Industrial Park, Torrance*
69. Hasan Ud-Din Hashmi 1918 Artesia Blvd.,Torrance*
70. Dan Withee 24510 Hawthorne Blvd., Torrance*
71. Sunrise Senior Living 25535 Hawthorne Blvd., Torrance*
72. Capellino & Associates 1104 Sartori Ave., Torrance*
73. Linda Francis 18900 Hawthorne Blvd., Torrance*
74. Dean & Jan Thomas 3525 Maricopa St, Torrance*
75. Dave O. Roberts 435 Maples Ave., Torrance*
76. Imperial Investment & Development 2433 Moreton St., Torrance*
77. Torrance RF, L.L.C. 18203 Western Avenue, Torrance*
78. Continental Development Corp. 23248 Hawthorne Blvd., Torrance*
79. Charles Belak-Berger 3720 Pacific Coast Highway, Torrance*
80. BP West Coast Products 18180 Prairie Avenue, Torrance*
81. Graceway Church 431 Madrid Avenue, Torrance*
82. Providence Health System 5215 Torrance Blvd., Torrance*
83. Torrance Memorial Medical Center, 3330 Lomita Blvd, Torrance*
84. Chuck Stringfield 19701 Mariner Ave., Torrance*
85. Gospel Venture International Church 17811 Western Avenue, Torrance*
86. Continental Development 2843 Lomita Boulevard, Torrance*
87. Mark Sachs 2909 Pacific Coast Hwy. Torrance*
88. Wilmington Drain Multi-Use and Machado Lake Ecosystem Rehabilitation Project, Harbor City/Lomita
89. Rockefeller Group Professional Center Development*

Port of Long Beach Projects
90. Middle Harbor Terminal Redevelopment, Port of Long Beach
91. Piers G & J Terminal Redevelopment Project, Port of Long Beach
92. Pier A East, Port of Long Beach
93. Pier S Marine Terminal, Port of Long Beach
94. Administration Building and Maintenance Facility Replacement Project
95. Gerald Desmond Bridge Replacement Project, Port of Long Beach and Caltrans/FHWA
96. Chemoil Marine Terminal, Tank Installation, Port of Long Beach
97. Pier B Rail Yard Expansion
98. Terminal Island Rail Projects
99. Mitsubishi Cement Corporation Facility Modifications
100. Polaris Aggregate Terminal
101. Pier A West Remediation Project
102. Total Terminal International Grain Export Terminal Installation Project
103. Sulex Demolition Project
104. Cemera Long Beach Aggregate Terminal

ACTA and Caltrans Projects
105. Schuyler Heim Bridge Replacement and State Route (SR) 47 Terminal Island Expressway
106. I-710 (Long Beach Freeway) Major Corridor Study
107. Cerritos Channel Bridge

City of Long Beach Projects
108. Shoreline Gateway Project*
109. West Gateway Redevelopment Project
110. 2nd+PCH*
111. Golden Shore Master Plan
112. Press-Telegram Mixed Use Development
113. Sierra Hotel Project
114. Long Beach Downtown Plan
115. Art Exchange
116. North Village Center*
117. Kroc Community Center*
118. Hotel Sierra, 290 Bay St
119. 1235 Long Beach Blvd. Mixed-Use Project
120. Douglas Park Rezone Project*
121. Ocean Blvd. Project*
122. Drake/Chavez Park Expansion*
123. Poly Gateway Project, Pacific Coast Highway and Martin Luther King Jr. Avenue*
124. 15th Street and Alamitos Avenue Open Space Development and Intersection Improvements*
125. WPA Mosaic Open Space Development
126. Lyon West Gateway Residential Development, Broadway at Magnolia Avenue and 3rd Street
127. Pine – Pacific, bounded by Pine and Pacific Avenues, and 3rd and 4th Streets
128. Lofts at 3rd and Promenade
129. Broadway Block Development, Broadway, Long Beach Boulevard, 3rd street, and Elm Avenue
130. Long Beach Transit/Visitor Information Center, downtown Long Beach
131. Hotel Esterel, Promenade at Broadway
132. Promenade Master Plan, between Shoreline Drive and 5th Stre
133. Admiral Kidd Park Expansion Site, Santa Fe at Willard*
134. Pacific Coast Highway Streetscape Improvement*
135. Everbright Paper Recycling Center*
136. Redbarn Pet Products*
137. Smith-Co Construction
138. J.C.D.S Properties – Sudduth Tire
139. Westside Storm Drain Improvement Project*
140. 250 Pacific Avenue
141. Acres of Books
142. 495 The Promenade North
143. 100 Aquarium Way
144. 2010 Ocean Blvd.*
145. 433 Pine Ave.
146. 600 E. Broadway*

★ City Dock Project

LEGEND

Port of Los Angeles Projects
1. Berth 136-147 Marine Terminal (TraPac), West Basin
2. San Pedro Waterfront Project
3. Channeling Deepening Project
4. Cabrillo Way Marina, Phase II
5. Berth 226-236 (Evergreen) Container Terminal Improvements Project
6. Canners Steam Demolition
7. Port of Los Angeles Charter School and Port Police Headquarters
8. SSA Outer Harbor Fruit Facility Relocation
9. Adaptive Reuse of Warehouses 9 and 10
10. Plains All American (formerly Pacific Energy) Oil Marine Terminal, Pier 400
11. Ultramar Lease Renewal Project
12. Westway Demolition
13. Consolidated Slip Restoration Project
14. Berths 97-109, China Shipping Development Project
15. Berths 171-181, Pasha Marine Terminal Improvements Project
16. Berth 206-209 Interim Container Terminal Reuse Project
17. Southern California International Gateway Project (SCIG)*
18. Pan-Pacific Fisheries Cannery Buildings Demolition Project
19. San Pedro Waterfront Enhancements Project
20. South Wilmington Grade Separation
21. Wilmington Waterfront Development Project
22. I-110/C Street/Figueroa Street/Realigned Harry Bridges Blvd Interchange
23. Berth 212-224 (YTI) Container Terminal Improvements Project
24. Berth 121-131 (Yang Ming) Container Terminal Improvements Project
25. Southwest Marine Demolition Project
26. I-110/SR-47 Connector Improvement Program
27. Inner Cabrillo Beach Water Quality Improvement Program
28. Cabrillo Beach Pump Project (Tier III)
29. Al Larson Boat Shop Improvement Project
30. Berths 302-306 APL Container Terminal Project
31. Port of Los Angeles Master Plan Update
32. Pier 500 Container Terminal Development
33. USS Iowa Battleship
34. WWL Vehicle Services Cargo Terminal

Potential Port-Wide Operational Projects
35. Extended Terminal Gates (Pier Pass)*
36. Optical Character Recognition*
37. Truck Driver Appointment System*

ICTF Joint Powers Authority
38. Union Pacific Railroad ICTF Modernization Project*

Community of San Pedro Projects
39. Pacific Corridors Redevelopment Project*
40. Ponte Vista/Naval Site*
41. Centre Street Lofts
42. A-Delta Realty
43. 8th Street Lofts
44. San Pedro Plaza Park
45. Cabrillo Avenue Extension
46. Single Family Homes (Gaffey Street)
47. Mixed-use Development, 281 W 8th Street
48. Palos Verdes Urban Village
49. 319 N. Harbor Boulevard
50. Vue
51. La Salle Lofts
52. Bank Lofts
53. Temporary Little League Park

Community of Wilmington Projects
54. Distribution Center and Warehouse*
55. Dana Strand Public Housing Development Project
56. 931 N. Frigate
57. LASUD SR Span K-8 School 1234 N. Avalon Blvd*
58. Wilmington Redevelopment Plan Amendment/ Expansion Project
59. Banning Museum and Banning Park*

Project not shown on figure because it is located beyond the extent of the the map.
Base map source: California State Automobile Association 2005.

Figure 4-1
Related and Cumulative Projects
City Dock No. 1 Marine Research Center Project

ICF INTERNATIONAL

No. on Figure 4-1	Project Title and Location	Project Description	Project Status
10	Plains All American (formerly Pacific Energy) Oil Marine Terminal, Pier 400	Proposal to construct a Crude Oil Receiving Facility on Pier 400 with tanks on Terminal Island and other locations on Port property, with the preferred location being the former LAXT terminal, as well as construct new pipelines between Berth 408, storage tanks, and existing pipeline systems.	The LAHC certified the EIR and approved the project on November 20, 2008. Construction expected 2012–2014.
11	Ultramar Lease Renewal Project	Proposal to renew the lease between the Port of Los Angeles and Ultramar Inc., for continued operation of the marine terminal facilities at Berths 163–164, as well as associated tank farms and pipelines. Project includes upgrades to existing facilities to increase the proposed minimum throughput to 10 million barrels per year (mby), compared to the existing 7.5 mby minimum.	On hold.
12	Westway Demolition	Decommissioning of the Westway Terminal along the Main Channel (Berths 70–71). Work includes decommissioning and removing 136 storage tanks with total capacity of 593,000 barrels.	Remedial planning underway. Surface demolition will start in 2012.
13	Consolidated Slip Restoration Project	Remediation of contaminated sediment at Consolidated Slip at Port of Los Angeles. Remediation may include capping sediment or removal/disposal to an appropriate facility. Work includes capping and/or treatment of approximately 30,000 cubic yards of contaminated sediments.	Remedial actions are being evaluated in conjunction with Los Angeles RWQCB and EPA.
14	China Shipping Development Project, Berths 97–109	Development of the China Shipping Terminal Phase I, II, and III including wharf construction, landfill and terminal construction, and backland development.	The LAHC certified the EIR and approved the project on December 8, 2009. Construction started in 2009 and ongoing through 2013.
15	Pasha Marine Terminal Improvements Project, Berths 171–181	Redevelopment of existing facilities at Berths 171–181 as an omni (multi-use) facility.	Project EIR on hold.
16	Interim Container Terminal Reuse Project, Berths 206–209	Proposal to allow interim reuse of former Matson Terminal as a medium-density container and breakbulk terminal. The terminal would accommodate one vessel and utilize four cranes.	Draft EIS/EIR pending. Construction anticipated in 2013–2014.
17	Southern California International Gateway Project (SCIG)	Construction and operation of a 157-acre dock railyard intermodal container transfer facility (ICTF) and various associated components, including the relocation of an existing rail operation.	Draft EIR released September 2011. Construction anticipated 2013–2015.
18	Pan-Pacific Fisheries Cannery	Demolition of two unused buildings and other small accessory structures at the former Pan-	NOP released October 2005. Draft EIR

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
	Buildings Demolition Project	Pacific Cannery in the Fish Harbor area of the Port of Los Angeles.	released July 2006. Final EIR on hold.
19	San Pedro Waterfront Enhancements Project	Project includes creation of 16 acres of public open space at 22nd Street Park, pedestrian and landscaping improvements at Cabrillo Beach, and pedestrian access, landscaping and public art at the SP Slip.	Mitigated Negative Declaration (MND) approved in April 2006. Construction from 2007 to 2012.
20	South Wilmington Grade Separation	An elevated grade separation would be constructed along a portion of Fries Avenue or Marine Avenue, over the existing rail line tracks, to eliminate vehicular traffic delays that would otherwise be caused by trains using the existing rail line and the new ICTF railyard. The elevated grade would include a connection onto Water Street. There would be a minimum 24.5-foot clearance for rail cars traveling under the grade separation.	Construction anticipated 2012–2014.
21	Wilmington Waterfront Development Project	Project includes light-industrial, commercial, and public open space uses within a 90-acre site. Features include a 10-acre elevated park over active rail lines, 250-foot observation tower, and a Wilmington waterfront promenade near Banning's Landing.	The LAHC certified the EIR and approved the project on June 18, 2009. Construction expected 2016–2020.
22	I-110/C Street/ Figueroa Street/ Realigned Harry Bridges Boulevard Interchange	Consolidation of the following intersections: I-110/C Street/Figueroa Street interchange intersection and the intersection of Harry Bridges Boulevard–Alameda Street/John S. Gibson Boulevard/Figueroa Street. Construction of a new, northbound I-110 off-ramp with a direct connector ramp to eastbound Harry Bridges Boulevard–Alameda Street (i.e., a new, free-flow, northbound off-ramp to eastbound Harry Bridges Boulevard–Alameda Street).	MND under preparation. Construction expected 2013–2016.
23	(YTI) Container Terminal Improvements Project, Berths 212–224	Wharf modifications at the YTI Marine Terminal Project involves wharf upgrades and backland reconfiguration, including new buildings.	EIR/EIS on hold.
24	(Yang Ming) Container Terminal Improvements Project, Berths 121–131	Reconfiguration of wharves and backlands. Expansion and redevelopment of the Yang Ming Terminal.	EIR/EIS to be prepared.
25	Southwest Marine Demolition	Demolition of buildings and other small accessory structures at the Southwest Marine Shipyard.	Draft EIR released September 2006. Final EIR on hold.

No. on Figure 4-1	Project Title and Location	Project Description	Project Status
	Project		
26	I-110/SR-47 Connector Improvement Project	This project will eliminate an existing weaving condition of slow uphill moving trucks and fast downhill moving vehicles with the addition of a lane on the westbound to northbound SR-47/I-110 connector. This additional lane will continue through the I-110 Off-Ramp at John S. Gibson Boulevard where the intersection will be widened to better facilitate truck turning movements and accommodate additional southbound left turn and northbound right turn lanes.	MND approved in April 2012. Construction expected 2013–2016.
27	Inner Cabrillo Beach Water Quality Improvement Program	Phased improvements at Cabrillo Beach to reduce the wet and dry weather high concentrations of bacteria. Includes sewer and storm drain work, sand replacement, and bird excluders.	Construction complete.
28	Cabrillo Beach Pump Project (Tier III)	Phased improvements at Cabrillo Beach to reduce the wet and dry weather high concentrations of bacteria circulation improvements.	On hold.
29	Al Larson Boat Shop Improvement Project	Redevelopment and expansion of the Al Larson Boat Shop (Berth 258).	EIR under preparation. Construction anticipated 2012–2014.
30	APL Container Terminal Project, Berths 302–306	Improvements and expansion of the existing terminal, including the addition of cranes, modifications to the main gate, converting a existing dry container storage unit to a refrigerated unit, and the expansion of the terminal onto 41 acres adjacent to the existing terminal.	Public Review EIR/EIS released in December 2011. Construction anticipated 2013–2015.
31	Port of Los Angeles Master Plan Update	Redevelopment of Fish Harbor, redevelopment of Terminal Island and consideration of on-dock rail expansion, and consolidation of San Pedro and Wilmington Waterfront districts.	Conceptual planning.
32	Pier 500 Container Terminal Development	Creation of up to 200-acre fill to support backland and new wharfs for the operation of a new container terminal.	Conceptual planning.
33	USS Iowa Battleship	Permanent mooring of USS Iowa Navy Battleship at Berth 87 and construction of landside museum and surface parking to support 371,000 annual visitors.	Draft EIR released January 2012. Construction anticipated in 2012.
34	WWL Vehicle Services Cargo Terminal	Expansion of vehicle offloading processing and operations, including cargo increase up to 220,000 vehicles per year and construction of two additional rail loading tracks.	MND under preparation.
Various	Maintenance Dredging	Maintenance dredging is the routine removal of accumulated sediment from channel beds to	Continuous, but intermittent on average

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
		maintain the design depths of navigation channels, harbors, marinas, boat launches, and port facilities. This is conducted regularly for navigational purposes (at least once every five years).	every 3–5 years.
Eight cargo terminals and World Cruise Center	Alternative Maritime Power (AMP™)	AMP™ systems (also known as “cold-ironing) at the Port include a shore side power source, a conversion process to transform the shore side power voltage to match the vessel power systems, and a container vessel that is fitted with the appropriate technology to utilize electrical power while at dock.	Construction anticipated to be complete by 2014.
	Wilmington Youth Sailing and Aquatic Center	Construction of a facility that includes a sailing center and adjacent boat dock and launch ramp at Berth 204 in Wilmington at Shore Road and Anchorage Road.	MND under preparation. Construction anticipated in 2012–2014.
Port of Los Angeles and/or Port of Long Beach Potential Port-Wide Operational Projects			
35	Extended Terminal Gates (Pier Pass)	The Port of Los Angeles and Port of Long Beach program to use economic incentives to encourage cargo owners to use terminal gates during off-peak hours.	Program in progress.
36	Optical Character Recognition	Ports terminals have implemented OCR technology, which eliminates the need to type container numbers in the computer system. This expedites the truck driver through terminal gates.	Conceptual planning.
37	Truck Driver Appointment System	Appointment system that provides a pre-notification to terminals regarding which containers are planned to be picked up.	Implemented.
ICTF Joint Powers Authority			
38	Union Pacific Railroad ICTF Modernization Project	UP proposal to modernize existing intermodal yard four miles from the Port.	Draft EIR under preparation.
Community of San Pedro Projects			
39	Pacific Corridors Redevelopment Project, San Pedro	Development of commercial/retail, manufacturing, and residential components. Construction underway of four housing developments and Welcome Park.	Project underway. Estimated 2032 completion year according to Community Redevelopment Agency of Los Angeles.
40	Ponte Vista/Naval Site	Construction of 1,135 residential units, including single-family homes, apartments, and condominiums, and open space.	NOP released in October 2010.
41	Centre Street Lofts 285 W. 6th St	Construction of residential units and ground floor commercial.	Construction completed.

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
42	A-Delta Realty 731–741 S. Pacific Ave	Artist’s Lofts and retail space.	Construction completed.
43	8th Street Lofts	Loft apartments at southeast corner of 8th Street and Pacific Avenue.	Construction completed.
44	San Pedro Plaza Park	Outdoor improvements including minor grading, hillside slope repair, small retaining walls, view deck, fencing, gates, security lighting, seating areas, signage, landscaping, and irrigation.	Construction is expected to begin in June 2012, and to be completed by June 2013.
45	Cabrillo Avenue Extension	This project will widen Cabrillo Avenue to 36 feet of roadway and 9 feet of sidewalk from Miraflores Avenue to existing alley. It will also widen the existing alley to 25 feet and connect it to Channel Street by acquiring right-of-way.	Construction is expected to begin in January 2012, and to be completed by June 2012.
46	Single Family Homes 1427 N. Gaffey St, San Pedro (at Basin St)	Construction of 135 single-family homes – about 2 acres.	Project approved; construction pending.
47	Mixed-use development, 281 W. 8th St, San Pedro (near Centre St)	Construction of 72 condominiums and 7,000 square feet of retail.	Under construction according to City of Los Angeles Zoning Information and Map Access System.
48	Palos Verdes Urban Village 550 South Palos Verdes St, San Pedro	Construction of 251 condominiums and 4,000 square feet of retail space. 550 South Palos Verdes Street, San Pedro.	No construction has started.
49	319 N. Harbor Blvd	Construction of a 94-unit residential condominium complex.	Construction has not started according to LADOT Planning Department.
50	Vue (Pacific Trade Center) 255 5th St, San Pedro (near Centre St)	Construction of 220 housing unit apartments.	Construction completed.
51	La Salle Lofts 255 W. 7th St	Construction of 26 units with ground floor commercial.	Construction completed.
52	Bank Lofts 407 7th St	Construction of an 89-unit apartment complex with ground floor commercial.	Construction completed.
53	Temporary Little League Park	Construction of temporary baseball fields for the Eastview Little League at Knoll Hill.	Construction completed.

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
Community of Wilmington Projects			
54	Distribution Center and Warehouse 755 E. L St, Wilmington (at McFarland Avenue)	Construction of a 135,000-square-foot distribution center and warehouse on a 240,000-square-foot lot with 47 parking spaces.	No construction has started; lot is vacant and bare. LADOT Planning Department has no estimated completion year.
55	Dana Strand Public Housing Redevelopment Project	413 units of mixed-income affordable housing to be constructed in four phases: Phase I – 120 rental units; Phase II – 116 rental units; Phase III – 100 senior units; Phase IV – 77 single family homes. The plans also include a day care center, lifelong learning center, parks, and landscaped open space.	Phases I and II have been completed and are being leased. Phases III and IV are currently under development.
56	931 N. Frigate	Private school expansion for 72 student increase for a total of 350 students.	Construction has not started according to LADOT Planning Department.
57	LASUD SR Span K-8 School 1234 N. Avalon Blvd	Construction of a 1,278-student elementary school.	Construction has not started according to LADOT Planning Department.
58	Wilmington Redevelopment Plan Amendment/ Expansion Project, Wilmington	The existing Wilmington Industrial Park would be expanded by an additional 2,487 acres, for a total of approximately 2,719 acres. Under the probable maximum level of development, the overall project area could support up approximately 7,326 residential units (primarily multi-family; zone changes under the Plan would permit multi-use and higher density residential development). In addition to the residential development, the Project could accommodate up to approximately 207 acres (9 million square feet) of commercial development and up to 333 acres (14.5 million square feet) of industrial development.	NOP for Program EIR out for public review August 2010. Currently on hold.
59	Banning Museum and Banning Park	Banning Museum: Refurbishment of museum buildings and improvements to the open space/garden, including waterproofing Banning Museum, relocating an existing LADWP Transformer, rehabilitating the walkways, and Rose garden and museum landscaping. Banning Park: Improvements to Athletic Fields, Recreation Center and Walking Paths, including: rooftop HVAC replacement to recreation center; walkway resurfacing around the entire park (except within the Banning Residence Museum's perimeter wrought iron fencing); and door replacement to the recreation center; and,	Construction began in November 2010 and is expected to be completed by December 2012.

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
		reconstruct the existing baseball field.	
Projects in Harbor City, Lomita, and Torrance			
60	Harbor City Child Development Center 25000 South Normandie Ave, Harbor City (at Lomita Blvd)	Conditional use permit to open 50-student preschool at existing church building.	Construction has not started according to LADOT Planning Department.
61	Kaiser Permanente South Bay Master Plan 25825 Vermont St, Harbor City (at Pacific Coast Hwy)	Construction of a 303,000-square-foot medical office building, 42,500-square-foot records center office warehouse, with 260 hospital beds.	Under construction.
62	Ponte Vista, 26900 Western Ave (near Green Hills Park), Lomita	Construction of 1,950-unit for-sale stacked townhomes and condominiums including senior housing. Approximately 40% of the project's post-development acreage would consist of landscaped common area. Rolling Hills Prep School being developed in an adjacent lot.	Final EIR issued June 2008. LADOT Planning Department reports estimated 2012 completion year.
63	2244 Pacific Coast Hwy (new address: 25820 Lucille), Lomita	A request for a Site Plan Review to construct a new retail commercial building.	In plan check as of November 2009.
64	25316 Ebony Ln, Lomita	A request to construct 16 detached senior housing units.	In plan check.
65	25819–25 Eshelman Ave, Lomita	Proposed 20-unit senior housing development.	In plan check.
66	262nd St/Western Ave, Lomita	Construction of an 11,100-square-foot office building on the southeast corner of Western Avenue and 262nd Street.	Construction pending.
67	25829–25837 Eshelman Ave, Lomita	Construction of 16 new condominium units.	In plan check.
68	Sepulveda Industrial Park (TT65665) 1309 Sepulveda Boulevard, Torrance (near Normandie Avenue)	Construction of a 154,105-square-foot industrial park (6 lots).	No construction started. LADOT Planning Department has no estimated completion year.

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
69	Hasan Ud-Din Hashmi 1918 Artesia Blvd, Torrance	Remodel/demolition of certain existing structures and the construction of a new 23,914-square-foot worship building, covered patio, and& outdoor covered lobby.	Construction underway (soil contamination issues).
70	Dan Withee 24510 Hawthorne Blvd, Torrance	Construction of mixed-use development consisting of two-story commercial office, restaurant building, and 14 attached residential condominium units.	Under construction.
71	Sunrise Senior Living 25535 Hawthorne Blvd, Torrance	Operation of an assisted living facility.	Building permit issued in March 2008.
72	Capellino & Associates 1104 Sartori Ave, Torrance	Construction of professional office condominium development.	Under construction.
73	Linda Francis 18900 Hawthorne Blvd, Torrance	Operation of a new automobile sales and repair facility (MINI Cooper).	Under construction.
74	Dean & Jan Thomas 3525 Maricopa St, Torrance	Construction of 12 attached condominium units.	Construction pending.
75	Dave O. Roberts 435 Maple Ave, Torrance	Construction of two, one-story industrial buildings exceeding 15,000 square feet.	Construction pending.
76	Imperial Investment & Development 2433 Moreton St, Torrance	Construction and operation of a 27,000-square-foot full-service spa.	Construction pending.
77	Torrance RF, L.L.C. 18203 Western Ave, Torrance	Construction of new restaurant/retail/commercial building	Construction pending.
78	Continental Development Corp. 23248 Hawthorne Blvd, Torrance	Construction of a new retail store.	Construction pending.
79	Charles Belak-Berger 3720 Pacific Coast Hwy,	Construction of new 20,300-square-foot commercial center with an 18,688-square-foot subterranean parking structure	Construction pending.

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
	Torrance		
80	BP West Coast Products, LLC 18180 Prairie Ave, Torrance	Construction of new service station and 2,300-square-foot convenience store with off-sale beer and wine.	Construction pending.
81	Graceway Church 431 Madrid Ave, Torrance	Conversion of an industrial building for the operation of a church with shared parking.	Construction pending.
82	Providence Health System 5215 Torrance Blvd , Torrance	Construction of two, three-story medical office buildings and two, three-story parking structures.	Construction pending.
83	Torrance Memorial Medical Center, 3330 Lomita Blvd, Torrance	Construction of a new seven-story hospital tower and the removal of an existing medical office condominium building.	Construction pending
84	Chuck Stringfield 19701 Mariner Ave, Torrance	Conversion of two industrial buildings to industrial condominiums.	Construction pending.
85	Gospel Venture International Church 17811 Western Ave, Torrance	Conversion of existing industrial building for operation as a church.	Construction pending.
86	Continental Development 2843 Lomita Blvd, Torrance	Construction of a 25,000-square-foot medical office building to replace existing manufacturing building.	Construction pending.
87	Mark Sachs 2909 Pacific Coast Hwy, Torrance	Construction of a new 16,978-square-foot automobile dealership showroom facility.	Application approved on November 2009.
88	Wilmington Drain Multi-Use and Machado Lake Ecosystem Rehabilitation Project, Harbor City/Lomita	The project consists of two components: (1) Wilmington Drain Multi-Use; and (2) Machado Lake Ecosystem Rehabilitation. Wilmington Drain improvements include dredging, channel and bank stabilization, habitat and park design, and site-design and structural BMPs. Improvements to Machado Lake (and Harbor Regional Park) would include habitat and park design enhancements, site-design and structural BMPs, lake rehabilitation (i.e., water quality enhancements), and miscellaneous recreational improvements.	Notice of Determination was filed in September 28, 2010. Construction is expected to begin late 2011 and through 2014.

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
89	Rockefeller Group Professional Center Development	Construction of a 351,200-square-foot medical/office and professional building, and light industrial condominium buildings. The project would be constructed over two phases.	FEIR completed February 2010. Phase I construction is completed, and Phase II was expected to be completed by late 2011.
Port of Long Beach Projects			
90	Middle Harbor Terminal Redevelopment, Port of Long Beach	The project consolidates two existing container terminals into one 345-acre terminal. Construction includes approximately 54.6 acres of landfill, dredging, and wharf construction; construction of an intermodal railyard; and reconstruction of terminal buildings.	Approved project. Construction underway 2010–2019.
91	Piers G & J Terminal Redevelopment Project, Port of Long Beach	Redevelopment of two existing marine container terminals into one terminal in the Southeast Harbor Planning District area. The project will develop a marine terminal of up to 315 acres by consolidating portions of two existing terminals on Piers G and J and several surrounding parcels. Construction will occur in four phases and will include approximately 53 acres of landfills, dredging, concrete wharves, rock dikes, and road and railway improvements.	Approved project. Construction underway (2005–2015).
92	Pier A East, Port of Long Beach	Redevelopment of 32 acres of existing auto storage area into container terminal uses.	Conceptual planning.
93	Pier S Marine Terminal, Port of Long Beach	Development of a 150-acre container terminal on Pier S and construction of navigational safety improvements to the Back Channel.	Draft EIS/EIR released September 2011.
94	Administration Building Replacement Project, Port of Long Beach	Replacement of the existing Port Administration Building and Maintenance Facility with a new facility on an adjacent site on Pier G.	Approved project. Construction underway 2009–2012.
95	Gerald Desmond Bridge Replacement Project, Port of Long Beach and Caltrans/FHWA	Replacement of the existing 4-lane Gerald Desmond highway bridge over the Port of Long Beach Back Channel with a new 6- to 8-lane bridge.	Final EIR/EA certified in July 2010. Construction anticipated to begin in 2012.
96	Chemoil Marine Terminal, Tank Installation, Port of Long Beach	Construction of two petroleum storage tanks and associated relocation of utilities and reconfiguration of adjoining marine terminal uses between Berths F210 and F211 on Pier F.	EIR on hold.
97	Pier B Railyard Expansion	Expansion of the existing Pier B Railyard in two phases, including realignment of the adjacent Pier B Street and utility relocation.	EIR being prepared.

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
98	Terminal Island Rail Projects	Construction of rail improvements on Terminal Island, including a grade separation at Reeves Avenue and additional storage tracks.	EIR being prepared (2012–2015).
99	Mitsubishi Cement Corporation Facility Modifications	Facility modification, including the addition of a catalytic control system, construction of four additional cement storage silos, and upgrading existing cement unloading equipment on Pier F.	NOP/IS released in August 2011.
100	Polaris Aggregate Terminal	Construction and operation of a sand, gravel, and aggregate receiving, storage, and distribution terminal on Pier D.	NOP being prepared.
101	Pier A West Remediation Project, Port of Long Beach	Remediation of approximately 90 acres of oil production land, including remediation of soil and groundwater contamination, relocation of oil wells, filling, and paving.	Cleanup complete (2008–2009).
102	Total Terminal International (TTI) Grain Export Terminal Installation Project	Construction and operation of a grain transloading facility on a vacant 10-acre site on Pier T adjacent to the existing Hanjin container terminal. It would utilize existing infrastructure to the extent feasible and require no changes to shipping vessel operations.	NOP/IS released in August 2011.
103	Sulex Demolition Project	Demolition of a sulfur export facility on Pier G to fulfill the conditions of lease termination. No future use for the site is identified.	NOP/IS released in December 2010.
104	Cemera Long Beach Aggregate Terminal	Construction and operation of a sand, gravel, and aggregate receiving, storage, and distribution terminal on Pier D.	EIR on hold.
Alameda Corridor Transportation Authority and Caltrans Projects			
105	Schuyler Heim Bridge Replacement and SR-47 Terminal Island Expressway	ACTA/Caltrans project to replace the Schuyler Heim Bridge with a fixed structure and improve the SR-47/Henry Ford Avenue/Alameda Street transportation corridor by constructing an elevated expressway from the Heim Bridge to SR-1 (Pacific Coast Highway).	EIR/EIS approved; construction delayed/start date undetermined.
106	I-710 (Long Beach Freeway) Major Corridor Study	Develop multi-modal, timely, cost-effective transportation solutions to traffic congestion and other mobility problems along approximately 18 miles of the I-710, between the Port Complex ports and SR-60. Early Action Projects include: a) Port Terminus: Reconfiguration of SR-1 (Pacific Coast Highway) and Anaheim Interchange, and expansion of the open/green space at Cesar Chavez Park. b) Mid Corridor Interchange: Reconfigurations Project for Firestone Boulevard Interchange and Atlantic Bandini Interchange.	NOP/NOI released August 2008. Draft EIR/EIS under preparation.

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
107	Cerritos Channel Bridge	New rail bridge adjacent to existing Badger Avenue Rail Bridge	Project delayed – start date undetermined.
City of Long Beach Projects			
108	Shoreline Gateway Project	Mixed-use development of a 22-story residential tower with retail, commercial, and office uses located north of Ocean Boulevard, between Atlantic Avenue and Alamitos Avenue, a 15- to 19-story stepped slab building west of the existing Lime Avenue and Ocean Boulevard intersection, and a 10-story building.	Final EIR certified in September 2006. Entitlements granted. City Planning Department has no estimated construction start and completion year.
109	West Gateway Redevelopment Project	Redevelopment of nine existing parcels, including apartments, condominiums, and retail, on Broadway between Chestnut and Maine.	Under construction.
110	2nd + Pacific Coast Highway 6400 E. Pacific Coast Hwy	The proposed project would include the demolition of existing onsite uses and would provide new residential, office, retail, and potential hotel uses, along with associated parking and open space.	DEIR was released on April 19, 2010. In process for entitlement. City Planning Department has no estimated construction start and completion year.
111	Golden Shore Master Plan	The proposed project would provide new residential, office, retail, and potential hotel uses, along with associated parking and open space.	Final EIR was released on January 2010. In process for entitlement. City Planning Department has no estimated construction start and completion year.
112	Press-Telegram Mixed Use Development	Construction of two high-rise buildings on the 2.5-acre Press-Telegram site. Each building would be 22 stories and 250 feet in height. The project would be a mixed-use development with 542 residential units, and 32,300 square feet of office and institutional space.	Draft EIR prepared August 2006.
113	Sierra Hotel Project	Development of a 91,304-square-foot, seven-story hotel structure with 140 rooms. Parking will be provided in the multi-level parking structure located across the street at the southwest corner of Cedar Avenue and Seaside Way.	EIR certified December 2005.
114	Long Beach Downtown Plan	Development standards and design guidelines for an expected increase in the density and intensity of existing Downtown land uses by allowing up to: (1) approximately 5,000 new residential units; (2) 1.5 million square feet of new office, civic, cultural, and similar uses; (3) 384,000 square feet of new retail; (4) 96,000 square feet of restaurants;	Draft EIR released December 2010

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
		and (5) 800 new hotel rooms.	
115	Art Exchange	Project components include artist studios, multipurpose/classroom space, hot shop for glass and ceramics production, a centrally located open courtyard, gallery space, office, and service areas.	Draft EIR was released in December 2009. City Planning Department has no estimated construction start and completion year.
116	North Village Center	The proposed project involves the redevelopment of an approximately 6.3-acre site in the City of Long Beach with a mixed-use "village center" project.	Final EIR was released in November 2009. In process for entitlement. City Planning Department has no estimated construction start and completion year.
117	Kroc Community Center	The reformation of up to 19 acres of land designated by the Salvation Army, through a grant from the Kroc Foundation, for the location of a new recreation and community center.	Final EIR was released in June 2009. Entitlements granted. City Planning Department has no estimated construction start and completion year.
118	Hotel Sierra, 290 Bay St	This project consists of a new 5-story 125-room hotel with approximately 15,000 square feet of ground floor retail space.	EIR Addendum was released in May 2009. City Planning Department has no estimated construction start and completion year.
119	Mixed-Use Project 1235 Long Beach Blvd	The proposed project would include demolition of existing on-site uses and construction of a mixed-use (transit oriented) development that includes the construction of 3 buildings consisting of 170 residential condominium units, 186 senior (age-restricted) apartment units, and 42,000 square feet of retail/restaurant floor area.	EIR Addendum was released in January 2008. Entitlements granted. City Planning Department has no estimated construction start and completion year.
120	Douglas Park Rezone Project	The project consists of development of 1,400 residential units along with 3.3 million square feet of mixed commercial and light industrial development (which included a maximum of 200,000 square feet of retail uses), 400 hotel rooms, and 10.5 acres of park space, with an additional 2.5 acres for view corridors/pedestrian easements and bicycle paths.	Construction is underway. Entitlements granted.
121	Ocean Blvd Project	The proposed project would include the demolition of existing structures, the development of 51 condominium units and the remodel of an existing	Notice of Intent to Adopt was released in August 2009.

No. on Figure 4-1	Project Title and Location	Project Description	Project Status
		building to maintain 11 motel units. The residential development would be four stories in height above street level and would have two levels of subterranean parking.	Entitlements granted. City Planning Department has no estimated construction start and completion year.
122	Drake/Chavez Park Expansion	Development of new and expanding existing open space opportunities in the Drake/Chavez Park.	Project in progress.
123	Poly Gateway Project Pacific Coast Hwy and Martin Luther King Jr. Ave	Development of passive open space that will serve as a gateway to Poly High School, located directly behind the site.	Construction was expected to begin in 3rd Quarter 2008. Construction status unknown.
124	15th St and Alamitos Ave Open Space Development and Intersection Improvements	Passive park to include pedestrian hardscape, landscape lighting, light poles, and planting areas.	Construction underway.
125	WPA Mosaic Open Space Development	Relocation of historic mural to an open space development at the south end of CityPlace.	Construction was expected to start in 2010.
126	Lyon West Gateway Residential Development, Broadway at Magnolia Ave and 3rd St	Mixed-use project consisting of 291 rental apartments (265 market rate and 26 affordable) and 15,000 square feet of commercial space.	Construction underway.
127	Pine – Pacific, bounded by Pine and Pacific Aves, and 3rd and 4th Sts	Phase 1 will consist of a five-story residential project with 175 living units and 7,280 square feet of retail space. Phase 2 is slated as a 12-story mid-rise residential development with 186 units and 18,670 square feet of retail.	Approved project. Construction pending
128	Lofts at 3rd Street and Promenade	This is a mixed-use development project that consists of 104 rental homes and 13,550 square feet of first-floor retail space.	Construction underway.
129	Broadway Block Development, Broadway, Long Beach Boulevard, 3rd St, and Elm Ave	Mixed-use project consisting of an art center, residential units, and commercial space.	Conceptual project.
130	Long Beach Transit/Visitor Information Center,	1,900-square-foot transit customer service and visitor information center.	Construction underway.

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
	downtown Long Beach		
131	Hotel Esterel, Promenade at Broadway	Seven-story, 165-room hotel with 8,875 square feet of retail space and 3,000 square feet of meeting space.	Construction underway.
132	Promenade Master Plan, between Shoreline Dr and 5th St	Improvement, expansion, and redesign of The Promenade. The Master Plan encompasses the gateways, hardscape, landscape, furniture, lighting, and public art plazas along the three blocks between Ocean Boulevard and 3rd Street, as well as renovation of the amphitheater.	Construction underway.
133	Admiral Kidd Park Expansion Site, Santa Fe at Willard	The Admiral Kidd Park Expansion Site consists of the acquisition and development of industrial property for a 120,000-square-foot park expansion.	The site has been acquired and cleared. Construction underway.
134	Pacific Coast Highway Streetscape Improvement Project	This project involves the design and construction of new street medians, sidewalk landscaping, public art, and refurbishment of existing bus shelters.	Approved project. Construction pending.
135	Everbright Paper Recycling Center	This is a development of a bulk paper recycling and processing center	Construction start date was expected to be in 3rd Quarter 2008, and completion date was expected to be in 2nd Quarter 2009. Construction status unknown.
136	Redbarn Pet Products	Upgrade with the development of an office and warehouse for use in the manufacturing and distribution of their pet food products.	Approved project. Construction pending.
137	Smith-Co Construction	The Smith-Co Construction project consists of a plan to develop Agency-owned property into a two-story, 6,100-square-foot office and warehouse facility for Smith-Co Construction.	Construction start date was expected to be in 3rd Quarter 2005, and completion date was expected to be in 4th Quarter 2008. Construction status unknown.
138	J.C.D.S Properties – Sudduth Tire	J.C.D.S Properties – Sudduth Tire is a new development consisting of a two-story office building and shop area as well as a storage facility for local businesses.	Construction start date was expected to be in 3rd Quarter 2005, and completion date was expected to be in 4th Quarter 2007. Construction status unknown.
139	Westside Storm	The Agency, along with developer DMJM Harris/	Construction start date

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
	Drain Improvement Project	AECOM plans to improve and update existing storm drains in an effort to remedy street flooding.	was expected to be in 1st Quarter 2006, and completion date is to be determined. Construction status unknown.
140	250 Pacific Ave	Conversion of AMC Pine Square movie theaters to 74 residential units.	In process for entitlement. City Planning Department has no estimated construction start and completion year.
141	Acres of Books 240 Long Beach Blvd	Construction of 11,000-square-foot collaborative art center including the partial reuse of an historic structure	In process for entitlement. City Planning Department has no estimated construction start and completion year.
142	495 The Promenade North	Construction of 35,000-square-foot, 5-story mixed-use development including 6,000 square feet of ground floor commercial area and 21 residential units.	In process for entitlement. City Planning Department has no estimated construction start and completion year.
143	100 Aquarium Way	23,300-square-foot expansion to the Aquarium of the Pacific.	In process for entitlement. City Planning Department has no estimated construction start and completion year.
144	2010 Ocean Blvd	Construction of 56 residential condominiums units with 40 hotel rooms.	Entitlements granted. City Planning Department has no estimated construction start and completion year.
145	433 Pine Ave	Mixed use development of 28 residential units with 15,000 square feet of commercial (Newberry's Department Store)	Under construction.
146	600 E. Broadway	48,000-square-foot Vons Market with 128 rooftop parking spaces development	Under construction.

4.2 Cumulative Impact Analysis

The following sections analyze the cumulative impacts identified for each resource area for the proposed Project.

4.2.1 Aesthetics

4.2.1.1 Scope of Analysis

The geographic area for cumulative visual impacts includes areas bordering the Port that have views of Port development projects, as well as areas from which cumulative projects can be viewed bordering the Port. Thus, the resulting geographic area for aesthetic impact analysis generally encompasses areas within the Port of Los Angeles; the Port of Long Beach; and the communities of San Pedro, Wilmington, and Long Beach. The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.1, "Aesthetics."

4.2.1.2 Cumulative Impact AES-1: Result in an adverse effect on a scenic vista from a designated scenic resource due to obstruction of views—Less than Cumulatively Considerable

Cumulative Impact AES-1 represents the potential of the proposed Project along with related cumulative projects to result in significant adverse impacts on a scenic vista within the cumulative study area from a designated scenic resource. A cumulative impact on a scenic vista would occur if the development activities necessary to implement the proposed Project, in combination with one or more of the related cumulative projects, would result in significant/significant adverse impacts on such scenic vistas. Significant impacts would include substantial or total blockage of views from a designated scenic view vantage point.

4.2.1.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Scenic views that encompass the proposed project site are primarily available from two scenic viewsheds in the project area, South Harbor Boulevard Viewshed and Lookout Point Park Viewshed. Views towards the proposed project site from these locations encompass the Port as well as intervening development, and horizons beyond if at high enough elevations. The visual changes that would be brought about by the proposed Project would be taking place within the southwestern portion of the Port Complex. Other past, present, and future projects at the Port that have contributed, and will contribute, to similar development patterns include the San Pedro Waterfront Project (#2), San Pedro Waterfront Enhancements Project (#19), Westway Demolition (#12), and Cabrillo Way Marina, Phase II (#4). These projects are intended to improve the visual quality of the Port nearest the community of San Pedro.

4.2.1.2.2 Contribution of the Proposed Project

The proposed Project's impact on views from the South Harbor Boulevard Viewshed and Lookout Point Park is discussed in detail in Section 3.1.4.3.1 under Impact AES-1. The changes generated by the proposed Project would generally be consistent with other development that has occurred throughout the Port over the past several decades. Rehabilitation of the existing transit sheds would hardly be noticeable from these scenic vistas in the context of past, present, and future projects at the Port. The most visually prominent features of the project include the removal of the Westway tanks and development of the five-story, 100,000-square-foot building designed to house an 80,000-square-foot wave tank. The new structures would be similar in height, scale, and profile to existing structures. No new multistory structures would be developed that would exceed the height of the largest building on the proposed project site: Municipal Warehouse No. 1. Operation of the proposed Project, including the construction of the five-story wave tank, would have a less-than-significant impact on scenic vistas from Harbor Boulevard and Lookout Point Park in terms of obstructing of views. Furthermore, the views of and from the proposed project site would be improved and new viewing opportunities would be created. As determined in the impact analysis, the proposed Project would not obstruct views from either viewpoint and impacts would be less than significant. Therefore, the proposed Project in combination with past, present, and foreseeable projects, would result in a less than cumulatively considerable impact relative to adverse effects on scenic vistas from designated scenic resource due to obstruction of views.

4.2.1.2.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project to an adverse effect on a scenic vista would be less than cumulatively considerable. No mitigation measures are required.

4.2.1.3 Cumulative Impact AES-2: Substantially damage scenic resources (including, but not limited to, trees, rock outcroppings, and historic buildings) within a state scenic highway—No Cumulative Impact

There are no designated state scenic highways within the proposed project area; however, portions of Harbor Boulevard have been designated a local scenic highway by the City of Los Angeles. Views from this roadway that could be impacted are addressed under Impact AES-1. Because there would be no proposed project-specific impact, there would be no cumulatively considerable impacts.

4.2.1.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Because the proposed Project would have no impact under this criterion, it is not necessary to document the effects of past, present, and reasonably foreseeable future projects.

4.2.1.3.2 Contribution of the Proposed Project

There are no designated state scenic highways within the proposed project area. There would be no proposed project–specific impact under Cumulative Impact AES-

2; therefore, the proposed Project would not contribute to a cumulatively considerable impact in regard to damage to scenic resources.

4.2.1.3.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project to damage of scenic resources would be less than cumulatively considerable. No mitigation measures are required.

4.2.1.4 Cumulative Impact AES-3: Substantially degrade the existing visual character or quality of the site or its surroundings—Less than Cumulatively Considerable.

Cumulative Impact AES-3 represents the potential of the proposed Project along with related cumulative projects to result in significant impacts on visual character or quality within the cumulative study area.

A cumulative impact on visual character or quality would occur if implementation of the proposed Project, in combination with one or more of the related cumulative projects, would alter or remove valued features that substantially define the character of the San Pedro community or the Port in positive terms—the alteration or removal of which would significantly diminish visual quality within the cumulative visual impacts study area. Significant impacts would include the demolition of visual landmarks or the construction of new development that degrades visual quality.

4.2.1.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The visual character of the cumulative project area comprises a diverse array of engineered, industrial, marine, and recreational elements associated with the working port, waterfront commerce, and recreational beaches and marinas. These contrasting elements make the Port a highly textured, large-scaled, and lively landscape. Views of the marina and water-related recreational activities are framed by cranes, cargo ships, and containers, and there is an overall compositional harmony between natural and human-made elements. Visual quality is a combination of (1) highly diverse, industrial imagery punctuated by vibrant-colored cranes that pierce the skyline, (2) a human-made landscape that is functionally intact but a kaleidoscope of contrasting visual elements, and (3) a natural harbor, ocean, and mountain setting that unifies and frames the composition from the northeast to the south.

Over the course of the past century, the construction of breakwaters, dredging of channels, filling for creation of berths and terminals, and construction of the infrastructure required to support Port operations have completely transformed the original natural setting to create a landscape that is highly engineered, nearly entirely altered, and visually dominated by large-scale human-made features. Past projects at the Port have had a demonstrable negative effect related to elimination of natural features, reductions in views from the surrounding area of the open waters of the Port’s channels and basins, and intensification of the level of development that is visible. For example, development of the Pier 400 Container Terminal and Transportation Corridor Project reduced views of open waters from hillside areas in San Pedro, and this project increased the concentration of large-scale developed facilities in the Port complex. The result of these past changes has been cumulatively significant.

Other past, present, and future projects at the Port that have contributed, and will contribute to similar development patterns include the San Pedro Waterfront Project (#2), San Pedro Waterfront Enhancements Project (#19), Westway Demolition (#12), and Cabrillo Way Marina, Phase II (#4). Present and reasonably foreseeable future projects would be consistent with existing features of the Port landscape region and are intended to improve the visual quality of the Port nearest the community of San Pedro. Overall, the Port setting would be capable of integrating well-designed Port-related development within the array of compositional elements because this type of development defines the visual imagery of the Port.

4.2.1.4.2 Contribution of the Proposed Project

The proposed Project would adaptively reuse existing transit sheds and structures located on Berths 57–60 by constructing self-contained structures within the existing warehouse envelopes. These improvements would aesthetically enhance the visual quality of the site, thereby increasing the overall vividness of the views available from surrounding viewpoints. With the exception of the five-story, 100,000-square-foot wave tank building, which would be one story shorter than the existing Municipal Warehouse No. 1 building, the new structures would be similar in height, scale, and profile to existing structures. From an aesthetic perspective, no buildings are proposed that would be out of character with the existing onsite structures in terms of size or scale. Therefore, there would not be a high degree of contrast between the proposed and existing features, and new construction would exhibit an overall unified character with existing structures.

Past projects have caused a significant cumulative impact under Cumulative Impact AES-3; however, the proposed Project would not degrade the existing visual character or quality of the site and its surroundings and would result in the reuse of existing transit sheds on the project site, resulting in minimal changes to the visual character of the area. Because the proposed Project would have less-than-significant impacts on the existing visual character or quality of the site and its surroundings, it also would result in a less than cumulatively considerable contribution to a cumulative aesthetics impact.

4.2.1.4.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project to degradation of existing visual character would be less than cumulatively considerable. No mitigation measures are required.

4.2.1.5 Cumulative Impact AES-4: Result in an adverse effect due to shading on the existing visual character

or quality of the site or its surroundings—Less than Cumulatively Considerable.

Cumulative Impact AES-4 represents the potential for the proposed Project, along with related cumulative projects, to result in significant impacts on the cumulative study area through negative shade or shadow effects that would affect shade-sensitive receivers.

4.2.1.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

None of the past, present, or future projects has the potential to contribute to cumulative effects related to shading.

4.2.1.5.2 Contribution of the Proposed Project

Shading effects from operations would be limited to shading from existing structures that have undergone adaptive reuse, a few new buildings that would be of similar height to the existing onsite structures, and the five-story wave tank that would be positioned with some distance between the nearest existing buildings as well as the Main Channel. Therefore, proposed project operation would not result in substantial shading of shadow-sensitive uses. Impacts would be less than significant.

4.2.1.5.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project to negative shade or shadow effects would be less than cumulatively considerable. No mitigation measures are required.

4.2.1.6 Cumulative Impact AES-5: Create a new source of substantial light or glare that would adversely affect day or nighttime views of the area—Less than Cumulatively Considerable

Cumulative Impact AES-5 represents the potential for the proposed Project and related cumulative projects to result in cumulatively significant adverse impacts in the cumulative study area through the creation of a new source of substantial light or glare that would adversely affect day or nighttime views.

4.2.1.6.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Due to the Port's current operations, the visual setting is brightly lit at night to ensure a safe nighttime outdoor work environment. The major sources of illumination within the Port are down lights on tall light standards and floodlighting, including floodlights on the crane booms used in loading and unloading cargo. Lighting is designed to provide an almost daylight environment through the use of these tall light standards.

Past projects at the Port and in surrounding industrial districts have had the effect of creating sources of unshielded or poorly shielded and directed light that have had the effect of causing light spill and a change in ambient illumination levels in nearby areas. Because of the standards that LAHD is now implementing to minimize the lighting impacts of new projects, the contributions of present and future projects to cumulative lighting impacts in the area would be limited. The net effect of the past projects has been to create a significant cumulative impact.

There are ten past, present, and reasonably foreseeable future projects in the geographic area that could contribute or add light and glare, including the following: Marine Terminal, West Basin, (#1), Cabrillo Way Marina (#4), Evergreen Container Terminal Improvements (#5), China Shipping (#14), Pasha Marine Terminal Improvements (#15), SCIG (#17), APL Container Terminal Improvement (#30), Wilmington Waterfront Development Project (#21), YTI Container Terminal Improvement (#23), and Yang Ming Container Terminal Improvements (#24).

These projects include lighting designed to provide an almost daylight environment through the use of these tall light standards. Therefore, the cumulative adverse effects/impacts associated with the light and glare of each of the past, present, and reasonably foreseeable future projects would result in a significant cumulative impact.

4.2.1.6.2 Contribution of the Proposed Project

As discussed in Section 3.1.4.3, the proposed Project would create some new sources of light or glare, but would be designed to comply with the policies outlined in Section 3.1.3 the San Pedro Waterfront and Promenade Design Guidelines, and the PMP; and would represent a minimal increase in light and glare sources compared to existing conditions. Proposed project features that would contribute to ambient nighttime illumination would be negligible within the context of the functional lighting of the Port.

New lighting would be both functional and decorative to enhance visual quality. As discussed in Section 3.1.4.3, within the context of the brightly lit night setting of the Port, the incremental change in ambient proposed project lighting would have little effect on light-sensitive areas. Lighting associated with proposed project components would comply with the San Pedro Waterfront and Promenade Design Guidelines, which include lighting recommendations to minimize light pollution, spill light, and glare while promoting goals to create an attractive and safe daytime and nighttime waterfront that supports local economic growth. Additionally, lighting would comply with the PMP, which requires an analysis of design and operational effects on existing community areas. Design consistency with these guidelines and regulations would minimize lighting effects and keep the lighting impacts of the proposed Project below significance. As such, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact, and cumulative impacts on light and glare would remain less than significant.

4.2.1.6.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project to light and glare would be less than cumulatively considerable. No mitigation measures are required.

4.2.2 Air Quality and Greenhouse Gases

4.2.2.1 Scope of Analysis

For Cumulative Impacts AQ-1 through AQ-8, the geographic scope for cumulative effects on air quality is the SCAB, which is consistent with the thresholds established by SCAQMD. However, the highest project impacts would occur within the communities adjacent to the proposed project sites, including San Pedro, Wilmington, and Long Beach. For Cumulative Impacts GHG-1 and GHG-2 (global climate change), the geographic scope is the state of California.

4.2.2.2 Cumulative Impact AQ-1: Result in construction-related emissions that exceed an SCAQMD threshold of significance—Cumulatively Considerable and Unavoidable

Cumulative Impact AQ-1 assesses the potential for proposed project construction when combined with past, present, and reasonably foreseeable future projects to produce a cumulatively considerable increase in criteria pollutant emissions for which the proposed project region is in nonattainment under a national or state ambient air quality standard or for which the SCAQMD has set a daily emission threshold.

4.2.2.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The EPA designates all areas of the U.S. according to whether they meet the NAAQS. A nonattainment designation means that a primary NAAQS has been exceeded more than the number of times allowed by the standard in a given area. EPA currently designates the SCAB as an extreme nonattainment area for 8-hour O_3, a serious nonattainment area for PM10, and a nonattainment area for PM2.5. SCAB is considered a maintenance area for CO and NO_2 and is unclassified for SO_2 and lead (EPA 2011). States with nonattainment areas must prepare a SIP that demonstrates how those areas will come into attainment.

The CARB also designates areas of the state according to whether they meet the CAAQS. A nonattainment designation means that a CAAQS has been exceeded more than once in three years. CARB currently designates the SCAB as an "extreme" nonattainment area for 1-hour O_3, and as a nonattainment area for 8-hour O_3, PM10, PM2.5, NO_2, and lead. The air basin is in attainment of the CAAQS for CO, SO_2, and sulfates; and is unclassified for hydrogen sulfide and visibility-reducing particles.

The *2007 Air Quality Management Plan* predicts attainment of all NAAQS within the SCAB, including PM2.5 by 2014 and O_3 by 2020. However, the predictions for PM2.5 and O_3 attainment are speculative at this time.

In the time period between the beginning and end of proposed project construction (2014–2023), several large construction projects would occur at the Port and surrounding areas (see Table 4-1) that would overlap and contribute to cumulative construction impacts. The construction impacts of the related projects would be cumulatively significant if their combined construction emissions would exceed the SCAQMD daily emission thresholds for construction. Because this almost certainly would be the case for all analyzed criteria pollutants and precursors (VOC, CO, NO_X, SO_X, PM10, and PM2.5), the related projects would result in a significant cumulative air quality criteria pollutant impact.

4.2.2.2.2 Contribution of the Proposed Project

SCAQMD developed emission-based air quality significance thresholds for criteria pollutants. Construction of the proposed Project would produce emissions of VOCs and NO_X that would exceed SCAQMD emissions thresholds. Overlapping construction and operational emissions, during the construction period, would also exceed SCAQMD emissions thresholds for VOC, CO, and NO_X. Any concurrent emission-generating activities that occur near the proposed project site would add an additional air emission burden to these significant levels. As a result, without mitigation, emissions from proposed project construction would make a cumulatively considerable contribution to a cumulatively significant impact for VOCs, CO, and NO_X emissions.

4.2.2.2.3 Mitigation Measures and Residual Cumulative Impacts

After implementation of Mitigation Measures MM AQ-1 through MM AQ-7, emissions from construction of the proposed Project would be reduced, but would continue to exceed SCAQMD significance thresholds for VOC and NO_X. Overlapping construction and operational emissions, during the construction period, would also continue to exceed SCAQMD significance thresholds for VOC, CO, and NO_X. These emission increases would combine with construction emissions from concurrent construction projects in the vicinity of the proposed project site and would therefore make a cumulatively considerable and unavoidable contribution to significant cumulative impacts for VOCs, CO, and NO_X.

4.2.2.3 Cumulative Impact AQ-2: Result in offsite ambient air pollutant concentrations during construction that exceed a threshold of significance—Cumulatively Considerable and Unavoidable

Cumulative Impact AQ-2 assesses the potential for proposed project construction when combined with past, present, and reasonably foreseeable future projects to produce ambient pollutant concentrations that exceed an ambient air quality standard or substantially contribute to an existing or projected air quality standard violation.

4.2.2.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The past, present, and reasonably foreseeable future projects for Cumulative Impact AQ-2 would result in significant cumulative impacts if their combined ambient pollutant concentrations, during construction, would exceed SCAQMD ambient concentration thresholds for pollutants from construction. Although there is no way to be certain if a cumulative exceedance of the thresholds would happen for any pollutant without performing dispersion modeling of past, present, and reasonably foreseeable projects, cumulative air quality impacts are likely to exceed the thresholds for NO_2, could exceed the thresholds for PM10 and PM2.5, and are unlikely to exceed for CO, as indicated by historical ambient air monitoring presented in Tables 3.2-2 and 3.2-3. Consequently, construction of the related projects would result in a significant cumulative air quality impact related to exceedances of the significance thresholds for NO_2, PM10, and PM2.5.

4.2.2.3.2 Contribution of the Proposed Project

SCAQMD developed emission-based LSTs that signify considerable increases in ambient criteria pollutants. Construction of the proposed Project would produce impacts that would exceed SCAQMD LSTs for NO_X and result in a significant NO_2 impact. Any concurrent emission-generating activity that occurs near the proposed project site would add an additional ambient air burden to this already significant level.

In addition, although the proposed Project would not produce emissions of CO, PM10, and PM2.5 above SCAQMD LSTs or SO_X emissions above federal ambient standards, these emissions would combine with construction emissions from other projects that would already be cumulatively significant.[1] As a result, without mitigation, emissions from proposed project construction would make cumulatively considerable contributions to significant cumulative ambient NO_2, SO_2, PM10, and PM2.5 levels.

4.2.2.3.3 Mitigation Measures and Residual Cumulative Impacts

After implementation of Mitigation Measures MM AQ-1 through MM AQ-7, impacts from construction would be reduced to below SCAQMD's LST thresholds and federal standards. Impacts from overlapping construction and operational emissions, during the construction period, would continue to exceed SCAQMD LST for NO_X. This impact would combine with construction emissions from concurrent construction projects in the vicinity of the proposed project site and would therefore make a cumulatively considerable and unavoidable contribution to significant cumulative impacts for NO_2. As a result, even with mitigation, impacts from proposed project construction would make a cumulatively considerable contribution to a cumulatively significant impact for NO_2, emissions, thereby substantially contributing to an existing air quality standard violation.

[1] A detailed discussion of SCAQMD's LSTs and federal standards is presented in Section 3.2, "Air Quality and Greenhouse Gases."

4.2.2.4 Cumulative Impact AQ-3: Result in operational emissions that exceed a SCAQMD threshold of significance—Cumulatively Considerable and Unavoidable

Cumulative Impact AQ-3 assesses the potential for proposed project operation when combined with past, present, and reasonably foreseeable future projects to produce a cumulatively considerable increase in criteria pollutant emissions for which the proposed project region is in nonattainment under a national or state ambient air quality standard or for which SCAQMD has set a daily emission threshold.

4.2.2.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Related projects, in vicinity of the proposed Project, would be cumulatively significant if their combined operational emissions would exceed SCAQMD daily emission thresholds for operations. Because this almost certainly would be the case for all analyzed criteria pollutants, the related projects would result in a significant cumulative air quality criteria pollutant impact.

4.2.2.4.2 Contribution of the Proposed Project

SCAQMD developed emission-based air quality significance thresholds for criteria pollutants. Operation of the proposed Project would produce emissions of VOC, CO, and NO_X that would exceed SCAQMD emissions thresholds. Any concurrent emission-generating activities that occur near the proposed project site would add an additional air emission burden to these significant levels. As a result, without mitigation, emissions from proposed project operation would make a cumulatively considerable contribution to a cumulatively significant impact for criteria pollutant emissions of VOCs, CO, and NO_X.

4.2.2.4.3 Mitigation Measures and Residual Cumulative Impacts

After implementation of Mitigation Measures MM AQ-4 and MM AQ-7, emissions from operation of the proposed Project would be reduced, but would continue to exceed SCAQMD significance thresholds for VOC, CO, and NO_X. These emission increases would combine with operational emissions from concurrent projects in the vicinity of the proposed project site and would therefore make a cumulatively considerable and unavoidable contribution to significant cumulative impacts for VOCs, CO, and NO_X.

4.2.2.5 Cumulative Impact AQ-4: Result in offsite ambient air pollutant concentrations during operation that exceed a threshold of significance—Less Than Cumulatively Considerable

Cumulative Impact AQ-4 assesses the potential for proposed project operations when combined with past, present, and reasonably foreseeable future projects to produce ambient concentrations that exceed an ambient air quality standard or substantially contribute to an existing or projected air quality standard violation

4.2.2.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Related projects would result in significant cumulative impacts if their combined ambient concentration levels during operations would exceed SCAQMD ambient concentration thresholds for operations. Although there is no way to be certain if a cumulative exceedance of the thresholds would happen for any pollutant without performing dispersion modeling of past, present, and reasonably foreseeable projects, cumulative air quality impacts are likely to exceed the thresholds for NO_2, could exceed the thresholds for PM10 and PM2.5, and are unlikely to exceed the thresholds for CO, as indicated by historical ambient air monitoring, presented in Tables 3.2-2 and 3.2-3. Consequently, operation of related projects would result in a significant cumulative air quality impact related to exceedances of significance thresholds for NO_2, PM10, and PM2.5.

4.2.2.5.2 Contribution of the Proposed Project

SCAQMD developed emission-based LSTs that signify considerable increase in ambient criteria pollutants. The proposed Project's peak daily operational emissions would not exceed LST or federal thresholds for any criteria pollutants. Therefore, the proposed Project operations would not result cumulatively considerable impacts.

4.2.2.5.3 Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required because the proposed Project would not result in cumulatively considerable contributions to significant cumulative ambient air pollution concentrations.

4.2.2.6 Cumulative Impact AQ-5: Generate on-road traffic that would contribute to an exceedance of the 1- or 8-hour CO standards—Less than Cumulatively Considerable

Cumulative Impact AQ-5 assesses the potential for proposed project operations when combined with past, present, and reasonably foreseeable future projects to create onroad traffic that would contribute to an exceedance of the 1- or 8-hour CO standards.

4.2.2.6.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Related projects would result in significant cumulative impacts on air quality if they would generate traffic levels that cause exceedances of the ambient air quality standards for CO near roadways and intersections. Exceedances of the CO standards are unlikely to occur, based on the historical ambient monitoring levels of CO in the proposed project area (Tables 3.2-2 and 3.2-3) and the continued downward trend in CO levels through the SCAB due to the phase-in of stricter on-road engine standards for passenger cars and trucks. Therefore, the cumulative impacts of the other projects to exceedance of the 1- or 8-hour CO standards would be considered less than significant.

4.2.2.6.2 Contribution of the Proposed Project

Based on CO hot spot analysis, which includes cumulative growth in traffic levels, significant hot spot impacts under CEQA for proposed project operations are not anticipated because CO standards would not be exceeded. As a result, proposed project operations would not result in cumulatively considerable contributions to exceedance of CO standards within the proposed project region.

4.2.2.6.3 Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required because the proposed Project would not result in cumulatively considerable contributions to significant cumulative exceedance of CO standards.

4.2.2.7 Cumulative Impact AQ-6: Create an objectionable odor at the nearest sensitive receptor—Less Than Cumulatively Considerable

Cumulative Impact AQ-6 assesses the potential of proposed project operations when combined with past, present, and reasonably foreseeable future projects to create objectionable odors at the nearest sensitive receptor.

4.2.2.7.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

There are temporary and semi-permanent sources of odors within the Port region, including mobile sources powered by diesel and residual fuels and stationary industrial sources, such as petroleum storage tanks. Some individuals may find that diesel combustion emissions are objectionable in nature, although quantifying the odorous impacts of these emissions on the public is difficult. Due to the large number of sources within the Port that emit diesel emissions and the proximity of residents (sensitive receptors) to Port operations, odorous emissions in the proposed project region are cumulatively significant.

4.2.2.7.2 Contribution of the Proposed Project

According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed Project does not include uses identified by the SCAQMD as being associated with odors and therefore would not produce objectionable odors. Consequently, the proposed project would not result in cumulatively considerable impacts related to the generation of objectionable odors.

4.2.2.7.3 Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required because the proposed Project would not result in cumulatively considerable contributions to generation of odors.

4.2.2.8 Cumulative Impact AQ-7: Expose receptors to significant levels of TACs—Cumulatively Considerable and Unavoidable

Cumulative Impact AQ-7 assesses the potential of the proposed Project's construction and operations when combined with past, present, and reasonably foreseeable future projects to produce TACs that exceed acceptable public health criteria.

4.2.2.8.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

MATES-II, conducted by the SCAQMD in 2000, estimated the existing cancer risk from TACs in the SCAB to be 1,400 in 1,000,000 (SCAQMD 2000). In MATES III, completed by SCAQMD in 2008, the existing cancer risk from TACs was estimated at 1,000 to 2,000 in 1,000,000 in the San Pedro and Wilmington areas (SCAQMD 2008). Both the MATES-II and MATES III studies evaluated over 30 different air pollutants. In *Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach*, CARB estimates that elevated levels of cancer risks due to operational emissions from the Ports of Los Angeles and Long Beach occur within and in proximity to the two ports (CARB 2006). Based on this information, exposure to TACs within the proposed project region are cumulatively significant.

The Port has approved Port-wide air pollution control measures through their San Pedro Bay Ports CAAP (LAHD 2010). Implementation of these measures would reduce the health risk impacts from the proposed Project and future projects at the Port. Currently adopted regulations and future rules proposed by CARB and EPA will further reduce air emissions and associated cumulative health impacts from Port operations. However, because future proposed measures (other than CAAP measures) and rules have not been adopted, it is unknown at this time how these measures would reduce cumulative health risk impacts within the proposed project area; therefore, impacts from TAC emissions within the proposed project region would be cumulatively significant.

4.2.2.8.2 Contribution of the Proposed Project

SCAQMD recommends that health risk assessments be conducted for projects with substantial sources of diesel particulate and other TAC emissions. Tables 3.2-26 and 3.2-27 show that incremental cancer impacts and non-cancer chronic impacts from proposed project construction and operational activities would be below the CEQA baseline, would be better than before the project, and would therefore not contribute to cumulative cancer impacts. Table 3.2-28 in Section 3.2, “Air Quality and Greenhouse Gases,” shows that project-related incremental acute impacts would be below significance levels. Although the proposed Project would not produce acute impacts above significance thresholds, these impacts would combine with impacts from other projects in the vicinity that would already be cumulatively significant. As a result, without mitigation, impacts from TAC emissions would make a cumulatively considerable contribution to an existing cumulatively significant impact.

In addition, the proposed Project would attract visitors to the proposed Project site, which is adjacent to other Port-related activities that generate emissions of DPM and other TACs.

Because the proposed Project would attract sensitive individuals to a location that most likely has a higher risk than their place of residence, an indirect recreational health risk impact may result. The magnitude of the impact would depend on a variety of factors, including the frequency and duration of a person's visit, the person’s exertion level (i.e., breathing rate) during the visit, the amount of Port and industrial activity occurring during the visit, and the prevailing meteorological conditions (wind speed, wind direction, and atmospheric stability level).

Although most visitors would probably receive a relatively slight health risk impact, the possibility exists that a frequent visitor could accumulate a significant long-term cancer or non-cancer impact. The possibility also exists that any visitor could receive a significant short-term (acute) impact if the visit takes place during a high level of adjacent industrial activity coupled with worst-case meteorological conditions. Therefore, the proposed Project would expose visitors to significant health risk impacts associated with air pollutants from non-proposed project related sources.

For example, the San Pedro Waterfront project, which addressed but did not analyze operations at City Dock, conducted a quantitative assessment of health impacts and found that cancer risk and acute health impacts to recreational receptors, such as site visitors, would be above the level of significance at the Outer Harbor Park, which is close to the proposed Project. Therefore, health impacts on recreational receptors at the proposed project site would by extension also be above the level of significance.

4.2.2.8.3 Mitigation Measures and Residual Cumulative Impacts

Implementation of proposed project mitigation measures that reduce diesel combustion and other TAC emissions, specifically MM AQ-1 through MM AQ-7, would reduce TAC emissions from the proposed Project. After implementation of these mitigation measures, although the proposed Project would not result in cancer, non-cancer chronic, and acute impacts on offsite receptors, any TAC emissions produced by the proposed Project would add to the TAC burden in the vicinity and result in a cumulatively considerable contribution to an existing cumulatively significant impact.

In addition, the proposed Project would attract visitors to the site, which is adjacent to other Port-related activities that generate emissions of DPM and other TACs. As such, in the short term, the recreational health risk impact on visitors to the proposed project site would remain significant due to the cumulative contribution from other Port activities.

In the long term, levels of pollution from Port facilities will substantially diminish in accordance with the CAAP and CARB regulatory requirements. Specifically, DPM from Port trucks has diminished by 80% under the Port's proposed Clean Trucks Program. The Ports of Los Angeles and Long Beach have also instituted voluntary programs to reduce DPM emissions from port operations including installing diesel oxidation catalysts on yard equipment, funding the incremental costs of cleaner fuels, cold-ironing ocean-going ships, and providing monetary support to the Gateway Cities truck fleet modernization program. In addition, efforts at the state and local level to implement the Diesel Risk Reduction Plan and to fulfill commitments in the SIP will also reduce emissions. For example, the new off-road engine standards adopted by CARB and EPA will reduce emissions from new off-road engines by over 95% compared to uncontrolled levels. As another example, CARB adopted a regulation in July 2008 that requires low sulfur fuel in ships operating within 24 nautical miles of the California coast, starting in 2009. This regulation would reduce DPM emissions from ships by about 75% in 2009 and 83% by 2012 compared to uncontrolled levels. Other current regulations and future rules adopted by CARB and EPA will further reduce air emissions and associated cumulative impacts in the proposed project region.

4.2.2.9 Cumulative Impact AQ-8: Conflict with or obstruct implementation of an applicable air quality plan—Less than Cumulatively Considerable

Cumulative Impact AQ-8 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to conflict with or obstruct implementation of an applicable air quality plan.

4.2.2.9.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Related projects would result in significant cumulative air quality impacts if they result in population growth or operational emissions that exceed the assumptions in the 2007 AQMP or the SIP. Related projects would be subjected to regional planning efforts and applicable land use plans (such as the General Plan, Community Plans, or PMP) or transportation plans such as the Regional Transportation Plan and the Regional Transportation Improvement Program. Because the 2007 AQMP accounts for population projections that are developed by SCAG, and accounts for planned land use and transportation infrastructure growth, related projects would be consistent with the AQMP. Therefore, related projects would not result in significant cumulative impacts related to an obstruction of the AQMP.

4.2.2.9.2 Contribution of the Proposed Project

The proposed Project would produce emissions of nonattainment pollutants. The 2007 AQMP and most recent SIP propose stationary and mobile source control measures and clean fuel programs that are designed to bring the SCAB into attainment of the state and national AAQS. Many of these AQMP and SIP control measures are adopted as SCAQMD and CARB rules and regulations, which are then used to regulate sources of air pollution in the region. Proposed project sources would have to comply with all applicable SCAQMD and CARB rules and regulations, and in this manner, the Proposed Project would not conflict with or obstruct implementation of the AQMP or the SIP. Therefore, the proposed Project would result in a less than cumulatively considerable contribution in terms of conflicting with or obstructing implementation of the AQMP or the SIP.

4.2.2.9.3 Mitigation Measures and Residual Cumulative Impacts

Mitigation measures are not required because cumulative impacts on obstruction of an applicable air quality plan would be less than significant.

4.2.2.10 Cumulative Impact GHG-1: Produce GHG emissions that exceed CEQA thresholds —Cumulatively Considerable and Unavoidable

Cumulative Impact GHG-1 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to contribute to global climate change.

4.2.2.10.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Scientific evidence indicates a trend of warming global surface temperatures over the past century due at least in part to the generation of GHG emissions from human activities. Some observed changes include shrinking glaciers, thawing permafrost, and shifts in plant and animal ranges. Credible predictions of long-term impacts from increasing GHG levels in the atmosphere include sea level rise, changes to weather patterns, changes to local and regional ecosystems including the potential loss of species, and significant reductions in winter snow packs. These and other effects would have environmental, economic, and social consequences on a global scale. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. According to the Intergovernmental Panel on Climate Change (IPCC), the atmospheric concentration of CO_2 in 2005 was 379 ppm compared to the pre-industrial levels of 280 ppm (IPCC

2007). Based on this information, past, current, and future global GHG emissions, including emissions from projects in the Ports of Los Angeles and Long Beach (Table 4-1) and elsewhere in California, are cumulatively significant.

4.2.2.10.2 Contribution of the Proposed Project

The challenge in assessing the significance of an individual project's contribution to global GHG emissions and associated global climate change impacts is determining whether a project's GHG emissions, which are at a micro-scale relative to global emissions, result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. Table 3.2-29 in Section 3.2, "Air Quality and Greenhouse Gases," shows that the proposed Project would produce GHG emissions that would exceed SCAQMD significance threshold for GHG and result in significant GHG impacts. Project impacts would combine with impacts from related projects and add additional burden to existing cumulatively significant GHG impacts, thereby resulting in cumulatively considerable contributions to significant cumulative GHG impacts.

4.2.2.10.3 Mitigation Measures and Residual Cumulative Impacts

After implementation of Mitigation Measure MM GHG-1 as identified in Section 3.2, "Air Quality and Greenhouse Gases," GHG impacts associated with the proposed Project would be reduced, but would continue to exceed the SCAQMD GHG CEQA thresholds. These impacts would combine with GHG impacts from concurrent projects and would make a cumulatively considerable and unavoidable contribution to significant cumulative climate change impacts.

4.2.2.11 Cumulative Impact GHG-2: Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions—Less than Cumulatively Considerable

Cumulative Impact GHG-2 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects, to conflict with or obstruct implementation of an applicable GHG plan, policy, or regulation.

4.2.2.11.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Related projects would result in significant cumulative GHG impacts if they result in population growth, emissions, or practices that conflict with CARB's GHG Scoping Plan and resulting regulatory framework as described in Section 3.2.3, "Applicable Regulations" (CARB 2008, CARB 2011). CARB's GHG Scoping Plan provides a roadmap to reach the GHG reduction goals required in the Global Warming Solutions Act of 2006, or AB 32. Many of the strategies in the Scoping Plan and the resulting regulatory framework stipulate measures enforced at the state level and imposed on equipment manufacturers and fuel suppliers (i.e., clean fuels, clean equipment measures). Related projects that comply with the GHG Scoping Plan and resulting regulations would not conflict with or obstruct implementation of an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions and would therefore not result in significant cumulative impacts.

4.2.2.11.2 Contribution of the Proposed Project

The proposed Project would utilize stationary and mobile equipment compliant with state and federal emission requirements, implement GHG Scoping Plan measures, and comply with regulatory requirements stipulated by CARB. Therefore, the proposed Project would not conflict with or obstruct implementation of plans, policies, or regulations adopted for the purpose of reducing GHG emissions and as such would result in a less than cumulatively considerable contribution.

4.2.2.11.3 Mitigation Measures and Residual Cumulative Impacts

Mitigation measures are not required because cumulative GHG emissions impacts would be less than significant.

4.2.3 Biological Resources

4.2.3.1 Scope of Analysis

The geographic region of analysis for biological resources differs by organism group. For benthic communities, water column communities (plankton and fish), and water-associated birds, the region of analysis includes the aquatic areas of the LA/LB Harbor (Inner and Outer Harbor areas) because the basins, channels, and open water areas are hydrologically and ecologically connected. For marine mammals, the analysis area includes the LA/LB Harbor as well as the Pacific Ocean from near Angels Gate out to Catalina Island in order to cover vessel traffic effects. Sea turtles are not expected to occur in the harbor and their presence in the nearshore areas where vessel traffic could affect them is unlikely and unpredictable; consequently, these animals are not considered in the cumulative analysis.

Special-status bird species have differing population sizes and dynamics, distributional ranges, breeding locations, and life history characteristics. They are not year-long residents, but migrate to other areas where stresses unrelated to the proposed Project and other LA/LB Harbor projects can occur. Therefore, the area for cumulative analysis is limited to the LA/LB Harbor and adjacent water and lands, where impacts associated with the proposed Project and other projects in the harbor could affect such birds.

For terrestrial biological resources, the region of analysis consists of the land areas of the proposed Project (the existing SCMI facility and the City Dock No. 1 site). The resources present in upland areas are common species that are abundant throughout the region and are adapted to industrial areas in the LA/LB Harbor.

Past, present, and reasonably foreseeable future development that could contribute to cumulative impacts on terrestrial biological resources are those projects that involve land disturbance such as grading, paving, landscaping, construction of roads and buildings, and related noise and traffic impacts. Operational impacts from these development projects can also be expected to have cumulative impacts on terrestrial species.

Marine organisms could be affected by activities in the water such as dredging, filling, wharf demolition and construction, and vessel traffic. Runoff of pollutants from construction and operations activities on land into harbor waters via storm drains or sheet runoff, as well as discharges of spent seawater and sewage treatment facilities, also have the potential to affect marine biota.

The significance criteria used for the cumulative analysis are the same as those used in Section 3.3.4.2. This cumulative effects analysis considers past, present, and reasonably foreseeable projects in the proposed project area. The year of NOP publication (2010) is the year that separates past and present projects and serves as the environmental baseline for the proposed Project.

4.2.3.2 Cumulative Impact BIO-1: Cause the loss of individuals, or the reduction of existing habitat, of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a species of special concern, or the loss of federally listed critical habitat—Less than Cumulatively Considerable

Cumulative Impact BIO-1 represents the potential for the proposed Project, when combined with past, present, and reasonably foreseeable future projects, to cause a loss of individuals, or the reduction of existing habitat or habitat quality, of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern; or the loss of federally designated critical habitat. No critical habitat for any federally listed species is present in the harbor; therefore, no cumulative impacts on critical habitat would occur.

4.2.3.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction of marine terminal projects in the harbor has reduced the amount of marine surface water present and thus foraging, nesting and resting areas for special-status bird species, but some of these projects have also added more land and structures that can be used by birds for perching near the water and by marine species as hard substratum for attachment and foraging. Construction of Pier 400 provided a new nesting site for the California least tern and elegant tern that is still being used by these species. Shallow-water areas that provide foraging habitat for these terns and other sensitive bird species have been constructed on the east side of Pier 300 and inside the San Pedro breakwater as mitigation for loss of such habitat from past projects, and more such habitat is to be constructed as part of the Channel Deepening project. Established roosting areas for sensitive bird species, such as brown pelican, and haul-out areas for harbor seals and sea lions occur along the breakwaters, especially the Middle Breakwater, which is isolated from human access.

Development of the vacant land on Pier 400 adjacent to the tern nesting site (Plains All-American Oil Marine Terminal Project (#10 in Table 4-1 and on Figure 4-1) has the potential to adversely affect those species during construction. Also, construction of the Cabrillo Shallow Water Habitat Expansion and Eelgrass Habitat Area as part of the Channel Deepening Project (#3) has the potential to adversely affect tern foraging during construction activities. Any significant impacts on these tern species would be avoided or minimized through timing of construction activities in areas used for foraging to avoid work when they are present. With respect to other special-status species, it is not expected that any nesting habitat, foraging habitat, or individuals would be lost as a result of backland or in-water development. Because of the amount of suitable habitat that exists in the harbor and as a result of mitigation for habitat loss, cumulative impacts of past, present, and reasonably foreseeable future projects, including the proposed Project, on special-status species would be less than significant.

Past projects that have increased vessel traffic, have also increased underwater sound in the harbor and in the ocean from the vessel traffic lanes to Angels Gate and Queens Gate. Ongoing and future terminal upgrade and expansion projects (e.g., Marine Terminal, West Basin [#1], Channel Deepening [#3], Evergreen Container Terminal Improvements [#5], Plains All-American Oil Marine Terminal [#10], Ultramar [#11], China Shipping [#14], YTI Container Terminal Improvements [#23], Yang Ming Container Terminal Improvements [#24], Middle Harbor [#90], Piers G & J [#91], TTI Grain Export Terminal [#102], and Pier S Marine Terminal [#93], as well as the San Pedro Waterfront Project [#2] and the Wilmington Waterfront Project [#21]; see Table 4-1) would increase vessel traffic and its associated underwater sound in the harbor. The frequency of vessel sound events would increase and contribute a small increment to the average underwater sound level within the harbor that would not be expected to affect the hearing or behavior of marine mammals. While the number of vessels would increase in the harbor, the number of vessels transiting the Main Channel at any given time would not increase substantially. Individual marine mammals would likely respond to noise from vessels that pass near them by moving away. Cumulative impacts from past, present, and reasonably foreseeable future projects, including the proposed Project, of underwater sound from vessels on marine mammals would be less than significant.

Past, present, and reasonably foreseeable future projects will increase offshore vessel traffic. Ship strikes involving marine mammals and sea turtles, although uncommon, have been documented for the following listed species in the eastern North Pacific: blue whale, fin whale, humpback whale, sperm whale, southern sea otter, loggerhead sea turtle, green sea turtle, olive ridley sea turtle, and leatherback sea turtle (NOAA Fisheries and USFWS 1998a, 1998b, 1998c, 1998d; Stinson 1984; Carretta et al. 2001). Ship strikes have also been documented involving gray, minke, and killer whales. The blue whale, fin whale, humpback whale, sperm whale, gray whale, and killer whale are all listed as endangered under the ESA, although the Eastern Pacific grey whale population was delisted in 1994.

In Southern California, potential strikes to blue whales are of the most concern due to their migration patterns relative to established shipping channels. Collisions between whales and large commercial vessels are most likely to lead to reported whale mortality or injury. Blue whales normally pass through the Santa Barbara Channel en route from breeding grounds in Mexico to feeding grounds to the north. Blue whales have historically been a target of commercial whaling activities worldwide. In the North Pacific, the pre-whaling population was estimated at approximately 4,900, and the current population estimate is approximately 3,300 with 1,700 in the eastern North Pacific (NMFS 2008). Along the California coast, blue whale abundance has increased over the past two decades (Calambokidis et al. 1990, Barlow 1995, Calambokidis 1995). However, the increase is too large to be accounted for by population growth alone and is more likely attributed to a shift in distribution. Incidental ship strikes and fisheries interactions are listed by NMFS as the primary threats to the California population. The number of strikes per year ranged from 0 to 7 and averaged 2.6, but the actual number is likely to be greater because not all strikes are reported. As the number of vessels increases, the number of incidents is also expected to increase. Therefore, the cumulative impacts associated with past, present, and reasonably foreseeable future projects, including the proposed Project, would be significant and unavoidable due to the low population size of blue whales relative to historic levels and the potential risk for strikes as vessels cross their migration path to enter the harbor.

In-water construction activities (e.g., Marine Terminal, West Basin [#1], San Pedro Waterfront Project [#2], Channel Deepening [#3], Cabrillo Way Marina [#4], Evergreen Container Terminal Improvements [#5], Plains All American Oil Marine Terminal [#10], China Shipping [#14], YTI Container Terminal Improvements [#23], Yang Ming Container Terminal Improvements [#24], Middle Harbor Terminal Redevelopment [#90], Piers G & J Redevelopment [#91], Pier S Marine Terminal [#93], and Schuyler Heim Bridge [#105]; see Table 4-1) could disturb or cause special-status birds, including brown pelican and the tern species addressed above, to avoid the construction areas for the duration of the activities. In-water construction activities, and particularly pile driving (including the soft start method, which begins impact pile driving at 40–60% of full force for a period of 5 minutes), would also result in underwater sound pressure waves that could affect the behavior of marine mammals and diving birds, as they abandon the area where pile driving activities are occurring. These activities (e.g., driving of support and sheet piling) occur in areas where few marine mammals and diving birds are expected, where nearby projects are not expected to occur concurrently, and where these species could avoid the disturbance area by moving to other areas of the harbor. Because these projects would occur at different locations throughout the harbor and only some are likely to overlap in time, these species could use other undisturbed areas in the harbor, and few individuals would be affected at any one time.

Construction of the Schuyler Heim Bridge (#105), however, would have the potential to adversely affect the peregrine falcon if any are nesting at the time of construction. If nesting were to be affected, impacts would be significant but mitigable by scheduling the work to begin after the nesting season is complete. Because no other related projects would substantially affect the peregrine falcon or other special-status species, the cumulative impacts associated with past, present, and reasonably foreseeable future projects, including the proposed Project, would be less than significant.

A small (e.g., up to 238 bbl) or larger oil spill within the harbor, even though associated with a low probability of occurrence, could result in significant and unavoidable impacts on sensitive species of water birds. Past, present, and reasonably foreseeable future projects, including the proposed Project, would slightly increase the potential for an accidental oil spill, and would constitute a significant and unavoidable cumulative impact on sensitive species of water birds. Effects of oil spills on other special-status species would be less than significant.

4.2.3.2.2 Contribution of the Proposed Project

As discussed in Section 3.3.3.1 (Impact BIO-1a), construction of the proposed Project would have significant impacts on special-status species related to noise from in-water construction and disturbance of upland nesting habitat. Mitigation Measures BIO-1, BIO-2, and BIO-3 would reduce those impacts to less than significant. Because the cumulative impact of construction of the past, present, and future projects, including the proposed Project, is less than significant, and given the small scale of the proposed Project, construction of the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact on special-status species.

Operation of the proposed Project (as discussed in Impact BIO-1b) would not contribute to impacts on the California least tern or other sensitive bird species because it would have no measurable effect on the species. The proposed Project would slightly increase vessel traffic within and outside the harbor, due to the increase in research vessel traffic. Although the proposed Project's impact on marine mammals would be less than significant, it would contribute to a significant cumulative impact on marine mammals related to vessel strikes. However, given the small number of vessels associated with the proposed Project relative to the overall volume of vessel traffic at the Port, the operation of the proposed Project would not result in a cumulatively considerable impact on special-status species.

The slight increase in the risk of an accidental oil spill associated with the proposed Project's vessel traffic would contribute to a cumulatively considerable impact on sensitive species (i.e., sensitive bird species). The small number of vessels and the implementation of spill control measures (described in Section 3.13, "Water Quality, Sediments, and Oceanography") would reduce the likelihood and the consequences of spills. Accordingly, the proposed Project's contribution to a significant cumulative impact would not be a cumulatively considerable impact on special-status species.

4.2.3.2.3 Mitigation Measures and Residual Cumulative Impacts

Mitigation Measures BIO-1 (Avoid Marine Mammals), BIO-2 (Minimize In-water Pile Driving Noise), and BIO-3 (Conduct Nesting Bird Surveys) as presented in Section 3.3, "Biological Resources," would be implemented to minimize adverse effects of Project construction on sensitive species of birds and marine animals. These measures would reduce the impacts of construction of the proposed Project to less than significant. In view of the small scale of Project construction and the application of mitigation measures to further reduce impacts, the proposed Project's contribution to cumulative impacts on special-status species would not be cumulatively considerable after mitigation.

4.2.3.3 Cumulative Impact BIO-2: Result in a substantial reduction or alteration of a state-, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands—Less Than Cumulatively Considerable

Cumulative Impact BIO-2 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to substantially reduce or alter state-, federally, or locally designated natural habitats, special aquatic sites, or plant communities, including wetlands.

4.2.3.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

EFH has been and will be lost due to past, present, and future projects in the harbor (Figure 4-1), including the Pier 400 project in the early 1990s, Marine Terminal, West Basin (#1), Channel Deepening (#3), China Shipping (#14), Middle Harbor Terminal Redevelopment (#90), Piers G & J (#91), Pier T in the mid-1990s, and Pier S Marine Terminal (#93) (see Table 4-1 and Figure 4-1). These impacts are significant but mitigable under CEQA; the use of mitigation bank credits for the marine habitat loss impacts also offsets impacts on EFH. Impacts of fill for the future projects would also be offset by use of mitigation bank credits.

Temporary disturbances to EFH also would occur during in-water construction activities from cumulative projects: San Pedro Waterfront (#2), Channel Deepening (#3), Cabrillo Way Marina (#4), Evergreen Container Terminal Improvements (#5), Consolidated Slip Restoration (#13), China Shipping (#14), YTI Container Terminal Improvements (#23), Yang Ming Container Terminal Improvements (#24), Middle Harbor Terminal Redevelopment (#90), Piers G & J (#91), and Pier S (#93). These disturbances occur at specific locations that are scattered in space and time across the harbor and would not likely cause a significant impact on EFH. Increased vessel traffic and runoff from on-land construction activities and operations resulting from the cumulative projects would not result in a loss of EFH, nor would these activities substantially degrade EFH. Thus, cumulative impacts on EFH would be less than significant from past, present, and reasonably foreseeable future projects.

As discussed in Section 3.3, “Biological Resources,” natural habitats, special aquatic sites (e.g., eelgrass beds, kelp, mudflats), and plant communities (wetlands) have a limited distribution and abundance in the harbor. Prior to agreements to preserve natural habitats such as mitigation credit systems, losses of eelgrass, kelp, mudflats, and saltmarsh from early harbor development projects were not documented but were likely to have occurred due to the physical changes to the Port. Therefore, cumulative impacts of construction activities on EFH are considered significant.

Oil spills from tankers in the harbor would have the potential to affect eelgrass beds at Cabrillo Beach and the Pier 300 Shallow Water Habitat, mudflats, and the Cabrillo saltmarsh under a worst-case scenario. Cumulative impacts of oil spills on EFH would be significant and unavoidable for eelgrass beds and other natural habitats.

4.2.3.3.2 Contribution of the Proposed Project

Construction and operation of the proposed Project would not result in any reduction in the amount of marine habitat in the harbor, would have only minor, short-term impacts on special aquatic sites (kelp and eelgrass), and would not affect terrestrial plant species. Furthermore, impacts on aquatic and terrestrial habitats would be construction-related and thus short-term and localized. Accordingly, the proposed Project's contribution to a significant cumulative impact would not be cumulatively considerable.

The slight increase in the risk of an accidental oil spill associated with the proposed Project's vessel traffic would contribute to a cumulatively considerable impact on natural habitats. However, the small number of vessels and the implementation of spill control measures (described in Section 3.13, "Water Quality, Sediments, and Oceanography") would reduce the likelihood and the consequences of spills. Accordingly, the proposed Project's contribution to a significant cumulative impact to EFH would not be cumulatively considerable.

4.2.3.3.3 Mitigation Measures and Residual Cumulative Impacts

Because the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact related to natural habitats, special aquatic sites, or plant species, no mitigation is necessary. The residual cumulative impacts would be less than significant.

4.2.3.4 Cumulative Impact BIO-3: Result in interference with wildlife movement/migration corridors that may diminish the chances for long-term survival of a species—No Cumulative Impact

Cumulative Impact BIO-3 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to interfere with wildlife migration or movement corridors.

4.2.3.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

No known terrestrial wildlife or aquatic species migration corridors are present in the LA/LB Harbor. Migratory birds pass through the LA/LB Harbor area and some, such as the California least tern, rest or breed in this area, but aerial migration has not been impeded nor would it be by LA/LB Harbor construction. Past, present, and reasonably foreseeable future projects in the LA/LB Harbor would not interfere with movement of these species because the birds are agile and would avoid obstructions caused by equipment and structures. Some species of fish move into and out of the LA/LB Harbor during different parts of their life cycle or seasonally, but no identifiable corridors for this movement are known. Marine mammals migrate along the coast, and vessel traffic associated with the cumulative projects could interfere with their migration. However, because the area in which the marine mammals can migrate is large and the cargo vessels and cruise ships generally use designated travel lanes, the probability of interference with migrations is low.

4.2.3.4.2 Contribution of the Proposed Project

The proposed Project would not affect any migration or movement corridors in the LA/LB Harbor or along the coast. Consequently, it would not contribute a cumulatively considerable impact on wildlife migration or movement corridors. Accordingly, the proposed Project's contribution to a significant cumulative impact to migration or movement corridors would not be cumulatively considerable.

As discussed in Section 3.3.4.3, the proposed Project would only interfere with fish and wildlife movement or migration through temporary avoidance of construction noise and activity. Avoidance would be short term and temporary and would not constitute a significant impact. No migration corridors would be blocked or measurably restricted. The proposed Project's contribution to cumulative impacts to fish and wildlife migration or movement corridors would be less than cumulatively considerable.

4.2.3.4.3 Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required and there would be no residual cumulative impact of the proposed Project on fish and wildlife migration or movement corridors.

4.2.3.5 Cumulative Impact BIO-4: Result in a substantial disruption of local biological communities—Less Than Considerable Cumulative Impact

Cumulative Impact BIO-4 represents the potential of the proposed Project when combined with past, present, and future projects, to cause a cumulatively substantial disruption of local biological communities (e.g., from the introduction of noise, light, or invasive species).

4.2.3.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Dredging and Wharf Work. Construction of past projects in the harbor has involved in-water disturbances such as dredging and wharf construction that removed surface layers of soft bottom habitat, and temporarily removed or permanently added hard substrate habitat (e.g., piles and rocky dikes). These disturbances altered the benthic habitats present at the location of the specific projects, but effects on benthic communities were localized and of short duration as invertebrates recolonized the habitats. Because these activities only affected a small portion of the harbor at any given time and recovery has occurred or is in progress, biological communities in the harbor have not been continually changing. Similar construction activities (e.g., wharf construction/reconstruction and dredging) would occur for cumulative projects that are currently underway and for some that would begin in the future (see Table 4-1 and Figure 4-1), including Marine Terminal, West Basin (#1), San Pedro

Waterfront Project (#2), Wilmington Waterfront Project (#21), Channel Deepening (#3), Cabrillo Way Marina (#4), Evergreen Container Terminal Improvements (#5), Plains All American Oil Marine Terminal (#10), China Shipping (#14), YTI Container Terminal Improvements (#23), Yang Ming Container Terminal Improvements (#24), Middle Harbor Terminal Redevelopment (#90), Piers G & J (#91), and Pier S (#93).

Construction disturbances, including noise, turbidity, and physical removal, would result in fish and marine mammals avoiding the work area, but the disturbances would be spread around the harbor complex and would only occasionally coincide in time. Recolonization of dredged areas and new riprap and piles begins immediately following the disturbance and proceeds rapidly (e.g., MEC 1988). Furthermore, based on biological baseline studies described in Section 3.3, "Biological Resources," the benthic marine resources of the harbor have not declined during Port development activities occurring since the late 1970s. The biological baseline conducted by SAIC (2010) identified healthy benthic communities in the Outer Harbor despite major dredging and filling activities associated with the Port's Deep Draft Navigation Project (USACE and LAHD 1992) and subsequent dredging in the Main Channel and various basins and slips. Accordingly, past, present, and reasonably foreseeable future projects, including the proposed Project, would not result in significant cumulative impacts related to disruption of local biological communities.

Landfilling. Landfilling has removed, and may continue to remove, marine habitat and to disturb adjacent habitats in the harbor. The projects listed in Table 4-1 that involve landfill construction are: Channel Deepening (#3), China Shipping (#14), APL Container Terminal (#30), Middle Harbor Terminal Redevelopment (#90), and Piers G & J (#91). Numerous other projects in the past (prior to those listed in Table 4-1) also included landfill construction. During the filling process, suspension of sediments would result in turbidity in the vicinity of the work with rapid dissipation upon completion of the fill to above the water level. Water column and soft bottom habitats are lost while riprap habitats are gained. Although the total amount of marine habitat in the harbor has decreased, a large amount remains, and the biological communities present in the remaining harbor habitats have not been substantially disrupted as a result of those habitat losses. All marine habitat loss impacts from landfill construction have been mitigated to less than significant through onsite (shallow water habitat construction) and offsite (Batiquitos and Bolsa Chica restorations) mitigation since implementation of the agreement with the regulatory agencies (see Cumulative Impact BIO-5). The landfill impacts of past projects on marine biological habitat, prior to the application of mitigation offsets or mitigation agreements, are unquantified; however, due to the level of development that has occurred since then, the past projects are assumed to constitute the current baseline.

The landfill impacts of present and reasonably foreseeable future projects have been or would continue to be mitigated by offsets of mitigation bank credits. The proposed Project does not result in any landfill impacts. As a result, past, present and reasonably foreseeable future projects, including the proposed Project, would not result in significant cumulative impacts related to the loss of marine habitat.

Backland Construction and Operations. Runoff from construction activities on land has reached harbor waters at some locations during past project construction, particularly for projects implemented prior to the 1970s when environmental regulations were introduced. Past projects included Pier 300, Pier J, and the remaining terminal land areas within the LA/LB Harbor. Runoff also has the potential to occur during present and future projects (consisting of all projects in Table 4-1 because all drainage in the area containing the cumulative projects is ultimately to the harbor).

Construction runoff would only occur during construction activities so that projects that are not concurrent would not have cumulative effects. Construction runoff would add to ongoing runoff from operation of existing projects in the harbor at specific project locations and only during construction activities. For past, present, and future projects, the duration and location of such runoff would vary over time.

Measures such as berms, silt curtains, and sedimentation basins are used to prevent or minimize runoff from construction, and this keeps the concentration of pollutants below thresholds that could measurably affect marine biota. Runoff from past construction projects (e.g., turbidity and any pollutants) has either dissipated shortly after construction was completed or settled to the bottom sediments. For projects more than 20 years in the past, subsequent settling of suspended sediments has covered the pollutants, or the pollutants have been removed by dredging projects. Runoff from operation of these past projects continues but is regulated. Biological baseline surveys in the harbor (MEC 1988; MEC and Associates 2002; SAIC 2010) have not shown any disruption of biological communities resulting from runoff. Effects of runoff from construction activities and operations would not substantially disrupt local biological communities in the harbor, and, as a consequence, past, present, and reasonably foreseeable future projects, including the proposed Project, would not result in significant cumulative local biological community impacts related to runoff from backlands.

Much of the development in the harbor has occurred and continues to occur on landfills that were constructed for that purpose. As a result, those developments do not affect natural terrestrial biological communities. Redevelopment of existing landfills to upgrade or change backland operations temporarily affected the terrestrial biota (e.g., landscape plants, rodents, and common birds) that had come to inhabit or use these industrial areas. Future cumulative developments such as hotels and other commercial developments on lands adjacent to the harbor would be in areas that do not support natural terrestrial communities or are outside the region of analysis.

Projects in Table 4-1 that are within the geographical region of analysis and could affect terrestrial biological resources are: Marine Terminal, West Basin (#1), Channel Deepening (#3), Evergreen Container Terminal Improvements (#5), SSA Outer Harbor Fruit Facility Relocation (#8), Wilmington Waterfront (#21), Ultramar (#11), China Shipping (#14), Pasha Marine Terminal Improvements (#15), Interim Container Terminal Reuse (#16), South Wilmington Grade Separation (#20), I-110/C Street/Figueroa Street/Realigned Harry Bridges Boulevard Interchange (#22), YTI Container Terminal Improvements (#23), Yang Ming Container Terminal Improvements (#24), Pier A West Remediation (#101), Pier A East (#92), and Schuyler Heim Bridge Replacement (#105). Construction and operation of these projects would not substantially disrupt terrestrial biological communities because no well-developed communities are present.

Cumulative projects could temporarily affect some bird nesting habitat, although these habitats would typically be replaced either directly or indirectly through mitigation. For example, the replacement of the Schuyler Heim Bridge (#105) would remove a structure used for peregrine falcon nesting, although the new bridge would be in place before the existing bridge (and nesting site) is removed. Therefore, it is assumed that the new structure would provide suitable replacement nesting habitat, or mitigation habitat would be provided. Based on these past, present, and reasonably foreseeable future projects, the proposed Project would not result in significant cumulative impacts on local biological communities related to upland development within the geographic scope.

Vessel Traffic. Cumulative marine terminal projects (e.g., Marine Terminal, West Basin [#1], San Pedro Waterfront Project [#2], Channel Deepening [#3], Evergreen Container Terminal Improvements [#5], Pier 400 Oil Marine Terminal [#10], Ultramar [#11], China Shipping [#14], YTI Container Terminal Improvements [#23], Yang Ming Container Terminal Improvements [#24], Middle Harbor [#90], Piers G & J Redevelopment [#91], Pier S [#93]) and Schuyler Heim Bridge [#105] that involve vessel transport of cargo and recreational boat traffic into and out of the harbor have increased vessel traffic in the past and would continue to do so in the future. Commercial and recreational vessels have introduced invasive exotic species into the harbor through ballast water discharges and via their hulls. Ballast water discharges are now regulated so that the potential for introduction of invasive exotic species by this route has been greatly reduced. The potential for introduction of exotic species via vessel hulls has remained about the same, but use of antifouling paints and periodic cleaning of hulls to minimize frictional drag from growth of organisms keeps this source low. While exotic species are present in the harbor, there is no evidence that these species have disrupted its biological communities. Biological baseline studies conducted in the harbor continue to show the existence of diverse and abundant biological communities. However, absent the ability to eliminate the introduction of new species through ballast water or on commercial and recreational vessel hulls, it is possible that additional invasive exotic species could become established in the harbor over time, even with these control measures. As a consequence, past, present, and reasonably foreseeable future projects, including the proposed Project, would result in significant cumulative local biological community impacts related to the introduction of invasive species.

The amount of chemicals released to harbor waters from leaching of antifouling paints on vessel hulls would increase in proportion to the increased number of vessels resulting from cumulative projects. As described below for water quality (Section 4.2.13), cumulative impacts would be significant because waters in parts of the harbor are impaired for some of these chemicals. However, the concentration of chemicals toxic to marine biota would not be increased to a level that would substantially disrupt local communities, and the cumulative impacts of past, present, and reasonably foreseeable future projects, including the proposed Project, on local biological communities would be less than significant.

Oil spills on land would likely be at tank farms within containment berms where few to no biological resources are present and would be cleaned up immediately. Spills from pipelines would likely be underground or in containment areas at oil facilities. Cumulative impacts of past, present, and reasonably foreseeable future projects, including the proposed Project, on local terrestrial biological communities would be less than significant.

Saltwater Intake and Discharge. Large volume intakes may result in substantial losses of aquatic organisms through impingement on the intake screens or entrainment into the intake. While proper design of the intake and intake screens substantially minimizes or eliminates these effects on most juvenile and adult fish, they are not expected to substantially minimize the entrainment of planktonic eggs or larvae. Other seawater intake/discharge facilities in the LA/LB Harbor area include the Harbor Generating Station, the Aquarium of the Pacific, and the current SCMI facility. However, the proposed Project would replace the existing SCMI facility. The Cabrillo Aquarium also operates a seawater intake/discharge system, but it does not draw or discharge water into the harbor.

Detailed analyses of the Harbor Generating Station intake estimated entrainment rates of about 153 million fish larvae per year, and about 269 million fish eggs per year, with the intake operating at the design capacity of about 400 million gallons per day (MBC et al. 2007). However, this was also estimated to be a small fraction of the larvae and eggs in the source water. Therefore, cumulative impacts of past, present, and reasonably foreseeable future seawater intake projects, including the proposed Project, on local aquatic resources would be less than significant.

4.2.3.5.2 Contribution of the Proposed Project

Due to the developed existing condition of the terrestrial portion of the site, the proposed Project would not result in any significant alteration of terrestrial biological communities. For marine biological communities, potential alterations of biological communities would include short-term construction impacts and the potential for introduction of non-indigenous species via vessels and the discharge of spent seawater from research facilities. The possibility of the accidental introduction of non-indigenous species is remote and would be further reduced by existing and planned controls, as described in Section 3.3.4.3.2. Accordingly, the proposed Project's contribution to a significant cumulative impact on marine biological communities would not be cumulatively considerable.

Operation of the seawater intake for the proposed Project would result in up to 2 million gallons of seawater pumped through the system per day. The impingement or entrainment of aquatic organisms, particularly eggs and larvae, would occur. However, such losses would be a small fraction of the overall abundance of eggs and larvae occurring in the harbor, and would result in no measurable effects on fish populations in the area. Therefore, the proposed Project's contribution to a significant cumulative impact on eggs and larvae would not be cumulatively considerable.

4.2.3.5.3 Mitigation Measures and Residual Cumulative Impacts

No mitigation is required and there would be no residual cumulative impact of the proposed Project on biological communities.

4.2.3.6 Cumulative Impact BIO-5: Result in a permanent loss of marine habitat—No Cumulative Impact

Cumulative Impact BIO-5 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in a permanent loss of marine habitat.

4.2.3.6.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Numerous landfill projects have been implemented in the harbor since it was first developed, and these projects have resulted in an unquantified loss of marine habitat. Many of the cumulative projects listed in Table 4-1 have resulted or will result in additional losses through fill for new land (Pier 400, Marine Terminal, West Basin [#1], Channel Deepening [#3], Piers G & J Redevelopment [#73], China Shipping [#14], and Middle Harbor Terminal Redevelopment [#90]). Losses of marine habitat prior to implementation of the agreements among the ports and regulatory agencies (City of Los Angeles 1984, 1997) were not mitigated, and represent a significant cumulative impact. Losses since the implementation of the agreements have been, and will be for future projects, mitigated by use of existing mitigation bank credits from marine habitat restoration off site and through creation of shallow water habitat within the Outer Harbor as established in the agreements with the regulatory agencies. As a result, present and reasonably foreseeable future projects, including the proposed Project, would not result in additional significant cumulative impacts related to the loss of marine habitat.

4.2.3.6.2 Contribution of the Proposed Project

Construction and operation of the proposed Project would not result in permanent losses of marine habitat. Accordingly, the proposed Project’s contribution to a significant cumulative impact on the loss of marine habitat would not be cumulatively considerable.

4.2.3.6.3 Mitigation Measures and Residual Cumulative Impacts

No mitigation is required, and there would be no residual cumulative impact of the proposed Project to loss of marine habitat.

4.2.4 Cultural Resources

4.2.4.1 Scope of Analysis

The geographic region of analysis for cumulative effects on cultural and paleontological resources related to Port projects varies on the type of resource. In general, areas situated on natural landforms within and surrounding the Port need to be considered for prehistoric archaeological resources as well as paleontological resources. This also includes portions of the natural landscape located within harbor waters that may contain prehistoric and/or paleontological resources that have become submerged as a result of rising sea levels and/or dredging activities.

Historical archaeological resources and historic architectural resources may be found on both natural landforms and/or in fill/artificial soils. In addition, submerged cultural resources such as historic sailing vessels may be encountered within harbor waters. Impacts on prehistoric and historical archaeological resources as well as paleontological resources typically include ground disturbance such as grading or dredging. In contrast, impacts on the historic built environment typically result from modification, relocation, and demolition. Impacts on submerged historical archaeological resources, such as sunken ships, may also result from dredging and modification of the harbor.

The significance criteria used for the cumulative analysis is the same as those used for the proposed Project in Section 3.4, “Cultural Resources.”

4.2.4.2 Cumulative Impacts CR-1, CR-2, and CR-3: Result in adverse effects on known and unknown prehistoric or historical archaeological resources including buried human remains—Less than Cumulatively Considerable

Cumulative Impacts CR-1, CR-2, and CR-3 represent the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to disturb, damage, or degrade listed, eligible, or otherwise unique or important known or unknown prehistoric and/or historical archaeological resources including buried human remains.

4.2.4.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Archaeologists estimate that past and present projects within urban areas including the proposed project vicinity have destroyed over 80% of all prehistoric sites without proper assessment and systematic collection of information beforehand. As prehistoric sites are non-renewable resources, the cumulative direct and indirect impacts of these actions are significant. Such projects have eliminated our ability to study sites that may have been likely to yield information important in prehistory. In other words, the vast majority of the prehistoric record has been already lost.

The proposed project area is located on artificial land, built with fill dredged from the harbor. For this reason, there is no potential to encounter buried prehistoric cultural resources in the proposed project area. There is a very low potential to encounter unknown historical archaeological deposits in the proposed project area—similar to the historical deposits found at Mexican Hollywood—and a remote possibility of encountering unknown historic period human remains within the proposed project area. No historic period cemeteries have been documented within the proposed project boundaries.

However, the cumulative total of Port and other development projects could impact buried cultural resources and/or unanticipated human remains. Construction activities (i.e., excavation, dredging, and land filling) associated with present and future Port projects, including the following (see Table 4-1)—Marine Terminal, West Basin (#1), San Pedro Waterfront (#2), Channel Deepening (#3), Cabrillo Way Marina (#4), Evergreen Container Terminal Improvements (#5), Plains All-American Oil Marine Terminal (#10), Westway Demolition (#12), Consolidated Slip Restoration (#13), China Shipping (#14), Pasha Marine Terminal Improvements (#15), Interim Container Terminal Reuse (#16), Southern California International Gateway (#17), YTI Container Terminal Improvements (#23), Yang Ming Container Terminal Improvements (#24), Southwest Marine Demolition (#25), Pier 500 Container Terminal Development (#32), USS Iowa Battleship landside work (#33), WWL Vehicle Services Cargo Terminal (#34)—as well as maintenance dredging and the Alternative Marine Power system would potentially require excavation and there may be a potential for these projects to impact significant prehistoric and/or historical archaeological resources and/or human remains.

Although much of the area has been previously disturbed, there is the potential for projects located on natural landforms, and other related upland Port projects on the periphery of the Port, including the following (see Table 4-1)—San Pedro Waterfront Enhancements (#19), South Wilmington Grade Separation (#20),Wilmington Waterfront Development (#21), I-110/C Street/Figueroa Street/Realigned Harry Bridges Boulevard Interchange (#22), and the I-110/SR-47 Connector Improvement (#26)—to disturb unknown, intact subsurface prehistoric or historic archaeological resources. Reasonably foreseeable future projects within upland areas—such as those within the Community of San Pedro (projects #39 through #53 in Table 4-1); the Community of Wilmington (#54 through #59); Harbor City, Lomita, and Torrance (#60 through # 89); and the City of Long Beach (#108 through #146)—would also potentially contribute to this impact. Projects proposed by local and state agencies, such as ICTF (#38), ACTA and Caltrans (#105 through #107) would also potentially contribute to this impact. Therefore, the combination of each of these projects would result in significant cumulative impacts on prehistoric and/or historical archaeological resources and/or human remains.

4.2.4.2.2 Contribution of the Proposed Project

Prehistoric Archaeology

As documented in Section 3.4.4.3.1 (Impacts CR-1 and CR-2), the proposed project area is located on artificial land, built with fill dredged from the harbor. For this reason, there is no potential to encounter buried prehistoric cultural resources in the proposed project area, and there is no potential for disturbing, damaging, or degrading unknown prehistoric archaeological resources.

There is no potential to encounter buried prehistoric period human remains within the proposed project area, and a very low potential to encounter historic period human remains (Impact CR-3). No historic period cemeteries have been documented within the proposed project boundaries. In the event human remains are discovered, the Port would be required to comply with state law, which states that there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner is contacted and the appropriate steps taken pursuant to Health and Safety Code §7050.5 and Public Resource Code §5097.98. The proposed Project's contribution to a cumulatively significant impact would not be cumulatively considerable; therefore, the proposed Project would not result in a cumulatively considerable impact on prehistoric resources or human remains.

Historical Archaeology

According to the records search, no known historical archaeological sites are located within the proposed project area. There is a very low potential to encounter unknown historical archaeological deposits in the proposed project area—similar to the historical deposits found at Mexican Hollywood—and a remote possibility of encountering unknown historic period human remains within the proposed project area. No historic period cemeteries have been documented within the proposed project boundaries. In the remote event human remains are discovered, the Port would be required to comply with state law, as detailed above. Therefore, the proposed Project would not contribute to a cumulatively considerable impact on historic archaeological resources or human remains.

4.2.4.2.3 Mitigation Measures and Residual Cumulative Impacts

Construction and operation of the proposed Project is not anticipated to impact cultural resources. There would be no ongoing ground-disturbing activities once construction is completed. The proposed Project would not produce any long-term indirect impacts on cultural resources. It would not increase access to sensitive cultural sites or impair the continued use of any known historic structures or sites. Therefore, the proposed Project would not result in a cumulatively considerable contribution to cumulative impacts on cultural resources within the Port.

4.2.4.3 Cumulative Impact CR-4: Result in the permanent loss of, or loss of access to, a paleontological resource of regional or statewide significance—Less than Cumulatively Considerable

Cumulative Impact CR-4 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in the permanent loss of, or loss of access to, a paleontological resource of regional or statewide significance.

4.2.4.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The number of significant paleontological resources in the immediate Port area destroyed by past and present projects is likely to have been low because near surface geologic deposits underlying the Port are primarily Holocene-age, near shore, marine and non-marine deposits, including beach, estuary, tidal flat, lagoon, shallow-water bay sediments, and shoreline terrace deposits, which have a low potential to encompass paleontological resources. These younger alluvial deposits are overlain in many places by artificial fill materials, as land has been built up during the historic development of the Port.

In upland areas and on the periphery of the Port projects may encompass geological formations in which important terrestrial vertebrate fossils may be found. However, many of these sediments have been substantially disturbed by urban development without systematic analysis by a professional paleontologist. Many fossils encountered during past construction may have been in poor condition or have been redundant examples of species previously recognized and characterized. There is the potential, however, for unusual (i.e., because of their age, size, and/or condition) or previously unrecorded fossil species to be encountered within an urban project area. It is assumed that past excavation and construction projects undertaken prior to legislation requiring expert assessment of encountered fossils have resulted in a substantial number of significant resources being destroyed without analysis. Their destruction without proper assessment has reduced the ability to reconstruct the region's fossil record.

However, the cumulative total of Port and other development projects could potentially impact paleontological resources. Construction activities (i.e., excavation, dredging, and land filling) associated with present and future Port projects, including the following (see Table 4-1)—Marine Terminal, West Basin (#1), San Pedro Waterfront (#2), Channel Deepening (#3), Evergreen Container Terminal Improvements (#5), Plains All-American Oil Marine terminal (#10), Consolidated Slip Restoration (#13), China Shipping Container Terminal (#14), Pasha Marine Terminal Improvements Project (#15), Southern California International Gateway (#17), YTI Container Terminal Improvements (#23), Yang Ming Container Terminal Improvements (#24), Pier 500 Container Terminal Development (#32), USS Iowa Battleship landside work (#33), and WWL Vehicle Services Cargo Terminal (#34)—as well as maintenance dredging and the Alternative Marine Power system would potentially require excavation; and there may be a potential for these projects to impact paleontological resources.

Although much of the area has been previously disturbed, there is the potential for projects located on natural landforms, and other related upland Port projects on the periphery of the Port, including the following (see Table 4-1)—San Pedro Waterfront Enhancements (#19), South Wilmington Grade Separation (#20),Wilmington Waterfront Development (#21), I-110/C Street/Figueroa Street/Realigned Harry Bridges Boulevard Interchange (#22), and I-110/SR-47 Connector Improvement (#26)—to disturb paleontological resources. Reasonably foreseeable future projects within upland areas that may affect paleontological resources include those in the Community of San Pedro (#39 through #53 of Table 4-1); the Community of

Wilmington (#54 through #59); Harbor City, Lomita, and Torrance (#60 through #89); and the City of Long Beach (#108 through #146). Projects proposed by local and state agencies, such as ICTF (#38), and ACTA and Caltrans (#105 through #107), would also potentially contribute to this impact. The County of Los Angeles (Los Angeles County 2007) and City of Long Beach (City of Long Beach 2007) do not have code requirements ensuring that paleontological resources encountered during construction are professionally assessed and preserved. Therefore, such past, present, and foreseeable future projects may result in the destruction of paleontological resources. The effects of each of these projects could result in a significant cumulative impact on paleontological resources.

4.2.4.3.2 Contribution of the Proposed Project

The proposed project area is located on artificial land, built with fill dredged from the harbor. A report prepared for the San Pedro Waterfront Project (Kirby and Demere 2007), which encompasses the proposed project area, determined that the proposed project site is underlain by artificial fill. The original shoreline of the harbor lies approximately 0.2 mile to the west of the proposed project area. This precludes the possibility of intact fossils or paleontological deposits being found in the proposed project area. There is a remote possibility that displaced paleontological materials or fossils material may be present in the artificial fill, having been dredged up from the shallow harbor floor, but these organic remains have lost their original stratigraphic and geologic context due to the disturbed nature of the artificial fill materials. Any fossils found in this material are not in situ, and would not be a significant paleontological resource under CEQA. Therefore, the proposed Project would not contribute to significant cumulative impacts on paleontological resources.

4.2.4.3.3 Mitigation Measures and Residual Cumulative Impacts

No mitigation is required. There would be no cumulative impacts on paleontological resources due to development of the proposed Project.

4.2.4.4 Cumulative Impact CR-5: Result in a substantial adverse change in the significance of a historical resource, involving demolition, relocation, conversion, rehabilitation, alteration, or other construction that reduces the integrity or significance of important resources on the site or in the vicinity—Cumulatively Considerable and Unavoidable

Cumulative Impact CR-5 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to disturb structures that have been determined eligible for the CRHR or the NRHP, or otherwise considered unique or important historic architectural resources under CEQA.

4.2.4.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past projects within urban settings including the proposed project area have involved demolition of significant historic architectural structures, most often without the benefit of their recordation (photographs and professional drawings) beforehand. Though each structure over 45 years old is not necessarily unique, historic buildings are capable of contributing to understanding events that have made a significant contribution to the broad patterns of history and/or may have been associated with the lives of persons significant in the past and/or may have been architecturally distinctive. Their destruction without proper recordation has minimized the ability to reconstruct the region's heritage.

Proposed present and future Port projects requiring removal of significant or potentially significant historical architectural resources (i.e., demolition of structures over 45 years of age) include the following (see Table 4-1): San Pedro Waterfront (#2), Canner's Steam Remediation (#6), Pan-Pacific Fisheries Cannery Buildings Demolition (#18), Dana Strand Public Housing Redevelopment (#55), Port of Long Beach Administration Building Replacement (#94), and Southwest Marine Demolition (#25).

Cumulative impacts associated with past, present, and reasonably foreseeable future projects regarding historical architectural resources would be cumulatively significant because these projects would include the removal of significant or potentially significant historical architectural resources.

4.2.4.4.2 Contribution of the Proposed Project

As documented in Section 3.4, "Cultural Resources" (Impact CR-5), there are seven properties, including one potential historic district, in the proposed Project's Area of Potential Effects that are listed in or have been determined to be eligible for the NRHP, the CRHR, and/or the Los Angeles Historic-Cultural Monument List. One property, Municipal Warehouse No. 1, is listed in the NRHP. Two properties, Westway/Pan-American Oil Company Pump House and the Municipal Wholesale Fish Market, have been determined eligible for the NRHP by the Lead Agency. Five properties have been identified as eligible for listing in the NRHP as a result of a historical resources survey. These are Transit Sheds at Berth 57 and Berths 58–60, the United States Immigration Station, Municipal Pier No. 1, and a potential Municipal Pier No. 1 Historic District. The District encompasses all of Municipal Pier No. 1, including six contributors and two non-contributors.

Although no demolitions or relocations would occur under the proposed Project, modification of existing historic buildings and structure, and new construction within a potential historic district, has the potential to affect historic resources. As discussed under Impact CR-3 in Section 3.4, "Cultural Resources," the proposed Project would rehabilitate Transit Sheds 57 and 58–60 for reuse as a marine research center by SCMI, including associated wharf and ground improvements; would construct a new 50,000-square-foot facility for use as office and laboratory space by NOAA; would construct a new 11,500-square-foot classroom at Berth 56; and would construct a new 100,000-square-foot wave tank near Berths 70 and 71. Although Mitigation

Measure MM CR-1 as presented in Section 3.4, “Cultural Resources,” would help to reduce the impacts of most Project components to a less-than-significant level, indirect impacts of the wave tank on the historic setting of individually eligible buildings and contributors to the potential Municipal Pier No. 1 Historic District would remain significant and unavoidable.

Although the majority of the proposed Project would have impacts on historic architectural resources that would be less than significant, construction of the wave tank would have a significant and unavoidable impact on historic resources that cannot be mitigated to a less-than-significant level. Given the significant and unavoidable nature of the impact on historic resources, the contribution of the proposed Project would be cumulatively considerable under Impact CR-5 when combined with past, present, and reasonably foreseeable future projects.

4.2.4.4.3 Mitigation Measures and Residual Cumulative Impacts

Mitigation Measure MM CR-1 (HABS/HAER Recordation of Municipal Pier No. 1 Historic District Setting) as identified in Section 3.4, “Cultural Resources,” would also reduce the cumulative impacts of the proposed Project. However, the contribution of the proposed Project would continue to be cumulatively considerable even with the implementation of this measure. No additional mitigation measures have been identified to reduce the significant cumulative impacts of the proposed Project on historical architectural resources to a less-than-significant level.

4.2.5 Geology

4.2.5.1 Scope of Analysis

The geographic scope for cumulative impacts varies for geological resources, depending on the geologic issue. The geographic scope with respect to seismicity (Impact GEO-1) is the Port of Los Angeles and Port of Long Beach (Port Complex), and the communities of San Pedro and Wilmington because an earthquake capable of creating substantial damage or injury could cause substantial damage or injury throughout this area of human-made fill, which is prone to liquefaction and differential settlement. The geographic scope with respect to tsunamis and seiches (Impact GEO-2) is the area of potential inundation due to a large tsunami, which could extend throughout the low-lying coastal areas of Los Angeles and Orange counties. The geographic scope with respect to subsidence/settlement (Impact GEO-3), expansive soils (Impact GEO-4), and unstable soil conditions (Impact GEO-6) would be confined to the proposed project area because these impacts are site-specific and relate primarily to construction techniques. The geographic scope with respect to landslides and mudflows (Impact GEO-5) would be confined to the proposed project area; however, the Port Complex is generally flat and not generally subject to slope instability. Modification or destruction of topography or prominent geologic features would not occur because the Port Complex contains no unique geologic or topographic features.

Past, present, and reasonably foreseeable future developments that could contribute to cumulative impacts associated with geologic resources under CEQA are those that involve the addition of infrastructure and personnel that would be subject to local and regional geologic hazards conditions.

All projects located in and surrounding the Port Complex are subject to severe seismically induced ground shaking due to an earthquake on a local or regional fault. Structural damage and risk of injury as a result of such an earthquake are possible for most cumulative projects listed in Table 4-1, with the exception of projects that do not involve existing or proposed structural engineering or onsite personnel, such as Channel Deepening (#3).

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.5, "Geology and Soils."

4.2.5.2 Cumulative Impact GEO-1: Result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure—Less than Cumulatively Considerable.

Cumulative Impact GEO-1 addresses the degree to which the proposed Project along with other cumulative projects places structures and/or infrastructure in danger of substantial damage or exposes people to substantial risk following a seismic event.

Southern California is recognized as one of the most seismically active areas in the United States. The region has been subjected to at least 50 earthquakes of magnitude 6.0 or greater since 1796. Earthquakes of $M \geq 7.5$ are expected to have an average probability of 37% in a 30-year period and 97% for earthquakes of $M \geq 6.5$ (USGS Working Group on California Earthquake Probabilities 2008). Therefore, it is reasonable to expect a strong ground motion seismic event during the lifetime of any project in the region.

Ground motion in the region is generally the result of sudden movements of large blocks of the earth's crust along faults. Numerous active faults in the Los Angeles region are capable of generating earthquake-related hazards, particularly in the Los Angeles Harbor area, where the Palos Verdes Fault is present and hydraulic fill and alluvial deposits are pervasive. Also noteworthy, due to its proximity to the site, is the Newport-Inglewood Fault, which was the source of the 1933 Long Beach magnitude 6.4 earthquake. Large events could occur on more distant faults in the general area, but the effects at the cumulative geographic scope would be reduced due to the greater distance.

Seismic ground shaking is capable of providing the mechanism for liquefaction, usually in fine-grained, loose to medium dense, saturated sands and silts. The effects of liquefaction may result in structural collapse if total and/or differential settlement of structures occurs on liquefiable soils.

4.2.5.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past, present, and reasonably foreseeable future projects would not change the risk of seismic ground shaking. However, past projects have resulted in the backfilling of natural drainages at Port of Los Angeles berths with various undocumented fill materials. In combination with natural soil and groundwater conditions in the area (i.e., unconsolidated, soft and saturated natural alluvial deposits and naturally occurring shallow groundwater), backfilling of natural drainages and spreading of dredged materials associated with past development at the Port has resulted in conditions with increased potential for liquefaction following seismic ground shaking.

In addition, past development has increased the amount of infrastructure, structural improvements, and the number of people working on site in the Port Complex. This past development has placed commercial, industrial, and residential structures and their occupants in areas that are susceptible to seismic ground shaking. Therefore, these developments have had the effect of increasing the potential for seismic ground shaking to result in damage to people and property.

All of the present and reasonably foreseeable future projects listed in Table 4-1 that would result in increased infrastructure, structures, and number of people working on site in the cumulative geographic scope would potentially contribute to this impact because they would result in greater exposure to seismically induced ground failure and would expose new workers to these hazards. However, each project is required to design structures in accordance with the latest design standards and City building codes to minimize seismic-related geotechnical hazards. Implementation of appropriate engineering standards would minimize impacts, and combined impacts would not result in significant cumulative impacts.

4.2.5.2.2 Contribution of the Proposed Project

As discussed in Section 3.5.4.3, the proposed Project would result in less-than-significant impacts relative to Impact GEO-1 with incorporation of modern construction engineering and safety standards. Because the proposed project area is in a region where large earthquakes are likely, is very near strands of the active Palos Verdes Fault, and is potentially underlain by liquefaction-prone soils, there is a substantial risk of seismic impacts. Although the proposed Project would not increase the risk of seismic ground shaking, it would marginally contribute to the potential for seismically induced liquefaction settlement and/or ground shaking to result in injury to people and damage to structures because it would increase the amount of structures and people present at the Port Complex. However, with the incorporation of modern design standards that comply with applicable regulations and building codes, the contribution of the proposed Project would not be cumulatively considerable.

4.2.5.2.3 Mitigation Measures and Residual Cumulative Impacts

LAHD uses a combination of probabilistic and deterministic seismic hazard assessments for seismic design prior to any construction project to account for the probable high levels of ground shaking. Structures and infrastructure planned for areas with high liquefaction potential must have installation or improvements that comply with regulations to ensure proper construction and consideration for associated hazards. With the incorporation of modern construction engineering and safety standards, no other mitigation is required. Therefore, the proposed Project would result in a less than cumulatively considerable impact with regard to seismically induced liquefaction settlement and/or ground shaking.

4.2.5.3 Cumulative Impact GEO-2: Result in substantial damage to structures or infrastructure, or expose people to substantial risk involving tsunamis or seiches—Less than Cumulatively Considerable.

Cumulative Impact GEO-2 addresses the degree to which the proposed Project, along with other cumulative projects, exposes people and structures to substantial risk from local or distant tsunamis or seiches. Impacts from a tsunami are equal to or more severe than those from a seiche and are considered in the analysis.

Tsunamis are a relatively common natural hazard world-wide, although most of the events are small in amplitude and not particularly damaging. As has been shown historically, the potential loss of human life following a tsunami can be great if a large submarine earthquake or landslide occurs in reasonable proximity to a populated area. As discussed in Section 3.5.2.2.1, abrupt sea level changes associated with tsunamis in the past had a great impact on human life. Tsunamis also have reportedly caused damage to moored vessels within the outer portions of the Los Angeles Harbor.

The most likely direct cause of significant local tsunamis in Southern California would be tectonic movement during large offshore earthquakes, although lower probability large submarine landslides could also cause a significant tsunami. A detailed tsunami hazard assessment for the Port Complex area (Moffatt and Nichol, 2007) concluded that large earthquakes (M ~7.5) are very infrequent and not every large earthquake is expected to generate a tsunami.

For onsite personnel and visitors, the risk of tsunami or seiches is a part of any ocean-shore interface, and therefore workers and visitors in the cumulative effects area cannot avoid some risk of exposure. Similarly, berth infrastructure and ocean vessels would be subject to some risk of damage as well. Designing new facilities based on existing building codes may not prevent substantial damage to structures from coastal flooding; however, emergency planning and coordination would contribute to reducing onsite injuries during a tsunami.

4.2.5.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past, present, and reasonably foreseeable future projects would not change the risk of tsunamis or seiches. However, past projects have resulted in the backfilling of natural drainages and creation of new low-lying land areas, which are subject to inundation by tsunamis or seiches. In addition, past development has increased the amount of infrastructure, structural improvements, and the number of people working on site in the Port Complex. This past development has placed commercial and industrial structures and their occupants in areas that are susceptible to tsunamis and seiches. Thus, these developments have had the effect of increasing the potential for tsunamis and seiches to result in damage to people and property.

All of the present and reasonably foreseeable future projects listed in Table 4-1 would result in increased infrastructure, structures, and number of people working and visiting the areas in the cumulative geographic scope. The cumulative projects would expose new workers and visitors to these hazards. However, emergency planning and coordination between the Port tenants, LAHD, and emergency response agencies would contribute to reducing onsite injuries during a tsunami. Compliance with all applicable laws and emergency response plans would minimize exposure to risk from tsunami and seiche hazards, and cumulative impacts would be less than significant.

4.2.5.3.2 Contribution of the Proposed Project

The Port Complex model indicates that worst-case simulations of tsunamis generated by uplift on the Catalina Fault suggest waves in the Port in excess of 12 feet, with an arrival time within 20 minutes (Legg et al. 2004; Borrero et al. 2004 and 2005). Based on the lowest deck elevations, tsunami-induced flooding could occur in the proposed project area under both the worst-case earthquake simulation and landslide scenario, particularly in the area of the West Channel where deck elevations are the lowest. Additionally, the modeled landslide tsunami scenario could result in localized overtopping of the existing deck in the proposed project area and affect the proposed floating dock facilities.

The additional infrastructure, structural improvements, and onsite personnel associated with the proposed Project would contribute to the potential for damage to infrastructure and harm to people. However, Port engineers and LAHD police will work with tenants to develop earthquake and tsunami response training and procedures based on the Port's tsunami plan to ensure that employees and visitors to the site will be prepared to act in the event of a large seismic event. These procedures will include immediate evacuation requirements in the event that a large seismic event is felt at the proposed project site. Compliance with all applicable laws and regulations would minimize exposure to risk from tsunami and seiche hazards; therefore, the proposed Project's contribution would be less than cumulatively considerable.

4.2.5.3.3 Mitigation Measures and Residual Cumulative Impacts

No mitigation is required other than implementation of existing emergency preparation and response plans that LAHD has in place to minimize tsunami hazard risks. Therefore, the proposed Project would result in less than cumulatively considerable impacts associated with tsunamis.

4.2.5.4 Cumulative Impact GEO-3: Result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from land

subsidence/settlement—Less than Cumulatively Considerable.

Cumulative Impact GEO-3 addresses the degree to which the proposed Project, along with other cumulative projects, could result in substantial damage to structures or infrastructure or expose people to substantial risk of injury as a result of subsidence or soil settlement. In the absence of proper engineering, new structures could be cracked and warped as a result of saturated, unconsolidated, or compressible sediments.

4.2.5.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The cumulative geographic scope is the same as the proposed project site because the effects of subsidence/non-seismic settlement are site-specific and related primarily to geologic materials present and to construction techniques. Regional subsidence due to historic oil withdrawal has been arrested through subsurface water injection; therefore, regional subsidence impacts are not anticipated. However, localized non-seismic settlement could occur as a result of improperly placed proposed Project–related artificial fill (e.g., pipeline trench backfill) or weak underlying geologic materials.

Past projects on the proposed project site have contributed artificial fill and therefore there is risk, albeit low, of settlement. Portions of the proposed project site are underlain by older fill that may have been subject to settlement during the years following construction. However, the risk of such settlement decreases over a relatively long period of time as potential areas of non-uniformly compacted fill settle and generally reach equilibrium in the years immediately following construction. Therefore, the risk of non-seismic related settlement impacts in these older areas of fill is low. (See Impact GEO-1 in Section 3.5, “Geology and Soils,” for a discussion of potential seismic-related differential settlement.)

4.2.5.4.2 Contribution of the Proposed Project

Settlement impacts in proposed project areas would be less than significant under CEQA, because the proposed Project would be designed and constructed in compliance with the recommendations of the geotechnical engineer, consistent with Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, and in conjunction with criteria established by LAHD, and would not result in substantial damage to structures or infrastructure or expose people to substantial risk of injury from non-seismic settlement of geologic materials encountered. Past projects on the proposed project site may have contributed to artificial fill that was non-uniformly compacted, resulting in soil settlement. However, as described above, such non-seismic settlement would have occurred primarily in the years immediately following construction, such that the contribution of risk of those past projects would be less than significant. Therefore, the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative impact with regard to subsidence/non-seismic settlement.

4.2.5.4.3 Mitigation Measures and Residual Cumulative Impacts

The proposed Project would comply with existing regulations guiding the design and construction of buildings to reduce impacts of settlement of soils and/or previously placed artificial fill. No additional mitigation measures are required, and the contribution of the proposed Project to subsidence/non-seismic settlement would be less than cumulatively considerable.

4.2.5.5 Cumulative Impact GEO-4: Result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from expansive soils—Less than Cumulatively Considerable.

Cumulative Impact GEO-4 addresses the degree to which the proposed Project, along with other cumulative projects, results in substantial damage to structures or infrastructure or exposes people to substantial risk of injury as a result of expansive soils. Expansive soil may be present in dredged or imported soils used for grading. Expansive soils beneath a structure could result in cracking, warping, and distress of the foundation.

4.2.5.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The cumulative geographic scope is the same as the proposed project site because the effects of expansive soils are site-specific and related primarily to construction techniques. Past projects on the site of the proposed project site have contributed artificial fill and therefore there is a risk that these soils are expansive. However, because only past, present, and reasonably foreseeable future projects on the proposed project site would contribute to a cumulative impact in this area, and no other such projects are identified beyond the Westway Demolition (#12; see Table 4-1), impacts would not be cumulatively significant with regard to expansive soils.

4.2.5.5.2 Contribution of the Proposed Project

Expansive soil impacts in proposed Project areas would be less than significant because the proposed Project would be designed and constructed in compliance with the recommendations of the geotechnical engineer, consistent with implementation of Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, and in conjunction with criteria established by LAHD and would not result in substantial damage to structures or infrastructure or expose people to substantial risk of injury from the impacts of expansive soils. Because the proposed Project may place structures on existing fill, compliance with the Los Angeles Municipal Code would be enforced to mitigate any impacts. Therefore, the proposed Project would not result in a cumulatively considerable impact with regard to expansive soils.

4.2.5.5.3 Mitigation Measures and Residual Cumulative Impacts

The proposed Project would comply with existing regulations guiding the design and construction of buildings to reduce impacts of expansive soils. No additional mitigation measures are required, and the contribution of the proposed Project with regard to expansive soils would be less than cumulatively considerable.

4.2.5.6 Cumulative Impact GEO-5: Result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from landslides or mudslides—No Cumulative Impact.

Cumulative Impact GEO-5 addresses the degree to which the proposed Project along with other cumulative projects exposes people or property to a substantial risk from landslides or mudslides.

As described in Section 3.5.2.2.1, a 1976 Converse Davis Dixon Associates geotechnical investigation at Berth 49 south determined that “land slippage” (lateral up to 14 feet and vertical up to 5 feet) occurred due to a landslide that moved on soft, eastward dipping Malaga Mudstone weak bedding planes. Such bedding plane conditions may exist at the proposed project site, and a similar bedding plane failure is possible. During the proposed project design phases, a geotechnical engineer would evaluate the potential for landslide areas where structures are proposed. If such conditions are present design measures outlined in Section 3.5.2.2.1 must be implemented to reduce the potential for landslide occurrence.

4.2.5.6.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The cumulative geographic scope is possibly greater than the proposed project site because the effects of landslides and associated mudflows could be exhibited up slope (to the west) and down slope (to the east) of the proposed project site. Effects are related to site-specific and local geologic conditions, and would be related primarily to project design and construction. Past projects on the site may also be located on the Malaga Mudstone and therefore risk damage and injury from the effects of landslide. However, only past, present, and reasonably foreseeable future projects on the proposed project site would contribute to a cumulative impact in this area. Furthermore, except for the proposed Project, only the Westway Demolition (#12) would occur in this area. Therefore, impacts with regard to landslides or mudflows would not be cumulatively significant.

4.2.5.6.2 Contribution of the Proposed Project

The effects of landslide and mudflows in proposed project areas would be less than significant under CEQA because the proposed Project would be designed and constructed in compliance with the recommendations of the geotechnical engineer, consistent with implementation of Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, and in conjunction with criteria established by LAHD and would not result in substantial damage to structures or infrastructure or expose people to substantial risk of injury. Although the proposed Project may place structures on the Malaga Mudstone, compliance with the Los Angeles Municipal Code would mitigate any impacts. Therefore, the proposed Project would not result in a cumulatively considerable impact with regard to landslides or mudflows.

4.2.5.6.3 Mitigation Measures and Residual Cumulative Impacts

The proposed Project would comply with existing regulations guiding the design and construction of buildings to reduce impacts of landslide and mudslide. No additional mitigation measures are required, and the contribution of the proposed Project would be less than cumulatively considerable with regard to landslides or mudflows.

4.2.5.7 Cumulative Impact GEO-6: Result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from unstable soil conditions from excavation, grading, or fill—Less than Cumulatively Considerable.

Cumulative Impact GEO-6 addresses the degree to which the proposed Project along with other cumulative projects results in substantial damage to structures or infrastructure or exposes people to substantial risk of injury as a result of collapsible or unstable soils.

Natural alluvial and marine deposits, as well as human-made artificial fill consisting of dredged deposits or imported soils, would be encountered during excavations for foundations, utility relocation, retaining structures, or other facilities at the proposed project site. Groundwater (seawater) is present at depths approximately equivalent to mean sea level or roughly 10 feet. Saturated materials near and below this level would be relatively soft and unstable for engineering purposes, requiring implementation of geotechnical remediation, such as installation of dewatering wells and/or temporary sheet pile shoring, to facilitate excavation and worker/equipment access. These methods would lower the water level and stabilize excavations, thus reducing the potential for construction impacts due to the unstable soils. During the proposed project design phases, a geotechnical engineer would evaluate the potential for unstable soil areas where structures are proposed. If such conditions are present design measures outlined in Section 3.5.2.2.1 must be implemented to reduce the potential for unstable soil effects.

4.2.5.7.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The cumulative geographic scope is the same as the proposed project site, because the effects of unstable soil conditions are site-specific and related primarily to construction techniques. Past projects on the proposed project site have contributed artificial fill and therefore risk unstable soil conditions. However, because only past, present, and reasonably foreseeable future projects on the proposed project site would contribute to a cumulative impact, and, in addition to the proposed Project, only the

Westway Demolition (#12) would occur in that area, impacts would not be cumulatively significant.

4.2.5.7.2 Contribution of the Proposed Project

Unstable soil impacts in proposed project areas would be less than significant under CEQA because the proposed Project would be designed and constructed in compliance with the recommendations of the geotechnical engineer, consistent with implementation of Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, and in conjunction with criteria established by LAHD and would not result in substantial damage to structures or infrastructure or expose people to substantial risk of injury. Although the proposed Project may place structures on existing fill, compliance with the Los Angeles Municipal Code would mitigate any impacts. Therefore, the proposed Project would not result in a cumulatively considerable impact with regard to unstable soil conditions.

4.2.5.7.3 Mitigation Measures and Residual Cumulative Impacts

The proposed Project would comply with existing regulations guiding the design and construction of buildings to reduce impacts of unstable soils. No additional mitigation measures are required, and the contribution of the proposed Project would be less than cumulatively considerable with regard to unstable soil conditions.

4.2.5.8 Cumulative Impact GEO-7: Destroy, permanently cover, or materially and adversely modify one or more distinct and prominent geologic or topographic features. Such features may include, but not be limited to, hilltops, ridges, hillslopes, canyons, ravines, rock outcrops, water bodies, streambeds, and wetlands—No Cumulative Impact.

Cumulative Impact GEO-7 addresses the degree to which the proposed Project along with other cumulative projects results in destruction, permanent cover, or material and adverse modification of one or more distinct and prominent geologic or topographic features, including hilltops, ridges, hillslopes, canyons, ravines, rock outcrops, water bodies, streambeds, and wetlands.

Because the proposed Project is relatively flat and currently developed, with no prominent geologic or topographic features, construction and operations of the proposed Project would not result in any distinct and prominent geologic or topographic features being destroyed, permanently covered, or materially and adversely modified. Therefore, the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative impact.

4.2.6 Groundwater and Soils

4.2.6.1 Scope of Analysis

The geographic scope for cumulative impacts on groundwater quality and soil quality varies depending on the impact. The geographic scope with respect to contaminated soils would be confined to the proposed project area. These impacts are site-specific and relate primarily to potential exposure of onsite personnel to contaminants during construction, or of onsite personnel or visitors subsequent to construction. However, the geographic scope with respect to contaminated groundwater would be the aerial extent of the semi-perched aquifer and underlying Gage Aquifer, which underlie much of the coastal area of southern Los Angeles and Long Beach.

The time frame for the cumulative analysis of contaminated soil and groundwater includes the historical time since the study area was developed and extends for decades into the future. Hazardous substances can be retained in soil and groundwater for decades after the original spill occurred.

Past, present, and reasonably foreseeable future developments that could contribute to cumulative impacts associated with groundwater and soil contamination are confined to projects that would either encounter historical onsite contamination and that could result in increased areas of site paving (for either site development or for encapsulation of contaminated soil) and potential reduction in groundwater recharge, and any project that would introduce any type of contaminant to the soil or groundwater. Because the proposed Project would not result in impacts with respect to changes in potable water levels, reduction in potable groundwater capacity, and potential violation of regulatory water quality standards at an existing production well, it would not result in a cumulatively considerable contribution to a cumulative impact and no determination of geographic scope is required for these issues.

The cumulative area of influence is predominantly underlain by deep, unconfined potable aquifers, with an overlying shallow, perched water-bearing zone of saline, non-potable water. Spills of petroleum products and hazardous substances due to long-term industrial land use in the area have resulted in contamination of some onshore soils and shallow groundwater. Most of the cumulative area of influence has been disturbed in the past, may contain buried contaminated soils, and is covered in non-permeable surfaces.

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.6, “Groundwater and Soils.”

4.2.6.2 Cumulative Impact GW-1: Result in short-term exposure to construction/operations personnel and/or long-term exposure to future site occupants—Less than Cumulatively Considerable

Cumulative Impact GW-1 addresses the degree to which the proposed Project, when combined with past, present, and reasonably foreseeable future projects, would result in exposure to soils containing toxic substances and petroleum hydrocarbons, associated with prior operations, which would be deleterious to humans. Exposure to contaminants associated with historical uses of the proposed project area could result in short-term effects (duration of construction) on onsite personnel and/or long-term impacts on future site occupants.

4.2.6.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The cumulative geographic scope is the same as the proposed project site because the effects of soil contamination are site-specific in that they relate primarily to potential exposure of onsite personnel to contaminants during construction or of onsite personnel or recreational users subsequent to construction. Past and present projects on the proposed project site, including those discussed in Section 3.6, "Groundwater and Soils," have contributed to soil and groundwater contamination. However, each project listed in Table 4-1 is subject to regulatory standards that must be achieved during construction and demolition activities, including compliance with LARWQCB, DTSC, and Los Angeles Fire Department regulations governing handling and cleanup of hazardous materials, and Cal EPA worker safety requirements, all of which would reduce potential impacts associated with soil contamination. Therefore, past and present projects within the proposed project vicinity would not contribute to a cumulatively significant impact regarding exposure to soil contamination.

4.2.6.2.2 Contribution of the Proposed Project

As discussed in Section 3.6, "Groundwater and Soils," portions of the proposed project area have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses (Berths 70–71). These areas are in various stages of contaminant site characterization and remediation. The construction of Phase II could potentially result in the exposure of onsite personnel or visitors of the Phase I facilities (e.g., the Learning Center or SCMI Research Facilities at Berths 56–57, respectively) to soils containing toxic substances and to petroleum hydrocarbons. LAHD would require compliance with all applicable regulations and best management practices to minimize the exposure of toxic materials, and would prepare a contamination contingency plan should unknown soil or groundwater contamination be discovered. Therefore, the proposed Project would not contribute to significant cumulative impacts with regard to exposure to soil contamination, and when combined with past, present, and future projects, the impacts would not be cumulatively considerable.

4.2.6.2.3 Mitigation Measures and Residual Cumulative Impacts

No mitigation is required with the implementation of required contingency measures and compliance with applicable laws concerning the handling and remediation of hazardous materials. Therefore, the proposed Project would not result in cumulatively considerable impacts with regard to exposure to soil contamination.

4.2.6.3 Cumulative Impact GW-2: Result in changes in the rate or direction of movement of existing contaminants, expansion of the area affected by contaminants, or increased level of groundwater contamination, which would increase risk of harm to humans—Less than Cumulatively Considerable

Cumulative Impact GW-2 addresses the degree to which the proposed Project when combined with past, present, and reasonably foreseeable future projects would change the rate or direction of movement of existing contaminants, expand the area affected by contaminants, or increase the level of groundwater contamination, which would increase the risk of harm to humans (see Table 3.6-1 in Section 3.6, "Groundwater and Soils"). Excavation and grading activities in contaminated soils would potentially result in inadvertent spreading of such contamination to areas that were previously unaffected by spills of petroleum products or hazardous substances, thus potentially exposing construction and existing operations personnel, future occupants of the site, and future recreational users to contaminants.

4.2.6.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The cumulative geographic scope with respect to cross-contamination related to soil and groundwater contamination would be the aerial extent of the semi-perched aquifer and underlying Gage Aquifer, which underlie much of the coastal area of southern Los Angeles and Long Beach, as groundwater contamination can spread over relatively large areas subsequent to construction. Past activities on the proposed project site, as discussed in Section 3.6, "Groundwater and Soils," have contributed to soil and groundwater contamination. Other projects listed in Table 4-1 have contributed to contamination of soil and groundwater within the cumulative setting. The effects of past projects are cumulatively significant. Present and reasonably foreseeable future projects would have no impact on soil or groundwater contamination on site, and include remedial activities at the former Westway Terminal (#12).

4.2.6.3.2 Contribution of the Proposed Project

As discussed for Cumulative Impact GW-2, soil in limited and isolated portions throughout the proposed project area have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses (see Table 3.7-2 in Section 3.7, "Hazards and Hazardous Materials"). In addition, groundwater has been impacted by hazardous substances and petroleum products within the proposed project area and potentially within the larger perched aquifer. Areas within the proposed project site are in various stages of contaminant site characterization and remediation, and would be improved prior to development and construction. Excavation and grading in potential remaining or unknown contaminated soils could result in inadvertent spreading of such contamination to areas that were previously unaffected by spills of petroleum products or hazardous substances. Additionally, demolition activities at Berths 57 and 260 during Phase I could result in the exposure of toxic substances (e.g., asbestos and lead-based paint) to surrounding areas. If contamination were encountered prior to or during construction, it would be remediated prior to development or demolition. The removal of site contamination prior to development would further minimize the potential for movement or expansion of existing contamination.

The proposed Project would be required to remediate and remove existing groundwater and soil contamination during construction activities and prior to the full operation of the proposed Project. The proposed Project would not result in an increase in soil and groundwater contamination. The proposed Project would ultimately reduce the existing amount of soil and groundwater contamination caused by other past projects. Because contribution from the proposed Project would lessen the effects of contamination movement, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

4.2.6.3.3 Mitigation Measures and Residual Cumulative Impacts

LAHD would require remediation and a contamination contingency plan, which would minimize potential impacts. Impacts would be less than significant, and would not contribute to cumulatively considerable impacts with regard to movement or expansion of existing contamination.

4.2.6.4 Cumulative Impact GW-3: Result in a change to potable water levels—No Cumulative Impact

Cumulative Impact GW-3 addresses the degree to which the proposed Project when combined with past, present, and reasonably foreseeable future projects would result in a demonstrable and sustained reduction in potable groundwater recharge capacity or change in potable water levels sufficient to:

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

4.2.6.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Because the proposed Project would have no impact under this criterion, it is not necessary to document the effects of past, present, and reasonably foreseeable future projects.

4.2.6.4.2 Contribution of the Proposed Project

As described in Section 3.6, “Groundwater and Soils,” the localized groundwater withdrawal that may occur as a result of the proposed Project (during construction dewatering operations) would have no impacts on underlying potable water supplies because withdrawals would occur from the shallower, non-potable groundwater table. Also, drinking water is provided to the proposed project area by the City of Los Angeles Department of Water and Power. Therefore, cumulative impacts would not occur, and the proposed Project would not result in a cumulatively considerable impact related to groundwater recharge capacity or change in potable water levels.

4.2.6.4.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project to groundwater recharge capacity and change in potable water levels would be less than cumulatively considerable. No mitigation measures are required.

4.2.6.5 Cumulative Impact GW-4: Result in a violation of regulatory water quality standards at an existing production well, as defined in CCR, Title 22, Division 4, Chapter 15 and in the Safe Drinking Water Act—No Cumulative Impact

Cumulative Impact GW-4 addresses the degree to which the proposed Project, along with other cumulative projects, results in violation of regulatory water quality standards at an existing production well, as defined in CCR, Title 22, Division 4, Chapter 15 and in the Safe Drinking Water Act.

4.2.6.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Because the proposed Project would have no impact under this criterion, it is not necessary to document the effects of past, present, and reasonably foreseeable future projects.

4.2.6.5.2 Contribution of the Proposed Project

Because no existing production wells are located in the vicinity of the proposed project site, the proposed Project would not contribute to any cumulative potential to violate regulatory water quality standards at existing production wells; therefore, cumulative impacts would not occur, and the proposed Project would not result in a cumulatively considerable impact with regards to violating regulatory water quality standards.

4.2.6.5.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project to a violation of regulatory water quality standards would be less than cumulatively considerable. No mitigation measures are required.

4.2.7 Hazards and Hazardous Materials

4.2.7.1 Scope of Analysis

The geographic scope for cumulative impacts associated with accidental spills, releases, or explosions of hazardous materials encompasses the entire Port Complex. The importance of a regional project diminishes in magnitude with distance from the Port as potential adverse impacts associated with a hazardous material release, spill, or explosion diminish in magnitude with distance. Thus, past, present, and reasonably foreseeable future projects that could contribute to these cumulative impacts include those projects that transport hazardous materials in the vicinity of the Port.

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.7, "Hazards and Hazardous Materials."

4.2.7.2 Cumulative Impact RISK-1: Comply with applicable federal, state, regional, and local security and safety regulations, and LAHD policies guiding Port development—Less than Cumulatively Considerable

Cumulative Impact RISK-1 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to fail to comply with applicable regulations and policies guiding development within the Port.

4.2.7.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

All projects within the Port are required to comply with applicable development regulations and policies. All projects are also required to be consistent with the PMP, or be subject to approved amendments to the PMP in order to accommodate the project. Therefore, the cumulative impacts of past, present, and foreseeable future projects with regard to safety and security regulations would be less than cumulatively significant.

4.2.7.2.2 Contribution of the Proposed Project

The construction and operation of the proposed Project is subject to numerous security and safety regulations for operation of the proposed facilities. Proposed project plans and specifications would be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, as a standard practice. Buildings would be equipped with fire protection equipment as required by the Los Angeles Municipal Fire Code. Access to all buildings and adequate access and firefighting features would be provided. Proposed project plans would include an internal circulation system, code-required features, and other firefighting design elements, as approved by LAFD.

Additionally, construction and operation of the proposed Project would be required to comply with all existing hazardous waste and materials laws and regulations, including, but not limited to, RCRA, CERCLA, SCAQMD Rule 1403, and CCR Titles 22 and 26. The proposed Project would comply with these laws and regulations, which would ensure that potential hazardous materials handling would occur in an acceptable matter during construction and operation of the proposed Project.

Therefore, because the proposed Project would comply with applicable federal, state, regional, and/or local security and safety regulations and/or LAHD policies guiding Port development, including the Port RMP as discussed in Section 3.7, "Hazards and Hazardous Materials," the proposed Project's contribution to cumulative impacts on safety and security regulations would be less than significant.

4.2.7.2.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to impacts on safety and security regulations would not be cumulatively considerable. No mitigation measures are required.

4.2.7.3 Cumulative Impact RISK-2: Substantially interfere with an existing emergency response or evacuation plan or require a new emergency or evacuation plan, thereby increasing the risk of injury or death—Less than Cumulatively Considerable

Cumulative Impact RISK-2 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to substantially interfere with an existing emergency response or evacuation plan or require a new emergency or evacuation plan, thereby increasing the risk of injury or death.

4.2.7.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Virtually all of the proposed cumulative projects that would have an impact on emergency response or evacuation plans would be subject to approval by the Ports of Los Angeles or Long Beach, or the Cities of Los Angeles and Long Beach, and would be subject to the conditional approval of these agencies. Therefore, projects that would impact applicable emergency response or evacuation plans would not be approved. Consequently, the impacts from past, present, and reasonably foreseeable future projects are less than cumulatively significant with regard to emergency response or evacuation plans.

4.2.7.3.2 Contribution of the Proposed Project

The proposed Project would generally increase the number of employees and visitors to the area. Proposed project operations would be subject to emergency response and evacuation systems implemented by the LAHD, LAFD, and Port Police and enforced by these agencies, as well as the USCG. The proposed project construction and demolition activities would be subject to emergency response and evacuation systems implemented by the Port Police and LAFD. Prior to commencement of construction/demolition activities, standard protocol would be followed, and all plans would be reviewed by LAFD to ensure adequate emergency access is maintained throughout the process. Additionally, LAFD would be responsible for waterside first response in the event of an emergency, deploying their fireboats as needed. The USCG and Port Police would also support LAFD in the event of a waterside emergency. Operation of the proposed Project would be subject to existing emergency response and tsunami evacuation plans developed by the City of Los Angeles, in conjunction with LAHD, which provide general emergency response guidance to all City departments including LAHD. The general Port evacuation plans are maintained and managed by AMSEC and cover all areas encompassed by the Ports of Los Angeles and Long Beach, which includes the proposed project area. The tenants of the Port are required to have their own emergency management plans. Therefore, any new tenants under the proposed Project would be required to have their own emergency response plan. These requirements and the adequacy of the tenant emergency plans would be enforced by LAFD, the Port Police, and the Homeland Security Division of LAHD. Therefore, the proposed Project would not substantially interfere with existing emergency response plans for the existing tenants on the proposed project site; however, new emergency responses plans would be required for some new tenants. Furthermore, proposed project operations would not interfere with any existing emergency response or evacuation plan. Therefore, the contribution of the proposed Project to impact applicable emergency response or evacuation plans would not be cumulatively considerable.

4.2.7.3.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project's impact on applicable emergency response or evacuation plans would be less than cumulatively considerable. No mitigation measures are required.

4.2.7.4 Cumulative Impact RISK-3: Result in a substantial increase in public health and safety concerns as a result of the accidental release, spill, or explosion of hazardous materials due to a tsunami—Less Than Cumulatively Considerable.

Cumulative Impact RISK-3 represents the potential of the proposed Project, along with other cumulative projects, to result in an accidental spill as a result of a tsunami.

4.2.7.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Due to the historic occurrence of earthquakes and tsunamis along the Pacific Rim, placement of any development on or near the shore in Southern California, including the Port and activities within the Port, would always involve some measure of risk of impacts from a tsunami. Although relatively rare, should a large tsunami occur, it would be expected to cause some amount of damage to most onshore or near-shore locations, including the Port. Impacts due to seismically induced tsunamis are typical for the entire California coastline and would not be increased by the cargo operation, cruise terminal operations, or other facility operations of the Port in general. However, because of the low elevation of the Port facilities, there is a substantial risk of coastal flooding generally within the Port in the event of a tsunami.

As discussed in Sections 3.5, "Geology and Soils," and 3.7, "Hazards and Hazardous Materials," there is the potential for a large tsunami to impact the Port. A large tsunami would likely lead to a fuel spill if moored vessels (i.e., cargo vessels and cruise vessels) are present or if hazardous material bulk storage facilities are damaged in the event of tsunami-caused flooding or deck overtopping. A model has been developed specifically for the Port Complex to predict tsunami wave heights (Moffatt and Nichol 2007).

Although the probability of a tsunami occurring during the life of the proposed Project is low, damage to ships or landside storage facilities would result in the release of both hazardous and non-hazardous cargo to the environment, adversely impacting persons and/or the marine waters. The existing oil spill response capabilities in the LA/LB Harbor are sufficient to isolate spills with containment booms and recover the maximum possible spill from an oil tanker within the LA/LB Harbor. LAHD's and other agency's regulations would prevent hazardous materials spills, releases, and explosions, as well as reduce the magnitude of any hazardous materials spills, releases, and explosions of past, present, and reasonably foreseeable projects—including the proposed Project. Therefore, the cumulative impacts of past, present, and foreseeable future projects with regard to an accidental spill would not be cumulatively significant.

4.2.7.4.2 Contribution of the Proposed Project

Seismically induced tsunamis are typical for the entire California coastline, and the probability of such an event would not be increased by construction or operation of the proposed Project. The Moffatt and Nichol (2007) tsunami hazard assessment indicated that in some landslide-induced tsunami situations, overtopping would occur in parts of the West and East Channels. Designing new facilities based on existing building codes may not prevent substantial damage to structures from coastal flooding as a result of tsunamis or seiches. There is a risk of flooding at the proposed project site during a tsunami, which, in turn, could lead to an accidental release, spill, or explosion of hazardous material(s).

Facility damage due to a tsunami could result in release of hazardous materials (i.e., fuel, solvents, water treatment chemicals, etc.) into the environment. These materials would adversely impact persons or the marine waters. However, during construction and operation of the proposed Project, there would be no handling or storing of substantial amounts of hazardous materials, and the potential for major damage from a tsunami is very low during the period of construction and the long-term operation of the proposed Project. Additionally, the potential consequences of such accidents would be small due to the localized, short-term nature of the releases. The volume of spilled fuel or other materials is also expected to be relatively low because fuel products would be limited to construction phases and would be handled appropriately, and during operation of the proposed Project there would be no handling of large quantities of hazardous materials. The combination of these factors would result in a remote risk and consequence related to health and safety concerns from the accidental release, spill, or explosion of hazardous materials due to a tsunami. Therefore, impacts from the proposed Project in this regard are not cumulatively considerable.

4.2.7.4.3 Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required because the contribution of the proposed Project to an accidental spill due to a tsunami would be less than cumulatively considerable.

4.2.7.5 Cumulative Impact RISK-4: Substantially increase the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action—Less Than Cumulatively Considerable

Cumulative Impact RISK-4 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to increase the risk of a terrorist attack resulting in adverse consequences to areas at or near the proposed project site, including the spill, release, or explosion of hazardous materials.

4.2.7.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The proposed Project would incorporate a variety of land uses that are historically very different from traditional Port industrial land uses, such as terminal facilities, liquid bulk fuel facilities, and cargo vessels. Many of the past, present, and reasonably foreseeable future projects identified in Table 4-1 include typical Port land uses; therefore, when analyzing the cumulative impacts associated with past, present, and foreseeable future projects, it is logical to explore terrorism within the context of typical Port land uses.

Historical experience provides little guidance in estimating the probability of a terrorist attack on a container vessel or onshore terminal facility. For a container terminal importing large numbers of containers from countries that may be considered unfriendly, the perceived threat of a terrorist attack is a primary concern of the local population. Sinking a cargo ship in order to block a strategic lane of commerce actually presents a relatively low risk, in large part because the targeting of such attacks is inconsistent with the primary motivation for most terrorist groups (i.e., achieving maximum public attention through inflicted loss of life). Sinking of a ship would likely cause greater environmental damage due to spilled fuel, but this is generally not a goal of terrorist groups.

However, at the national level, potential terrorist targets are plentiful, including those having national significance, those with a large concentration of the public (e.g., major sporting events, mass transit, skyscrapers, etc.), or critical infrastructure facilities. Currently, the United States has over 500 chemical facilities operating near large populations. U.S. waterways also transport over 100,000 annual shipments of hazardous marine cargo, including LPG, ammonia, and other volatile chemicals. All of these substances pose hazards that far exceed those associated with a container terminal.

The Port of Los Angeles is one of the world's largest trade gateways, and the economic contributions to the regional and national economy are substantial. Although cumulative container throughput would continue to grow in importance on a national level, the San Pedro Bay Ports already represent a substantial fraction of national container terminal throughput, and by default, an attractive economic terrorist target. Given the relative importance of the San Pedro Bay Ports under baseline conditions, cumulative growth would not be expected to materially change their relative importance as a potential terrorist target. Therefore, the cumulative impact of past, present, and reasonably foreseeable future projects with regard to terrorist action is not significant.

4.2.7.5.2 Contribution of the Proposed Project

The risk of a terrorist attack is considered part of the baseline for the proposed Project. The proposed Project would construct a marine research center within a 28-acre portion of the 400-acre San Pedro Waterfront Plan area. Large-scale projects that use hazardous materials or fuels are not part of the proposed Project. The Westway Terminal is no longer operational and is in the process of being decommissioned, remediated, and demolished (Table 4-1, #12).

Elements that are part of the proposed Project are unlikely terrorist targets as they would not attract large numbers of people. The proposed Project would be expected to attract smaller crowds in a few visitor- and public-serving facilities such as the public plaza at Berth 57 and the public plaza/viewing platform at Berth 60, and at recreational opportunities such as the waterfront promenade. However, given the relatively low number of users anticipated when compared with other recreational and commercial facilities located in the region and throughout Southern California, the potential of the proposed Project to significantly increase the threat of a terrorist action is negligible. Therefore, the proposed Project would not substantially increase the likelihood of a terrorist action over existing conditions at the Port. The likelihood of a terrorist action would remain a possibility for the proposed Project, just as it does under existing conditions at the Port, but the operation of the proposed Project would not substantially increase the potential threat of a terrorist action.

The proposed Project would comply with all existing applicable security and safety regulations, which are fully enforceable by LAHD and the USCG, thereby reducing the potential vulnerability of the proposed Project to a terrorist action.

The environmental consequences of a terrorist action, including threat to human health arising from the release, explosion, or spill of hazardous materials, may increase slightly when compared to the existing conditions due to the introduction of research vessels that will dock adjacent to the proposed project site. The proposed Project would reduce the vulnerability of an attack by implementing the security measures applied by LAHD, which would reduce the consequences of a release, spill, or explosion of hazardous materials. The proposed Project would not result in a substantial increase in the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action; therefore, impacts would be less than significant.

The contribution of the proposed Project would not be cumulatively considerable when combined with past, present, and reasonably foreseeable future projects related to increase in the likelihood of a spill, release, or explosion of hazardous materials due to a terrorist action.

4.2.7.5.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project would be less than cumulatively considerable with regard to the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action. No mitigation measures are required.

4.2.7.6 Cumulative Impact RISK-5: Substantially increase the likelihood of an accidental spill, release, or explosion of hazardous material(s) as a result of proposed project–related modifications—Less Than Cumulatively Considerable

Cumulative Impact RISK-5 represents the risk associated with the proposed Project when combined with past, present, and reasonably foreseeable future projects to substantially increase the likelihood of an accidental spill, release, or explosion of hazardous materials.

4.2.7.6.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Many of the past, present, and reasonably foreseeable future projects include typical Port land uses that may store large quantities of hazardous materials; the proposed Project would store relatively few hazardous materials in comparison. Between 2006 and 2009, there were 39 hazardous material spills directly associated with container terminals in the Ports of Los Angeles and Long Beach. This equates to approximately 10 spills per year for the entire Port Complex. During this period, the total throughput of the container terminals was 31,423,871 TEU. Therefore, the probability of a spill at a container terminal can be estimated at 1.24×10^{-6} per TEU. This spill probability conservatively represents the baseline hazardous material spill probability since it includes materials that would not be considered a risk to public safety but that would still be considered an environmental hazard. It should be noted that during this period, there were no reported impacts on the public (injuries, fatalities, or evacuations) (Los Angeles Harbor Department 2011).

Other present and reasonably foreseeable future projects in the Port would result in an increase in hazardous materials and petroleum products that could potentially spill during construction and operational activities. Such spills could result in soil contamination, groundwater contamination, marine water quality contamination, and health and safety impacts on onsite personnel and the public. However, past, present, and foreseeable future projects must comply with all existing hazardous material regulations in place through the local, state, and federal government. These regulations are in place to reduce the potential of accidental releases, spills, or explosions of hazardous materials and to minimize the environmental and public health impacts should one occur. Although projects cannot completely eliminate the probability associated with an accidental release, explosion, or spill, the existing regulations reduce the overall probability and minimize the impacts during a release. Therefore, past, present, and foreseeable future projects are not cumulatively significant with regard to increasing the likelihood of an accidental spill, release, or explosion of hazardous materials.

4.2.7.6.2 Contribution of the Proposed Project

The construction and operation of the proposed Project would be subject to applicable federal, state, and local laws and regulations governing the spill prevention, storage, use, and transport of hazardous materials, as well as emergency response to hazardous material spills, thus minimizing the potential for adverse health and safety impacts. Furthermore, the operation of the proposed Project would include infrastructure improvements and enhancements to existing transit sheds within Berths 56–60 (including research, teaching, and meeting spaces, and a marine science business park/incubator space with offices and research laboratory space) and the area within Berths 70–71 (e.g., a wave tank and government offices), which would not introduce the significant use of hazardous materials available for release in Planning Area (PA) 2. The operation of the SCMI and related research facilities under the proposed Project would be subject to state and federal hazardous material laws. The operation of the newly planned structures associated with the proposed Project would also use similar hazardous materials during the normal course of business and would be required to comply with local, state, and federal regulations on the use, handling, and storage of these materials. Enforcement of these regulations would be performed by LACFD, Cal/OSHA, DTSC, and EPA. Therefore, the incremental contribution of the proposed Project to cumulative impacts associated with accidental spill, release, or explosion of hazardous materials from construction and operation projects would be less than significant and would not be cumulatively considerable.

4.2.7.6.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to accidental spill, release, or explosion of hazardous materials impacts would be less than cumulatively considerable. No mitigation measures are required.

4.2.7.7 Cumulative Impact RISK-6: Introduce the general public to hazard(s) defined by the EPA and the Port RMP associated with offsite facilities—Less than Cumulatively Considerable

Cumulative Impact Risk-6 represents the risk associated with the proposed Project when combined with past, present, and reasonably foreseeable future projects to expose the general public to hazards defined by the EPA and Port RMP associated with offsite facilities.

4.2.7.7.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past, present, and reasonably foreseeable future projects in the Port would result in an increase in hazardous materials that could expose the general public to hazards defined by the EPA and Port RMP associated with offsite facilities. These projects must comply with all existing hazardous material and facility regulations and safeguards in place through the local, state, and federal laws. Moreover, facilities that contain hazardous materials or operational hazards have restricted access to prevent general members of the public from exposure to hazards as defined by the EPA and Port RMP. Although projects cannot completely eliminate the possibility of exposing the general public to such hazards, the existing regulations and restricted access reduce the overall probability and minimize the impacts if exposure were to occur. Therefore, past, present, and reasonably foreseeable future projects would not result in cumulatively significant impacts with regard to exposure of the general public to hazards defined by the EPA and Port RMP.

4.2.7.7.2 Contribution of the Proposed Project

The construction and operation of the proposed Project would be subject to applicable federal, state, and local laws and regulations governing the storage, use, and transport of hazardous materials, as well as emergency response to hazardous material spills, thus minimizing the potential for adverse health and safety impacts. The proposed Project would not include the introduction of new industrial uses within PA 2 and replaces former industrial uses that have historically occurred on the proposed project site. Additionally, the introduction of research, teaching, and meeting spaces, and a marine science business park/incubator space with offices and research laboratory space, would result in the development of uses that would benefit the public and not pose acutely hazardous risks to the public. However, the research facilities would utilize chlorine, ozone, and other potentially hazardous materials to support operations, but in small quantities that would pose remote threats to human health and safety.

The proposed Project would introduce new uses in proximity to Mike’s fueling station. As discussed in Section 3.7, “Hazards and Hazardous Materials,” Mike’s handles several different types of hazardous materials including clear diesel, lube oil, red dye diesel, and waste lube oil. Mike’s fueling station currently meets all safety and environmental standards for the handling and storing of hazardous materials, and would not expand or increase its inventory of materials. Per Mitigation Measure MM RISK-1 of the San Pedro Waterfront Project EIS/EIR, products with a flashpoint below 140°F will not be permitted and Mike’s fueling station will cease to handle hazardous materials with flashpoints below 140°F. Therefore, the proposed Project would not result in a substantial increase in the potential for a hazardous materials spill, release, or explosion at Mike’s fueling station with incorporation of Mitigation Measure MM RISK-1 identified in the San Pedro Waterfront Project EIR/EIS.

4.2.7.7.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to exposing the general public to hazards defined by the EPA and Port RMP would be less than cumulatively considerable with the implementation of Mitigation Measure MM RISK-1 (Removal of All Hazardous Materials with Flashpoints below 140°F from Mike's Fueling Station) as identified in Section 3.7, "Hazards and Hazardous Materials."

4.2.8 Land Use and Planning

4.2.8.1 Scope of Analysis

Because the proposed Project has the capacity to affect the environment within the Port and surrounding communities, the region of analysis for cumulative impacts includes the Port of Los Angeles and extends to adjacent areas, including the communities of San Pedro and Wilmington, which are assessed in terms of their compatibility with existing Port uses.

4.2.8.2 Cumulative Impact LU-1: Be inconsistent with the adopted land use/density designation in the Community Plan, redevelopment plan, or specific plan for the site—Less than Cumulatively Considerable

Cumulative Impact LU-1 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in development that would be inconsistent with land use/density designations in land use plans that govern buildout within the proposed project area.

4.2.8.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past and present actions within the proposed project vicinity have been subject to the land use/density designations stipulated in the PMP, the Port of Los Angeles Plan, other applicable community plans, and the zoning code. The PMP has been certified by the Coastal Commission, and all past development projects have been approved pursuant to the adopted PMP, ensuring compliance with the coastal zone management program. The City-approved Port of Los Angeles Plan is the City's governing document that regulates the continued development and operation of the Port. Over the years, the Port has grown and operated consistent with the PMP and the Port of Los Angeles Plan, ensuring consistency with land use/density designations to minimize impacts on surrounding areas. On occasion, the PMP and the Port of Los Angeles Plan have required amendments in order to accommodate specific projects, ensuring ongoing consistency with planning programs. Similarly, existing facilities within the proposed project vicinity and construction and operation associated with past and current projects have been modified as necessary to ensure proposed land use/density designations are consistent with the Port of Los Angeles Plan designations and the short-term plans; the same is expected of reasonably foreseeable future projects. Therefore, past, present, and reasonably foreseeable future projects would not result in cumulatively significant impacts related to land use designations and inconsistencies.

4.2.8.2.2 Contribution of the Proposed Project

The proposed Project is under the jurisdiction of the Port of Los Angeles Plan (which is the Port's equivalent to a Community Plan of the Los Angeles General Plan). The proposed Project is also under the jurisdiction of the PMP. The proposed Project is located within areas zoned [Q]M2 and [Q]M3 in the City of Los Angeles Zoning Ordinance. Both the Port of Los Angeles Plan and the PMP describe the Planning Area in which the proposed Project is located as PA 2 West Bank. The preferred long-range water and land uses for PA 2 include commercial, recreation, commercial fishing, and non-hazardous cargo operations and support activities. The PMP recommends that this planning area be devoted to commercial, recreational, restaurant and tourist-oriented facilities, commercial fishing, general cargo, and dry liquid bulk terminals. [Q]M2 and [Q]M3 allow for commercial fishing, recreation, industrial, institutional, commercial, and other uses. Operation of the proposed Project is consistent with the planned land uses pursuant to the Port of Los Angeles Plan, the PMP, and current zoning. Therefore, the proposed Project, along with past, present, and future projects, would not be cumulatively considerable with regard to inconsistencies with land use/density designations.

4.2.8.2.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to inconsistencies with land use/density designation would be less than cumulatively considerable. No mitigation measures are required.

4.2.8.3 Cumulative Impact LU-2: Be inconsistent with the General Plan or adopted environmental goals or policies contained in other applicable plans, which would result in an adverse physical effect on the environment—Less than Cumulatively Considerable

Cumulative Impact LU-2 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in development that would be inconsistent with environmental objectives and policies delineated in land use plans that govern the proposed project area.

4.2.8.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past and present actions within the proposed project vicinity have been subject to the objectives and policies delineated in the Port of Los Angeles Plan. The City-approved Port of Los Angeles Plan is the City's governing document that regulates the continued development and operation of the Port and is consistent with the PMP. Over the years, LAHD has developed, consistent with the Port of Los Angeles Plan, objectives that give priority to water-dependent developments to ensure the Port is maintained as an important local, regional, and national resource, as well coordinating development of the Port and adjacent communities as stipulated in the San Pedro Community Plan. Similarly, present projects within the PMP area have been developed to ensure proposed developments are consistent with the Port of Los Angeles Plan and PMP objectives and policies. Construction and operation associated with present and future projects would be modified during the proposed project review process to ensure consistency with the Port of Los Angeles Plan and PMP objectives and policies. Therefore, past, present and foreseeable future projects have not resulted in cumulatively significant impacts with regard to inconsistencies with environmental objectives and policies of applicable plans.

4.2.8.3.2 Contribution of the Proposed Project

The proposed Project would be consistent with the adopted objectives and policies identified in the Port of Los Angeles Plan and other plans including the General Plan Framework Element, the Port of Los Angeles Plan (part of the City of Los Angeles General Plan), the Port of Los Angeles Master Plan, the Port of Los Angeles Strategic Plan, and the Los Angeles Green Building Policy. Also, the proposed Project is consistent with the California Tidelands Trust Act of 1911 because all property and improvements included in the proposed Project would be dedicated to marine research and marine-related business uses. Therefore, when considered with past, present and reasonably foreseeable future projects, the proposed Project would not result in cumulatively considerable impacts with regard to inconsistencies with environmental objectives and policies of applicable plans.

4.2.8.3.2 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project would be less than cumulatively considerable with regard to inconsistencies with environmental objectives and policies of applicable plans. No mitigation measures are required.

4.2.9 Noise

4.2.9.1 Scope of Analysis

The potential for cumulative noise impacts is generally limited to the local proposed project area. For the analysis of cumulative construction impacts, other proposed construction projects that could potentially overlap with the proposed Project were considered based on proximity and construction time frame. For the analysis of cumulative operations impacts, the traffic study provides traffic volumes south of I-110/SR-47, east of Gaffey Street, and west of Harbor Boulevard that include known future projects and anticipated growth. Therefore, for the purposes of the operational analysis, the proposed project area was analyzed for cumulative impacts as part of the proposed Project‘s noise analysis (see Section 3.9, “Noise”). This analysis assesses the potential of the proposed Project, along with related projects, to cause a substantial increase in noise as a result of project construction and traffic-related noise increases.

The significance criteria used for the cumulative analysis are generally the same as those used for the proposed Project in Section 3.9, “Noise”; however, some of the significance criteria have been consolidated to more concisely and clearly analyze cumulative impacts.

4.2.9.2 Cumulative Impact NOI-1: Construction lasts more than 1 day and exceeds existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use; construction activities lasting more than 10 days in a 3-month period exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use—Cumulatively Considerable and Unavoidable

Cumulative Impact NOI-1 represents the potential of proposed project construction activities when combined with past, present, and reasonably foreseeable future projects to cause a substantial increase in ambient noise levels at sensitive receptors within the cumulative geographic scope.

Cumulative noise impacts would potentially occur from the construction of other projects within the area. Noise from the construction of these projects would tend to be localized, thus potentially affecting the areas immediately surrounding each prospective project site. Of these projects, those within 1 mile could result in construction noise that exceeds significance thresholds depending upon the timing of construction. A substantial increase would occur if existing ambient exterior noise levels increased by 5 dBA (L_{eq}) or more at a noise sensitive use. Community noise levels are measured in decibels. For a project to make a cumulatively considerable contribution to the cumulative effect, noise from the proposed Project's construction activities must increase the cumulative noise level by at least 5 dBA L_{eq}.

4.2.9.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The list of related and cumulative projects (see Table 4-1) was reviewed to determine if construction activities associated with any of these projects could, in combination with the proposed Project, cause a cumulative construction noise impact. Construction projects within a 1-mile radius of the proposed Project were chosen to conservatively estimate cumulative construction noise impacts.

There are 12 projects (Table 4-1) within a 1-mile radius of the proposed Project: San Pedro Waterfront (#2), Cabrillo Way Marina, Phase II (#4), Plains All American Oil Marine Terminal (#10), Westway Demolition (#12), Pan-Pacific Fisheries Cannery Buildings Demolition Project (#18), San Pedro Waterfront Enhancements (#19), Southwest Marine Demolition (#25), Inner Cabrillo Beach Water Quality Improvement (#27), Cabrillo Beach Pump (#28), Al Larson Boat Shop Improvement (#29), San Pedro Plaza Park (#44), and a Mixed-Use Development at 281 W. 8th Street (#47). Potential projects for which construction time frames could overlap include San Pedro Plaza Park (#44), Al Larson Boat Shop Improvement (#29), and Plains All American Oil Marine Terminal (#10). If construction schedules for these projects overlap the proposed Project, periodically elevated noise levels due to combined construction noise could occur. While detailed assessment of combined construction noise that could result from projects referenced above cannot be conducted because of the inherent uncertainties in construction equipment makeup, it is likely that construction activities and associated noise levels would be similar in character to those expected from the proposed Project.

Other projects that could potentially effect noise levels with respect to construction would include Cabrillo Beach Pump (#28), Southwest Marine Demolition (#25), and Pan-Pacific Fisheries Cannery Buildings Demolition (#18), all located within 1 mile of the project site. The current status of these projects makes it difficult to analyze potential construction-related noise impacts. However, it is likely that if these projects were to begin construction in the same timeframe as the proposed Project, they would increase noise levels at sensitive receptors in the vicinity of the proposed project sites. Therefore, the construction of past, present, and reasonably foreseeable future projects would have cumulatively significant noise impacts on sensitive receptors (residential land uses).

4.2.9.2.2 Contribution of the Proposed Project

Construction of the proposed Project independent of any other project would cause a significant noise impact on sensitive receptors in the vicinity, as documented in Section 3.9, "Noise." Noise from the construction of the proposed Project would result in up to a 14 dB increase over the ambient worst-case construction scenario. Noise from the other construction projects in the proposed project vicinity could increase noise levels in the area. Taking into consideration the location and scope of other projects (particularly the nearest such project, the San Pedro Waterfront Enhancements) noise from construction would exceed the 5 dBA significance threshold. Therefore, the contribution of the proposed Project and other proposed projects in the surrounding area would be cumulatively considerable under Impact NOI-1 when combined with past, present, and reasonably foreseeable future projects.

4.2.9.2.3 Mitigation Measures and Residual Cumulative Impacts

Implementation of Mitigation Measures MM NOI-1 through MM NOI-4 in Section 3.9, "Noise," would reduce noise impacts from construction. However, impacts would remain significant; therefore, the incremental contribution of the proposed Project to existing ambient exterior noise levels would be cumulatively considerable.

4.2.9.3 Cumulative Impact NOI-2: Construction activities exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9 p.m. and 7 a.m. Monday through Friday, before 8 a.m. or after 6 p.m. on Saturday, or at any time on Sunday—No Cumulative Impact

Cumulative Impact NOI-2 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to cause a substantial increase in construction noise at night or on Sundays.

4.2.9.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Because the proposed Project would not involve construction between the hours of 9 p.m. and 7 a.m. or on Sundays, it is not necessary to document the effects of past, present, and reasonably foreseeable future projects.

4.2.9.3.2 Contribution of the Proposed Project

No construction activities are planned to occur between the hours of 9:00 p.m. and 7:00 a.m., Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday. There would be no construction-related noise impacts during prohibited hours as described above; consequently, no noise impacts from construction activities would occur and construction noise impacts would not be cumulatively considerable.

4.2.9.3.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of construction noise from the proposed Project to ambient noise levels at noise-sensitive land uses would be less than cumulatively considerable. No mitigation measures are required.

4.2.9.4 Cumulative Impact NOI-3: Expose persons to, or generate, excessive groundborne vibration or groundborne noise levels—Less than Cumulatively Considerable

Cumulative Impact NOI-3 represents the potential for the proposed Project when combined with past, present, and reasonably foreseeable future projects to cause a substantial temporary increase in groundborne noise vibration levels at sensitive receptors within the geographic scope of the proposed project. The geographic scope for groundborne noise vibration includes the immediate area surrounding the proposed project site (within 0.1 mile).

4.2.9.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Due to the nature of groundborne vibration and noise, construction projects would have to occur at the same time and very close to each other to be considered cumulatively considerable. Vibration is calculated based on the Peak Particle Velocity (PPV) at a reference distance multiplied by 25 feet (the reference distance) divided by the actual distance to determine PPV for construction equipment. As distance increases, a generally steep rate of drop off of PPV occurs; therefore, for groundborne vibration to be cumulatively considerable, projects would have to be very close to each other (within a matter of feet). No known past, present or reasonably foreseeable future projects would occur this close together and impacts would not be cumulatively significant.

4.2.9.4.2 Contribution of the Proposed Project

Because construction activities associated with the identified cumulative projects in Table 4-1 would not occur close enough together and at the same time, vibration from the proposed Project would not be cumulatively considerable.

4.2.9.4.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project to groundborne vibration would be less than cumulatively considerable. No mitigation measures are required.

4.2.9.5 Cumulative Impact NOI-4: Operations result in ambient noise level measured at the property line of affected uses increasing by 3 dBA in CNEL to or within the “normally unacceptable” or “clearly unacceptable category,” or increasing in any way by 5 dBA or more—Less than Cumulatively Considerable

Cumulative Impact NOI-4 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to cause a substantial permanent increase in ambient noise levels at sensitive receptors within the geographic scope of the proposed Project. The geographic scope includes the proposed project area, as well as sensitive receptors along roadways that carry vehicle trips to and from the proposed project site that are evaluated within the traffic study.

4.2.9.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Onsite operations at the Port and roadway traffic on the roadway network along major roadways in the proposed project area including local streets in the San Pedro community are the dominant sources of community noise and noise sensitive receptors within the geographic scope of the proposed Project. Virtually all of the cumulative projects in Table 4-1, with the exception of, for instance, some of the Port-wide operational plans and programs, would contribute to existing noise sources (such as traffic, terminal operations, and neighborhood sources including parks and schools). Therefore, past, present, and reasonably foreseeable future projects would result in cumulatively significant impacts related to operational noise at the Port.

4.2.9.5.2 Contribution of the Proposed Project

Noise impacts at the residences surrounding the proposed Project would be caused primarily by motor vehicle traffic on the local roadways, including Gaffey Street, Harbor Boulevard, 7th Street, 22nd Street, and others in the area. The traffic analysis presented in the Section 3.9, “Noise,” examined existing traffic conditions to the existing plus project (Phase 1 and Phase 2) contributions. The proposed Project was found to result in a less-than-significant increase in traffic noise volumes for surrounding sensitive receptors. Future traffic volumes would include traffic volumes from projects that are planned for implementation within the time frame studied in the traffic study. Traffic volumes were analyzed for design years 2016, 2024, and 2042 with and without the proposed Project. Table 4-2 shows future year noise levels (with and without project) at modeled receivers analyzed in Section 3.9, “Noise,” and the proposed Project’s contribution.

The proposed Project would only incrementally (1 dB or less) increase noise levels at receivers within the proposed project area. Therefore, because the proposed Project would not cause an increase of 3 dBA in CNEL to or within the “normally unacceptable” or “clearly unacceptable category,” or increase in any way by 5 dBA or more, noise impacts would be less than cumulatively considerable.

1 **Table 4-2.** Future Traffic Noise Conditions With and Without the Proposed Project

Receptor	*Noise Standard (dBA CNEL)*	*Future Year 2016 no Project (dBA CNEL)*	*Future Year 2016 with Project (dBA CNEL)*	*Difference (dBA)*	*Future Year 2024 no Project (dBA CNEL)*	*Future Year 2024 with Project (dBA CNEL)*	*Difference (dBA)*	*Future Year 2042 no Project (dBA CNEL)*	*Future Year 2042 with Project (dBA CNEL)*	*Difference (dBA)*
ST-1	65	45	45	0	46	47	1	47	47	0
ST-2	65	51	51	0	52	53	1	53	53	0
ST-3	65	52	53	1	54	54	0	53	54	1
ST-4	65	65	65	0	65	66	1	65	66	1
ST-5	65	64	64	0	64	64	0	65	65	0
ST-6	65	59	59	0	63	64	1	63	64	1

4.2.9.5.3 Mitigation Measures and Residual Cumulative Impacts

No mitigation is required. Impacts would be less than cumulatively considerable.

4.2.10 Public Services and Recreation

4.2.10.1 Scope of Analysis

Cumulative impacts on public services can result from the combined demand of the proposed Project along with past, present, and future related projects on any of the public services for which the proposed Project may have impacts (i.e., police and fire protection, and parks and recreation). The geographic scope depends on the service area of each public service and the jurisdiction within which increased demand could reduce their availability. Since the proposed Project has the capacity to affect the environment within the Port and surrounding communities, the region of analysis for cumulative impacts includes the Port and extends to adjacent areas, including the community of San Pedro, and they are assessed in terms of their compatibility with existing Port industrial uses. For the Port Police, this area is localized to the Ports of Los Angeles and Long Beach and neighboring harbor area communities, such as San Pedro. The service area of the LAPD and LAFD encompasses the City of Los Angeles; however, the police and fire stations identified as serving the proposed Project serve only the Port and harbor area. The geographic scope for parks and recreation would be limited to the neighboring San Pedro communities. Direct impacts from the proposed Project would be localized to the Port area, and indirect impacts could extend further within the City. The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.10, "Public Services and Recreation."

4.2.10.2 Cumulative Impact PS-1: Substantially reduce public services such as law enforcement, emergency services, and park services during construction—Less Than Cumulatively Considerable

Cumulative Impact PS-1 represents the potential for the proposed Project construction activities, when combined with past, present, and reasonably foreseeable future projects, to affect law enforcement and emergency services such that public service agencies would not be able to maintain an adequate level of service during construction. Additionally, this impact assesses whether park and recreational services would be adversely affected.

4.2.10.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past projects would not disrupt law enforcement or emergency response times during construction because these projects have been completed and are operational. Construction of present and reasonably foreseeable future projects may lead to traffic disruption through lane closures, road closures, etc. These disruptions would potentially impact the emergency response times of the law enforcement and emergency services providers. Present and future cumulative projects within the Port would be required, as would the proposed Project, pursuant to the WATCH Manual, to coordinate with law enforcement agencies and emergency services during construction of all roadway improvements to establish emergency vehicular access, ensuring continuous law enforcement access to surrounding areas. The WATCH Manual would include temporary traffic controls such as alternate response routes and maintenance of emergency vehicular access through tapers, diversions, and detours, hand signaling controls, barricades, lighting devices, and sign placement to ensure minimum response times during construction of the related projects. Similarly, impacts on park and recreational services from construction of past, present, and future projects would not restrict access to or use of recreational facilities in and around the Port and surrounding communities. Therefore, impacts of past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts on law enforcement, emergency, and park services during construction.

4.2.10.2.2 Contribution of the Proposed Project

Construction of the proposed Project would not substantially affect response times for LAFD, LAPD, or the Port Police. LAHD would be required pursuant to the WATCH Manual to coordinate with the law enforcement agencies (LAPD and Port Police) and emergency response providers (LAFD) during construction of all improvements, ensuring continuous law enforcement and emergency access to surrounding areas. The WATCH Manual would include temporary traffic controls such as alternate response routes and maintenance of emergency vehicular access through tapers, diversions and detours, hand signaling controls, barricades, lighting devices, and sign placement to ensure minimum response times during utility construction. Proposed project construction and demolition activities would be subject to emergency response systems implemented by the Port Police and LAFD.

During construction and/or demolition activities, LAFD would require that adequate vehicular access to the proposed project area be provided and maintained. This would be ensured and enforced via the construction traffic control plan prepared in compliance with the WATCH Manual as required for the proposed Project. Additionally, LAFD would be responsible for waterside first response in the event of an emergency, deploying their fireboats if needed. The Port Police would also support LAFD in the event of a waterside emergency. For further discussion of the construction traffic control plan, refer to Section 3.11, “Transportation and Circulation—Ground and Marine.”

Any disruptions to emergency access that result from construction of the proposed Project would be temporary and accounted for in the traffic control plan. Access to existing or proposed park and recreational space, such as the public plaza at Berth 57or the waterfront promenade, once Phase I is operational would not be affected for extended periods by Phase II construction activities, nor would construction interfere with park services or increase demand on park services.

4.2.10.2.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to impacts on law enforcement, emergency services, and park and recreational services would be less than cumulatively considerable. No mitigation measures are required.

4.2.10.3 Cumulative Impact PS-2: Burden existing LAPD or Port Police staff levels and facilities such that the LAPD or Port Police would not be able to maintain an adequate level of service without constructing additional facilities that could cause significant environmental effects—Less Than Cumulatively Considerable

Cumulative Impact PS-2 represents the potential of the proposed Project along with other cumulative projects to increase the demand for additional law enforcement officers and/or facilities such that the USCG, LAPD, or Port Police would not be able to maintain an adequate level of service without additional facilities.

4.2.10.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The LAPD is not the primary police service provider in the Port area and primarily provides support to the Port Police under special circumstance (as described in Section 3.11.2.1.1); therefore, cumulative Port development would directly affect only the Port Police. Construction and operation of past projects has created an existing demand for police protection that is adequately accommodated by the Port Police with support from LAPD. Port Police do not base staff levels on the amount of proposed commercial development or on the anticipated population growth of a given area because of the unique nature of their mission in a primarily industrial port complex with multiple pieces of critical infrastructure. Their staff numbers are based on current Homeland Security data and levels of security at other ports of corresponding size and activity. (Grant pers. comm. 2011.)

Many of the present and reasonably foreseeable future cumulative projects described in Table 4-1 involve the relocation, and in some cases expansion of facilities, which could result in increased demand for public services. Several of the projects would increase the demand for local police by increasing the amount of Port land used for operations; for example, the Marine Terminal, West Basin (#1), Evergreen Container Terminal Improvements (#5), Middle Harbor Terminal Redevelopment (#90), Pasha Marine Terminal Improvements (#15), APL Container Terminal (#30), and Yang Ming Container Terminal Improvements (#24) would generate increased on-land terminal operations. Pursuant to the WATCH Manual, these projects would be required to coordinate with the law enforcement agencies during construction of all roadway improvements to establish emergency vehicular access, ensuring continuous law enforcement access to surrounding areas. Additionally, these projects would be required to implement MTSA mandated security features, including terminal security personnel, gated entrances, perimeter fencing, terminal and backlands lighting, and camera systems, that would reduce the demand for law enforcement personnel. As stated above, the Port Police would continue to increase staffing and facility upgrades in conjunction with Homeland Security data and levels of security at other ports of corresponding size and activity.

USCG determines response times based on the distance that is required to travel to the various Port facilities. Development due to the proposed Project and other reasonably foreseeable projects would not affect USCG response times because projects would be located within the same operating distance of other facilities within the jurisdiction of the Ports of Los Angeles and Long Beach; therefore, response times would not increase.

Law enforcement services have developed over time in concert with surrounding development needs; therefore, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts related to the demand for law enforcement. As such, impacts of past, present, and reasonably foreseeable future projects related to service levels of USGS, LAPD, or Port Police are not cumulatively significant.

4.2.10.3.2 Contribution of the Proposed Project

The proposed Project would result in the addition of workers and visitors to the site; however, it is not expected that the activities that would occur on the site would require an increase in police presence compared to existing conditions. The police continuously patrol land and water and are constantly expanding and updating resources. Therefore, the proposed project area can be adequately served. Moreover, the Port Police currently work cooperatively with various agencies to provide adequate protection when additional police are needed to respond to a situation.

USCG’s ability to respond would not be affected by the proposed Project because there would be new vessel berthing facilities along Berths 58–60 and at Berths 70–71, providing USCG the ability to dock at the proposed project site if such an action were to be required. Moreover, vessels planned to be berthed at the City Dock No. 1 facility would be required to comply with all USCG regulations, including vessel inspections as appropriate. Further, USCG would respond to any vessels requiring assistance. Because the proposed Project does not change the baseline demands of how many law enforcement personnel are needed within the Port area, and is it within the current USCG coverage area, USCG would not need to increase their personnel or equipment numbers (Ludwig pers. comm. 2011).

Therefore, the contribution of the proposed Project to demand for additional law enforcement officers and/or facilities would not result in cumulatively considerable impacts when combined with past, present, and reasonably foreseeable future projects.

4.2.10.3.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project would be less than cumulatively considerable to impacts on the demand for additional law enforcement officers and/or facilities. No mitigation measures are required.

4.2.10.4 Cumulative Impact PS-3: Require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service—Less Than Cumulatively Considerable

Cumulative Impact PS-3 represents the potential of the proposed Project or alternatives along with other cumulative projects to require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service.

4.2.10.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction and operation of past projects has created an existing demand for fire protection that can be accommodated by the LAFD because emergency response times to the Port area are considered adequate. As discussed in Section 3.10, "Public Services," the citywide average response time is approximately 6 to 8 minutes (LAHD 2009). Many of the present and reasonably foreseeable future cumulative projects described in Table 4-1 involve the relocation and in some cases expansion of existing facilities within the Port and vicinity; therefore, an increased demand on fire protection could result from their development. Several of the projects would increase the demand for local fire protection by increasing the amount of Port land used for operations. However, all projects are designed and constructed to meet all applicable state and local codes and ordinances to ensure adequate fire protection and would be subject to LAFD review and approval. These codes and ordinances would include measures such as requiring fire protection infrastructure (i.e., fire hydrants and sprinklers) and ensuring that the LAFD is given the opportunity to review and approve any changes in site access. Additionally, present and future cumulative projects would be required, similar to the proposed Project, and pursuant to the WATCH Manual to coordinate with the law enforcement agencies during construction of all roadway improvements to establish emergency vehicular access, ensuring continuous law enforcement access to surrounding areas. Furthermore, fire stations in the area are generally distributed to facilitate quick emergency response throughout the proposed project area. Consequently, past, present, and reasonable foreseeable future projects would not result in significant cumulative impacts on fire protection services.

4.2.10.4.2 Contribution of the Proposed Project

The proposed Project would not substantially increase the demand for fire protection services. The proposed Project would be designed and constructed to meet all applicable state and local codes and ordinances to ensure adequate fire protection, which would be subject to LAFD review and approval. In addition, emergency response times would not increase because existing fire lanes and hydrants would not be removed. Any site access alterations would be reviewed and approved by the LAFD. During proposed project operations, pursuant to the WATCH Manual, LAHD would coordinate with LAFD during construction of all roadway improvements to establish emergency vehicular access, ensuring continuous law enforcement access to surrounding areas. Because fire protection services would be incorporated into the proposed project site and emergency response times would not increase, the proposed Project would have no adverse effect on fire protection services and would not make a cumulatively considerable contribution to a significant cumulative impact on fire protection services.

4.2.10.4.3 Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required because the contribution of the proposed Project to impacts on fire protection services would be less than cumulatively considerable.

4.2.10.5 Cumulative Impact PS-4: Increase the demand for recreation and park services and facilities resulting in the physical deterioration of these facilities—Less than Cumulatively Considerable

Cumulative Impact PS-4 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to require the addition of recreation and park facilities to maintain service levels.

4.2.10.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Some of the projects listed in Table 4-1 are growth-inducing, and their cumulative effect will likely result in an intensification of existing recreational resources usage in the proposed project vicinity. However, these residential projects would be evaluated under a separate environmental process and would be required to comply with existing local and state regulations mandating recreational facilities that would specifically support these new projects. The present and reasonably foreseeable future projects in the vicinity of the proposed Project also include some projects that would provide new open space and recreation resources for the public, including: San Pedro Waterfront (#2), San Pedro Waterfront Enhancements (#19), Wilmington Waterfront (#21), and Banning Museum and Banning Park (#59). The addition of these projects in conjunction with the proposed Project would result in a substantial increase in recreational opportunities and would benefit existing recreational resources in the proposed project vicinity by reducing the existing impact on those recreational resources. As such, impacts of past, present, and reasonably foreseeable future projects would not result in cumulatively significant impacts on recreation and parks services.

4.2.10.5.2 Contribution of the Proposed Project

The proposed Project includes development of recreational facilities and open spaces such as a waterfront café, a continuous waterfront pedestrian promenade, and a public plaza. These new recreational amenities would relieve the burden on existing recreation facilities and open spaces. LAHD would be responsible for ongoing maintenance and operations of the open spaces and recreational facilities for the proposed Project. The operations would include active maintenance, security, marketing and event master planning, and administration.

LAHD would adequately provide resources for the maintenance and operation of the proposed Project. The proposed Project would have no adverse effects on parks and recreation, and the cumulative impact of the proposed Project would be less than significant. Therefore, the contribution of the proposed Project to deterioration of recreation and park services would not be cumulatively considerable when combined with past, present, and reasonably foreseeable future projects.

4.2.10.5.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to deterioration of recreation and park services would be less than cumulatively considerable. No mitigation measures are required.

4.2.11 Transportation and Circulation—Ground and Marine

4.2.11.1 Scope of Analysis

The transportation environmental setting for the cumulative surface transportation analysis includes those streets and intersections that would be used by both automobile and truck traffic to gain access to and from the City Dock No. 1 site. Table 3.11-3 in Section 3.11, "Transportation and Circulation—Ground and Marine," presents the 19 intersections identified for analysis in consultation with LADOT based on location in relation to the proposed Project and the potential for project-related traffic to travel through them. These intersections would also be used by construction traffic (e.g., equipment and commuting workers).

The analysis of roadway and intersection impacts presented in this cumulative analysis reflects future 2016 and 2024 conditions projected with and without the proposed Project. This includes traffic from other regional development that is expected to occur regardless of whether or not the proposed Project is implemented.

The proposed Project would allow a greater number of research vessels to call at the Port. Like all commercial vessels, these ships would follow designated traffic channels (also used by other vessels) when approaching and leaving the Los Angeles Harbor. Similarly, in-water construction activities associated with the proposed Project would occur within the Port's existing channel limits (i.e., channel and berthing areas). Because the proposed Project has the capacity to affect vessel transportation within these channels or the berths the vessels are accessing, the geographic scope for cumulative marine transportation impacts includes the vessel traffic channels that ships use to access berths within the Los Angeles Harbor, Main Channel, and precautionary areas.

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.11.

4.2.11.2 Cumulative Impact TC-1: Result in a short-term, temporary increase in construction-related truck and

auto traffic, decreases in roadway capacity, and disruption of vehicular and non-motorized travel—Less Than Cumulatively Considerable With Mitigation

Cumulative Impact TC-1 represents the potential of the proposed Project in combination with other cumulative projects to result in impacts on roadways and intersections from a short-term temporary increase in construction truck and automobile traffic (associated with construction worker commutes), transport and staging of construction equipment, transport of construction materials to construction sites, and hauling excavated and demolished materials away from construction sites.

4.2.11.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Potential cumulative construction effects from past, present, and reasonably foreseeable future projects on roadway operations include the following:

- Temporary increases in traffic associated with construction worker commutes, delivery of construction materials, hauling of demolished and/or excavated materials, and general deliveries would increase travel demand on roadways.
- Temporary roadway lane closures or narrowings in areas directly abutting construction activities would reduce capacity of roadways.
- Temporary roadway closures associated with the construction of transportation infrastructure would reduce the capacity of the roadway system and/or require detours that increase travel times.
- During project construction, parking demand would increase from construction workers and from construction equipment that is not in use.
- Temporary sidewalk, lane, or road closures could occur adjacent to project elements that are under construction, which could interfere with bicycle or pedestrian circulation.
- Heavy and slow-moving construction vehicles would mix with general-purpose vehicular and non-motorized traffic in the area.

Construction of cumulative projects would result in a temporary increase in traffic volumes and a decrease in roadway capacity due to temporary lane closures. The following impacts could result from cumulative projects:

- Reduced roadway capacity and an increase in construction-related congestion could result in temporary localized increases in traffic congestion.
- Construction activities could disrupt existing transit service in the proposed project vicinity. Impacts may include temporary route detours, reduced or no service to certain destinations, or service delays.
- Construction activities would increase parking demand in the proposed project vicinity and could result in parking demand exceeding the available supply.

- Construction activities would disrupt pedestrian and bicycle travel. Impacts include temporary sidewalk or roadway closures that would create gaps in pedestrian or bicycle routes and interfere with safe travel.
- Construction activities would increase the mix of heavy construction vehicles with general purpose traffic. Impacts include an increase in safety hazards due to a higher proportion of heavy trucks.

Without mitigation, the impact of cumulative construction-generated traffic on transportation operations and safety is considered cumulatively significant.

4.2.11.2.2 Contribution of the Proposed Project

Construction-related traffic due to the proposed Project would add to overall traffic congestion in the area, with most proposed project construction occurring between 2012 and 2024.

Potential cumulative construction effects include the following:

- A temporary increase in traffic associated with construction worker commutes, delivery of construction materials, hauling of demolished and/or excavated materials, and general deliveries would increase travel demand on roadways.
- Temporary roadway lane closures (i.e., Signal Street) or narrowings in areas directly abutting construction activities (i.e., the eastbound lane of 22nd Street) would reduce capacity of roadways.
- During proposed project construction, parking demand would increase from construction workers and construction equipment that is not in use.
- Temporary sidewalk and lane closures (i.e., 22nd Street) could occur adjacent to proposed project elements that are under construction, which would interfere with bicycle or pedestrian circulation within the proposed project vicinity.
- Heavy and slow-moving construction vehicles would mix with general-purpose vehicular and nonmotorized traffic in the area.

The exact trip generation expected from construction would be determined as part of the detailed construction phasing plans that are prepared for the proposed Project. At that time, traffic and/or road closures or narrowing that are expected from other concurrent construction activities would be taken into account, as a Traffic Control Plan (i.e., WATCH Manual) is developed to mitigate the construction-related contribution of the proposed Project to the overall surface transportation operations. The proposed Project would result in similar construction impacts identified for past, present, and reasonably foreseeable future projects. When combined with cumulative projects, the cumulative effects of short-term temporary increases in construction truck and automobile traffic would be cumulatively considerable prior to incorporation of mitigation measures.

4.2.11.2.3 Mitigation Measures and Residual Cumulative Impacts

Implementation of Mitigation Measure MM TC-1 (Develop and implement a Traffic Control Plan throughout proposed project construction) would reduce the contribution of the proposed Project to cumulative construction traffic impacts to less-than-significant levels. This measure, described in detail in Section 3.11.4.3.1, would address potential impacts during construction by maintaining adequate access to adjacent roadways, maintaining access to transit and to pedestrian and bicycle facilities where safe to do so, providing parking for construction-related vehicles, and providing construction traffic control to minimize effects on roadway operations. With this measure in place, residual cumulative impacts on construction traffic would be less than cumulatively considerable.

4.2.11.3 Cumulative Impact TC-2a: Increase traffic volumes and degrade LOS at intersections within the proposed project vicinity—Less Than Cumulatively Considerable

Cumulative Impact TC-2a represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in significant increases in traffic volumes or degradation of LOS at intersections within the proposed project vicinity.

4.2.11.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Regional background (ambient) traffic growth was estimated using data from a computerized traffic analysis tool known as the Port Area Travel Demand Model, which includes traffic growth for the Port and the local area. Background traffic growth occurs as a result of regional growth in employment, population, schools, and other activities. Related projects are covered by the growth forecasts of the Port Travel Demand Model. Local projects not included in the SCAG Regional Travel Demand Forecasting Model were separately accounted for in the Port Travel Demand Model, such as detailed Ports of Long Beach and Los Angeles projected container and non-container terminal growth.

Increases in traffic volumes on the surrounding roadways, due to cumulative new development, would in turn degrade intersection operations. Cumulative base traffic forecasts include the effects of specific cumulative development projects expected to be built in the vicinity of the proposed project site by the years 2016, 2024, and 2042, plus ambient growth rates. The list of related projects was based on data from LADOT and from the Community Redevelopment Agency of the City of Los Angeles, as well as a review of other recent traffic studies conducted for projects in the vicinity. The following projects (as listed in Table 4-1) were included in the related project traffic generation and assignment:

- **CRAFTED in San Pedro (#9) –** CRAFTED would be located in Warehouses #9 and #10 in San Pedro, near Miner Street and 22nd Street, approximately 1.5 miles from the proposed project site. This project would consist of adaptive reuse of the existing warehouses to create a permanent craft marketplace. The building programming would be composed of juried vendor stalls selling handmade wares. The building would also feature concession areas and a demonstration area. CRAFTED would be open throughout the week, with peak activity occurring on weekends.

- **USS Iowa Battleship (#33) –**The USS Iowa would be located at Berth 87, near the intersection of Harbor Boulevard and 1st Street, approximately 1.5 miles from the proposed project site. This project consists of a 33,800-square-foot visitor center, including a museum and education center aboard the USS Iowa battleship. There would also be concession areas, ticketing, and gift-shop facilities on the proposed project site.
- **San Pedro Waterfront (#2) –** The San Pedro waterfront transformation is a long-range specific plan for the San Pedro side of the Los Angeles waterfront. It includes redevelopment of Ports O'Call, the primary retail outlet along the waterfront, additional promenades and boat harbors, and several recreational elements. The project is expected to increase utilization of the Waterfront area with adaptive reuse of underutilized buildings and new development opportunities along the waterfront.

Per information received from the Port, a future improvement along Harbor Boulevard (expected by year 2016) to the intersection of Harbor Boulevard and 7th Street will include a junction with Sampson Way. By year 2024, as part of the San Pedro Waterfront Project, Harbor Boulevard will be re-striped, and the median will be removed/reconstructed as needed to provide three northbound through lanes and three southbound through lanes between the reconstructed Sampson Way and Harbor Boulevard intersection and the Westbound On-Ramp and Front Street intersection. This will result in the removal of parking and the bike lane on the northbound side of Harbor Boulevard. However, the existing and planned promenade on the east side of Harbor Boulevard will provide the replacement bike lane. The parking and 5-foot bike lane on the southbound side south of O' Farrell Street will be preserved (this is predicated upon 10-foot interior lanes, with the exception of the outer southbound through lane, adjacent to the bike lane, which would be maintained at 11 feet wide). North of O'Farrell Street, the parking and parking lane on the southbound side would need to be removed to accommodate the northbound dual left-turn lane. The innermost northbound through lane at the eastbound off-ramp intersection would become a forced left-turn lane at the SR-47 Westbound On-Ramp. This improvement is projected to be needed by the year 2024. LAHD will monitor operational conditions on an ongoing basis to confirm the need and timing for these improvements.

Additionally, the current improvement plan would equip all remaining intersections with ATSAC and install the state-of-the-art ATCS as an additional feature of the ATSAC system. In the analysis of future operating conditions, a capacity increase of 10% (0.10 V/C adjustment) was applied to reflect the benefit of ATSAC/ATCS control at all signalized study intersections. These improvements would result in capacity changes at the specified locations throughout the study area.

Future base traffic projections were analyzed to establish future base operating conditions without the proposed project for three future years (2016, 2024, and

2042). As shown in Tables 4-3, 4-4, and 4-5, below, 14 of the 16 signalized intersections operate at LOS D or better during both peak hours. The following intersections are projected to operate at LOS E or worse during one or more analyzed peak hours in 2016, 2024, and 2042, and impacts are considered to be cumulatively significant:

- Gaffey Street/Summerland Avenue (weekday PM only)
- Gaffey Street/1st Street (weekday AM/PM and weekend midday peak hours)

4.2.11.3.2 Contribution of the Proposed Project

The proposed Project would increase traffic volumes and degrade LOS at intersections within the proposed project vicinity. As shown in Tables 4-3, 4-4, and 4-5, intersection operations during 2016, 2024, and 2042 would continue to operate at LOS D or better with traffic contributions from the proposed Project, except for the following, which would operate at LOS E or worse during one or more analyzed peak hours:

- Gaffey Street/Summerland Avenue (weekday PM only)
- Gaffey Street/1st Street (weekday AM/PM and weekend midday peak hours)

However, because the increase in the V/C ratio compared to baseline conditions for the years 2016, 2024, and 2042 would not increase beyond the significance thresholds discussed in Section 3.11, "Transportation and Circulation—Ground and Marine," no cumulative impacts on intersection operations would occur and the proposed Project's contribution to degradation of LOS would be less than cumulatively considerable.

Table 4-3. Intersection LOS – 2016 Cumulative Plus Project Phase I Conditions

Intersection	*Peak Hour*	*2016 Baseline*		*2016 Baseline + Project (Phase I)*			
		V/C	*LOS*	*V/C*	*LOS*	*Change*	*Impact*
Gaffey Street/ Summerland Avenue	AM PM WK	0.738 0.927 0.668	C E B	0.739 0.928 0.668	C E B	0.001 0.001 0.000	NO NO NO
Gaffey Street/ I-110 Ramps	AM PM WK	0.409 0.544 0.469	A A A	0.410 0.545 0.471	A A A	0.001 0.001 0.002	NO NO NO
Gaffey Street/ 1st Street	AM PM WK	0.882 0.898 0.849	D D D	0.882 0.899 0.849	D D D	0.000 0.001 0.000	NO NO NO
Gaffey Street/ 5th Street	AM PM WK	0.717 0.684 0.744	C B C	0.718 0.686 0.744	C B C	0.001 0.002 0.000	NO NO NO
Gaffey Street/	AM	0.733	C	0.734	C	0.001	NO

Intersection	*Peak Hour*	*2016 Baseline*		*2016 Baseline + Project (Phase I)*			
		V/C	*LOS*	*V/C*	*LOS*	*Change*	*Impact*
7th Street	PM	0.654	B	0.655	B	0.001	NO
	WK	0.662	B	0.663	B	0.001	NO
Gaffey Street/ 9th Street	AM	0.841	D	0.841	D	0.000	NO
	PM	0.775	C	0.777	C	0.002	NO
	WK	0.809	D	0.809	D	0.000	NO
Gaffey Street/ 22nd Street	AM	0.365	A	0.373	A	0.008	NO
	PM	0.400	A	0.409	A	0.009	NO
	WK	0.562	A	0.568	A	0.006	NO
Gaffey Street/ 25th Street	AM	0.424	A	0.428	A	0.004	NO
	PM	0.413	A	0.414	A	0.001	NO
	WK	0.611	B	0.612	B	0.001	NO
Via Cabrillo Marina/ 22nd Street	AM	0.135	A	0.141	A	0.006	NO
	PM	0.084	A	0.086	A	0.002	NO
	WK	0.156	A	0.159	A	0.003	NO
Harbor Boulevard/ Swinford Street/ SR-47 Eastbound Ramps	AM	0.418	A	0.431	A	0.013	NO
	PM	0.405	A	0.423	A	0.018	NO
	WK	0.554	A	0.558	A	0.004	NO
Harbor Boulevard/ O’Farrell Street	AM	0.372	A	0.376	A	0.004	NO
	PM	0.441	A	0.447	A	0.006	NO
	WK	0.411	A	0.419	A	0.008	NO
Harbor Boulevard/ 1st Street	AM	0.421	A	0.426	A	0.005	NO
	PM	0.498	A	0.503	A	0.005	NO
	WK	0.424	A	0.431	A	0.007	NO
Harbor Boulevard/ 5th Street	AM	0.306	A	0.311	A	0.005	NO
	PM	0.566	A	0.571	A	0.005	NO
	WK	0.374	A	0.382	A	0.008	NO
Harbor Boulevard/ 6th Street	AM	0.232	A	0.237	A	0.005	NO
	PM	0.404	A	0.409	A	0.005	NO
	WK	0.333	A	0.341	A	0.008	NO
Harbor Boulevard/ 7th Street	AM	0.176	A	0.177	A	0.001	NO
	PM	0.243	A	0.247	A	0.004	NO
	WK	0.197	A	0.205	A	0.008	NO
Harbor Boulevard/ Sampson Way	AM	0.179	A	0.191	A	0.012	NO
	PM	0.348	A	0.355	A	0.007	NO
	WK	0.277	A	0.365	A	0.088	NO
Miner Street/ 22nd Street	AM	0.191	A	0.224	A	0.033	NO
	PM	0.214	A	0.230	A	0.016	NO
	WK	0.163	A	0.168	A	0.005	NO

Table 4-4. Intersection LOS – 2024 Cumulative Plus Project Buildout Conditions

Intersection	*Peak Hour*	*2024 Baseline*		*2024 Baseline + Project Buildout*			
		V/C	*LOS*	*V/C*	*LOS*	*Change*	*Impact*
Gaffey Street/ Summerland Avenue	AM	0.774	C	0.776	C	0.002	NO
	PM	1.005	F	1.006	F	0.001	NO
	WK	0.732	C	0.732	C	0.000	NO
Gaffey Street/ I-110 Ramps	AM	0.443	A	0.447	A	0.004	NO
	PM	0.601	B	0.603	B	0.002	NO
	WK	0.501	A	0.502	A	0.001	NO
Gaffey Street/ 1st Street	AM	0.921	E	0.923	E	0.002	NO
	PM	0.918	E	0.920	E	0.002	NO
	WK	0.879	D	0.880	D	0.001	NO
Gaffey Street/ 5th Street	AM	0.728	C	0.729	C	0.001	NO
	PM	0.689	B	0.696	B	0.007	NO
	WK	0.753	C	0.754	C	0.001	NO
Gaffey Street/ 7th Street	AM	0.749	C	0.750	C	0.001	NO
	PM	0.702	C	0.710	C	0.008	NO
	WK	0.710	C	0.711	C	0.001	NO
Gaffey Street/ 9th Street	AM	0.853	D	0.855	D	0.002	NO
	PM	0.805	D	0.811	D	0.006	NO
	WK	0.853	D	0.855	D	0.002	NO
Gaffey Street/ 22nd Street	AM	0.445	A	0.475	A	0.030	NO
	PM	0.548	A	0.466	A	0.035	NO
	WK	0.666	B	0.696	B	0.003	NO
Gaffey Street/ 25th Street	AM	0.450	A	0.464	A	0.014	NO
	PM	0.461	A	0.466	A	0.005	NO
	WK	0.694	B	0.696	B	0.002	NO
Via Cabrillo Marina/ 22nd Street	AM	0.242	A	0.266	A	0.024	NO
	PM	0.186	A	0.191	A	0.005	NO
	WK	0.304	A	0.309	A	0.005	NO
Harbor Boulevard/ Swinford Street/ SR-47 Eastbound Ramps	AM	0.424	A	0.466	A	0.042	NO
	PM	0.473	A	0.517	A	0.044	NO
	WK	0.696	B	0.705	C	0.009	NO
Harbor Boulevard/ O'Farrell Street	AM	0.323	A	0.333	A	0.010	NO
	PM	0.403	A	0.412	A	0.009	NO
	WK	0.469	A	0.480	A	0.011	NO
Harbor Boulevard/	AM	0.372	A	0.382	A	0.010	NO

Intersection	Peak Hour	2024 Baseline		2024 Baseline + Project Buildout			
		V/C	LOS	V/C	LOS	Change	Impact
1st Street	PM	0.440	A	0.450	A	0.010	NO
	WK	0.502	A	0.515	A	0.013	NO
Harbor Boulevard/ 5th Street	AM	0.315	A	0.344	A	0.029	NO
	PM	0.548	A	0.558	A	0.010	NO
	WK	0.480	A	0.493	A	0.013	NO
Harbor Boulevard/ 6th Street	AM	0.245	A	0.260	A	0.015	NO
	PM	0.331	A	0.341	A	0.010	NO
	WK	0.390	A	0.403	A	0.013	NO
Harbor Boulevard/ 7th Street	AM	0.297	A	0.345	A	0.048	NO
	PM	0.423	A	0.447	A	0.024	NO
	WK	0.494	A	0.524	A	0.030	NO
Harbor Boulevard/ Sampson Way	AM	0.415	A	0.498	A	0.083	NO
	PM	0.489	A	0.507	A	0.018	NO
	WK	0.575	A	0.597	A	0.022	NO
Miner Street/ 22nd Street	AM	0.528	A	0.556	A	0.028	NO
	PM	0.423	A	0.488	A	0.065	NO
	WK	0.677	B	0.685	B	0.008	NO

Table 4-5. Intersection LOS – 2042 Cumulative Plus Project Buildout Conditions

Intersection	Peak Hour	2042 Baseline		2042 Baseline + Project Buildout			
		V/C	LOS	V/C	LOS	Change	Impact
Gaffey Street/ Summerland Avenue	AM	0.800	C	0.803	D	0.003	NO
	PM	1.064	F	1.064	F	0.000	NO
	WK	0.786	C	0.787	C	0.001	NO
Gaffey Street/ I-110 Ramps	AM	0.491	A	0.495	A	0.004	NO
	PM	0.628	B	0.631	B	0.003	NO
	WK	0.547	A	0.548	A	0.001	NO
Gaffey Street/ 1st Street	AM	1.061	F	1.063	F	0.002	NO
	PM	0.929	E	0.930	E	0.001	NO
	WK	0.931	E	0.932	E	0.001	NO
Gaffey Street/ 5th Street	AM	0.734	C	0.736	C	0.002	NO
	PM	0.715	C	0.722	C	0.007	NO
	WK	0.794	C	0.795	C	0.001	NO
Gaffey Street/ 7th Street	AM	0.766	C	0.768	C	0.002	NO
	PM	0.725	C	0.733	C	0.008	NO
	WK	0.737	C	0.738	C	0.001	NO
Gaffey Street/	AM	0.879	D	0.881	D	0.002	NO

Intersection	*Peak Hour*	*2042 Baseline*		*2042 Baseline + Project Buildout*			
		V/C	*LOS*	*V/C*	*LOS*	*Change*	*Impact*
9th Street	PM	0.829	D	0.835	D	0.006	NO
	WK	0.891	D	0.893	D	0.002	NO
Gaffey Street/ 22nd Street	AM	0.471	A	0.500	A	0.029	NO
	PM	0.589	A	0.623	B	0.034	NO
	WK	0.687	B	0.691	B	0.004	NO
Gaffey Street/ 25th Street	AM	0.480	A	0.494	A	0.014	NO
	PM	0.494	A	0.498	A	0.004	NO
	WK	0.743	C	0.746	C	0.003	NO
Via Cabrillo Marina/ 22nd Street	AM	0.259	A	0.282	A	0.023	NO
	PM	0.188	A	0.192	A	0.004	NO
	WK	0.310	A	0.315	A	0.005	NO
Harbor Boulevard/ Swinford Street/ SR-47 Eastbound Ramps	AM	0.604	B	0.651	B	0.047	NO
	PM	0.541	A	0.584	A	0.043	NO
	WK	0.751	C	0.760	C	0.009	NO
Harbor Boulevard/ O'Farrell Street	AM	0.346	A	0.356	A	0.010	NO
	PM	0.431	A	0.460	A	0.029	NO
	WK	0.499	A	0.511	A	0.012	NO
Harbor Boulevard/ 1st Street	AM	0.534	A	0.573	A	0.039	NO
	PM	0.544	A	0.554	A	0.010	NO
	WK	0.657	B	0.670	B	0.013	NO
Harbor Boulevard/ 5th Street	AM	0.356	A	0.388	A	0.032	NO
	PM	0.571	A	0.581	A	0.010	NO
	WK	0.518	A	0.531	A	0.013	NO
Harbor Boulevard/ 6th Street	AM	0.373	A	0.405	A	0.032	NO
	PM	0.499	A	0.509	A	0.010	NO
	WK	0.699	B	0.712	C	0.013	NO
Harbor Boulevard/ 7th Street	AM	0.378	A	0.432	A	0.054	NO
	PM	0.533	A	0.555	A	0.022	NO
	WK	0.802	D	0.819	D	0.017	NO
Harbor Boulevard/ Sampson Way	AM	0.526	A	0.609	B	0.083	NO
	PM	0.647	B	0.665	B	0.018	NO
	WK	0.871	D	0.885	D	0.014	NO
Miner Street/2 2nd Street	AM	0.557	A	0.613	B	0.0546	NO
	PM	0.457	A	0.523	A	0.066	NO
	WK	0.723	C	0.732	C	0.009	NO

4.2.11.3.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to traffic increases at intersections and degradation of LOS would be less than cumulatively considerable. No mitigation measures are required.

4.2.11.4 Cumulative Impact TC-2b: Significantly increase traffic volumes or degrade operations on CMP facilities within the proposed project vicinity beyond adopted thresholds—Less than Cumulatively Considerable

Cumulative Impact TC-2b represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in significant increases in traffic volumes or degradation of LOS on CMP facilities within the proposed project vicinity.

4.2.11.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Because the proposed Project would not result in a significant increase in traffic and degradation on CMP facilities, it is not necessary to document the effects of past, present, and reasonably foreseeable future projects.

4.2.11.4.2 Contribution of the Proposed Project

The proposed Project would increase traffic volumes and degrade LOS along CMP facilities within the proposed project vicinity, including Gaffey Street/9th Street, Western Avenue/9th Street, and along the I-110, south of C Street. However, cumulative increases in traffic would not degrade LOS to a level that exceeds adopted standards. Thus, the cumulative impacts of the proposed Project on CMP facilities are less than cumulatively considerable.

4.2.11.4.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to impacts on CMP facilities would be less than cumulatively considerable. No mitigation measures are required.

4.2.11.5 Cumulative Impact TC-3: Cause increases in demand for transit service beyond the supply of such services—Less than Cumulatively Considerable

Cumulative Impact TC-3 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in significant increases in transit demand within the proposed project vicinity.

4.2.11.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Section 3.11.2.1.4 describes existing transit service in the proposed project area, which is served by bus transit lines operated by Metro, LADOT, and MAX.

None of the cumulative projects would adversely impact transit service. However, a number of cumulative projects have the potential to increase demand for transit, including, but not limited to, Cabrillo Way Marina Phase II (#4), Port of Los Angeles Charter School and Port Police Headquarters (#7), San Pedro Waterfront Enhancements (#19), Pacific Corridors Redevelopment Project (#39), Pacific Trade Center (#50), and Mixed-Use Development at 281 W. 8th Street (#47) as shown in Table 4-1 and Figure 4-1. The cumulative effect from these projects has not resulted in cumulatively significant impacts on transit service.

4.2.11.5.2 Contribution of the Proposed Project

The proposed Project would increase transit demand within the proposed project vicinity, as a result of the commercial, recreational, cultural, and business-oriented proposed project elements.

As discussed in the Section 3.11 “Transportation and Circulation—Ground and Marine,” there are four bus lines that provide service in the vicinity of the proposed project site. Cumulative increases in transit demand would likely be accommodated with existing transit service. Additionally, if cumulative demand on regional bus routes approaches or exceeds capacity by the long-range planning years of 2016, 2024, or 2042, the transit providers have the option of adding routes or increasing the frequency of existing service as a matter of standard operating procedure. Thus, the cumulative impacts of the proposed Project on transit are less than cumulatively considerable.

4.2.11.5.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to impacts on transit would be less than cumulatively considerable. No mitigation measures are required.

4.2.11.6 Cumulative Impact TC-4: Result in a violation of the City’s adopted parking policies and parking demand would not exceed supply—Less than Cumulatively Considerable

Cumulative Impact TC-4 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in significant increases in parking demand in the proposed project vicinity that would exceed supply.

4.2.11.6.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Completion of future cumulative development projects identified in Table 4-1 would increase future parking demand. Local development regulations govern the level of parking supply required for each new development. For the proposed Project, the required parking supply reflects the level needed for the development that would occur, over the cumulative parking supply that would be required to accommodate other regional development. Because parking supply for cumulative development is controlled by development regulations, the impact on parking demand from past, present, and reasonably foreseeable future projects is less than cumulatively significant.

4.2.11.6.2 Contribution of the Proposed Project

The proposed Project would increase parking demand within the proposed project vicinity. Under the requirements of the City of Los Angeles Zoning Code, 613 additional parking spaces would be required over parking required by other cumulative development. The proposed Project would include a total of 619 parking spaces, which exceeds this requirement by six spaces. Thus, cumulative impacts on parking would be less than cumulatively considerable.

4.2.11.6.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to impacts on parking would be less than cumulatively considerable. No mitigation measures are required.

4.2.11.7 Cumulative Impact TC-5: Include design elements that would result in conditions that would increase the risk of accidents, either for vehicular or non-motorized traffic—Less than Cumulatively Considerable

Cumulative Impact TC-5 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in significant conflict with vehicles and pedestrians at cross streets.

4.2.11.7.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past, present, and reasonably foreseeable future projects must conform to local development standards, and thus are not expected to include elements that result in poor sight distance, sharp curves, or other factors that would increase safety hazards for vehicular or non-motorized travelers. Thus, their cumulative impacts on increased risk of accidents for vehicular or non-motorized traffic are less than cumulatively significant.

4.2.11.7.2 Contribution of the Proposed Project

The proposed Project does not include elements that result in poor sight distance, sharp curves, or other factors that would increase safety hazards for vehicular or non-motorized travelers. Thus, the cumulative impacts of the proposed Project on increased risk of accidents for vehicular or non-motorized traffic are less than cumulatively considerable.

4.2.11.7.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to increased risk of accidents for vehicular or non-motorized traffic would be less than cumulatively considerable. No mitigation measures are required.

4.2.11.8 Cumulative Impact VT-1a: Interfere with operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, East Basin area, or precautionary areas during construction—Less than Cumulatively Considerable

Cumulative Impact VT-1a represents the potential of construction of the proposed Project when combined with past, present, and reasonably foreseeable future projects to increase vessel traffic congestion or reduce the existing level of safety for vessels navigating the harbor, Main Channel, and/or precautionary areas.

As reported in Section 3.11, "Transportation and Circulation—Ground and Marine," vessel traffic levels are highly regulated by the USCG COTP and the Marine Exchange of Southern California via the VTS to ensure the total number of vessels transiting the Port does not exceed the design capacity of the federal channel limits. Mariners are required to report their position to the COTP and the VTS prior to transiting through the Port; the VTS monitors the positions of all inbound/outbound vessels within the precautionary area and the approach corridor traffic lanes. In the event that scheduling conflicts occur and/or vessel occupancy within the Port is operating at capacity, vessels are required to anchor at the anchorages outside the breakwater until mariners receive COTP authorization to initiate transit into the Port.

4.2.11.8.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past actions within the proposed project vicinity have resulted in deepening navigation channels and upgrading existing wharf infrastructure to accommodate modern container ships. Incremental Port development has resulted in water-dependent developments that have been necessary to accommodate the needs of foreign and domestic waterborne commerce. In response to past actions, several measures have been implemented to ensure the safety of vessel navigation in the harbor area. Restricted navigation areas and routes have been designated to ensure safe vessel navigation, and they are regulated by various agencies and organizations to ensure navigational safety.

Present and reasonably foreseeable Port projects, including the proposed Project, could result in marine vessel safety impacts if they introduce construction equipment to the harbor, Main Channel, and/or precautionary areas; and/or interfere with USCG-designated vessel traffic lanes. In-water construction activities are associated with many of the Port projects listed in Table 4-1; including the Pier 400 Container Terminal and Transportation Corridor (#10), Marine Terminal, West Basin (#1), Channel Deepening (#3), Cabrillo Way Marina (#4),Evergreen Container Terminal Improvements (#5), SSA Outer Harbor Fruit Facility Relocation (#8), Westway Decommissioning, (#12), China Shipping Development (#14), Pasha Marine Terminal Improvements (#15), San Pedro Waterfront Enhancements (#19), APL Container Terminal Improvements (#30), YTI Container Terminal Improvements (#23), and Yang Ming Container Terminal Improvements (#24). Construction activities would introduce construction equipment into the Main Channel. The Port utilizes standard safety precautions in piloting these vessels through harbor waters and standard measures including compliance with LAHD standards for construction and dredging safety.

Proposed improvements associated with other projects would improve the overall conditions in the Los Angeles Harbor by creating berth depths sized to accommodate the modern, deeper-draft class of vessels. The deeper draft berths would improve the efficiencies of shipping and Port operations by reducing the relative number of vessels and vessel trips required to accommodate projected container throughput at the Port.

Therefore, the past, present, and foreseeable future projects are not cumulatively significant related to navigation hazards from construction activities.

4.2.11.8.2 Contribution of the Proposed Project

The construction phase of the proposed Project would involve the use of construction vessels and equipment to conduct wharf, dock, and promenade construction activities within the East Channel, Main Channel, and precautionary areas. These types of activities are routinely conducted in the Los Angeles Harbor, and contractors performing in-water or over-water construction activities are subject to applicable rules and regulations stipulated in all LAHD contracts and USACE permits. LAHD would utilize standard safety precautions in piloting these vessels through Los Angeles Harbor waters, and standard measures including compliance with LAHD standards for construction safety and USACE permit requirements would also apply. Thus, the short-term presence of supply barges/support boats in the Los Angeles Harbor would not reduce the existing level of safety for vessel navigation in the harbor. Furthermore, construction of the proposed Project would not result in cumulatively considerable impacts on navigation and marine transportation during construction.

4.2.11.8.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to increased vessel traffic congestion or a reduction in the existing level of safety for vessels navigating the harbor, Main Channel, and/or precautionary areas during construction would be less than cumulatively considerable. No mitigation measures are required.

4.2.11.9 Cumulative Impact VT-1b: Interfere with the operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, or precautionary areas during operations—Less than Cumulatively Considerable

Cumulative Impact VT-1b represents the potential for operation of the proposed Project when combined with past, present, and reasonably foreseeable future projects to increase vessel traffic congestion or reduce the existing level of safety for vessels navigating the harbor, Main Channel, and/or precautionary areas.

As reported in Section 3.11, "Transportation and Circulation—Ground and Marine," vessel traffic levels are highly regulated by the USCG COTP and the Marine Exchange of Southern California via the VTS to ensure that the total number of vessels transiting the Port does not exceed the design capacity of the federal channel limits. Mariners are required to report their position to the COTP and the VTS prior to transiting through the Port; the VTS monitors the positions of all inbound/outbound vessels within the precautionary area and the approach corridor traffic lanes. In the event that scheduling conflicts occur and/or vessel occupancy within the Port is operating at capacity, vessels are required to anchor at the anchorages outside the breakwater until mariners receive COTP authorization to initiate transit into the Port.

4.2.11.9.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past actions within the proposed project vicinity have resulted in deepening navigation channels and upgrading existing wharf infrastructure to accommodate modern container ships. Incremental Port development has resulted in water-dependent developments that have been necessary to accommodate the needs of foreign and domestic waterborne commerce. In response to past actions, several measures have been implemented to ensure the safety of vessel navigation in the harbor area. Restricted navigation areas and routes have been designated to ensure safe vessel navigation, and are regulated by various agencies and organizations to ensure navigational safety.

Present and reasonably foreseeable Port projects, including the proposed Project, could result in marine vessel safety impacts if they interfere with USCG-designated vessel traffic lanes. Vessel operational activities are associated with many of the Port projects listed in Table 4-1, including the Pier 400 Container Terminal and

Transportation Corridor (#10), Marine Terminal, West Basin (#1), Channel Deepening (#3), Cabrillo Way Marina (#4), Evergreen Container Terminal Improvements (#5), SSA Outer Harbor Fruit Facility Relocation (#8), (#12), China Shipping Development (#14), Pasha Marine Terminal Improvements (#15), San Pedro Waterfront (#19), APL Container Terminal Improvements (#30), YTI Container Terminal Improvements (#23), and Yang Ming Container Terminal Improvements (#24). Operational activities would increase large commercial vessels in the harbor. The Port utilizes standard safety precautions in piloting these vessels through harbor waters and standard measures including compliance with LAHD standards for construction and dredging safety.

Proposed improvements associated with other projects would improve the overall conditions in the Los Angeles Harbor by creating berth depths sized to accommodate the modern, deeper-draft class of vessels. The deeper draft berths would improve the efficiencies of shipping and Port operations by reducing the relative number of vessels and vessel trips required to accommodate projected container throughput at the Port.

Therefore, the past, present, and foreseeable future projects would not result in cumulatively significant operational impacts related to navigation hazards.

4.2.11.9.2 Contribution of the Proposed Project

During operations, the proposed Project is expected to attract increased levels of research vessel traffic to the harbor, specifically surrounding the City Dock No. 1 site at Berths 57–60 and Berths 70–71. The cumulative increase in vessels, in combination with increased recreational and cargo volume (i.e., containers and TEUs) from other reasonably foreseeable future Port projects would result in additional vessel traffic within the harbor. The increased vessel volumes would in turn increase the risk of in-water vessel traffic hazards. However, the rate of vessel accidents (i.e., collisions with other vessels, collisions with stationary objects or structures, and groundings) in the harbor is relatively low (0.0038% probability, see Section 3.11.2.2.1 for additional information) compared to vessel traffic volumes within the harbor.

Standard practices and procedures ensure safe transit of vessels operating within, as well as to and from, the proposed project area. Given the continued use of standard practices and implementation of COTP uniform procedures, the projected cumulative increase in vessel calls would not significantly decrease the margin of safety for marine vessels within the cumulative area impacted by the proposed Project. Therefore, operations of the proposed Project, considered together with other present and reasonably foreseeable future projects, would result in less-than-cumulatively considerable impacts.

4.2.11.9.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to increased vessel traffic congestion or a reduction in the existing level of safety for vessels navigating the harbor, Main Channel, and/or precautionary areas during operations would be less than cumulatively considerable. No mitigation measures are required.

4.2.12 Utilities

4.2.12.1 Scope of Analysis

Cumulative impacts on utilities can result from the combined demand of the proposed Project with past, present, and future related projects on any of the utilities for which the proposed Project may have impacts (i.e., water supply, landfill and wastewater treatment capacities, and energy). For the purposes of the cumulative effect analysis of utilities, the timeframe of current or reasonably anticipated projects extends from 2012 to 2042.

The geographic scope of the cumulative effect analysis of utilities depends on the service area of the individual utility provider. Because the proposed Project has the capacity to affect the environment within the Port and surrounding communities, the geographic scope for cumulative impacts includes the Port of Los Angeles and extends to adjacent areas, including the communities of San Pedro and Wilmington. Direct impacts of the proposed Project would be localized to the Port area, and indirect impacts could extend further within the communities of San Pedro and Wilmington. The service areas of the Bureau of Sanitation (wastewater), Sanitation Districts of Los Angeles County (solid waste and wastewater treatment), and LADWP (water and electricity) encompass the City of Los Angeles. The Gas Company (natural gas) serves most of central and Southern California. However, the geographic region for cumulative utilities impacts is the Port and Los Angeles Harbor area because the infrastructure immediately serving the proposed Project is located within this service area. Service subareas of utility providers are sufficiently separated such that increased service demands from the proposed Project would not threaten provision of service in other areas (i.e., central and Southern California in the case of the Gas Company).

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.12, “Utilities.”

4.2.12.2 Cumulative Impact UT-1: Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board—Less than Cumulatively Considerable

Cumulative Impact UT-1 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to generate substantial wastewater demands that would exceed the treatment requirements of the applicable Regional Water Quality Control Board.

4.2.12.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Operation of past projects has created a demand for wastewater treatment infrastructure that is currently accommodated by existing treatment facilities. It is expected that all past, present, and reasonably foreseeable future projects would be designed to be fully compliant with wastewater treatment requirements of the Los Angeles RWQCB. Wastewater from the related projects would not result in an exceedance of wastewater treatment requirements of the Los Angeles RWQCB. Therefore, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts on wastewater treatment requirements.

4.2.12.2.2 Contribution of the Proposed Project

The proposed Project would be designed to be fully compliant with existing wastewater treatment requirements of the Los Angeles RWQCB. The proposed Project would be connected to the sanitary sewer system where wastewater would be processed and sanitized at the TITP. One of the options of the proposed Project involves discharge of seawater from the research facilities to the sanitary sewer that would ultimately be conveyed to and treated at TITP. All water would be treated in accordance with RWQCB standards at the site prior to discharge to the sewer system. As discussed in Section 3.12 “Utilities,” the TITP has sufficient capacity to process wastewater conveyed from the proposed project site. Therefore, because the TITP operates in compliance with the RWQCB’s requirements and has sufficient capacity to accommodate the proposed Project’s wastewater generation, wastewater discharged into the sewer system would not exceed the requirements of the Los Angeles RWQCB and would not result in cumulatively considerable impacts.

Furthermore, during operation, if a 100% flow-through seawater system or a hybrid version of such a system is implemented, direct discharge to the harbor would occur. Any discharge to the ocean would be tested and monitored to ensure the discharge is complaint with RWQCB regulations and does not cause the water body to exceed the permitted TMDLs. Therefore, discharge into the harbor would not exceed the Los Angeles RWQCB’s requirement, and the proposed Project’s contribution would not be cumulatively considerable.

4.2.12.2.3 Mitigation Measures and Residual Cumulative Impacts

Because operations of the proposed Project would have less than cumulatively considerable impacts on wastewater treatment requirements of the Los Angeles RWQCB, no mitigation measures would be required.

4.2.12.3 Cumulative Impact UT-2: Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects—Less than Cumulatively Considerable

Cumulative Impact UT-2 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to require substantial demand for water or wastewater treatment facilities and therefore require the construction of new or expansion of existing facilities to meet that demand.

4.2.12.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction and operation of past projects has created a demand for water and wastewater infrastructure that is currently accommodated by existing treatment facilities. The LADWP Water Services Organization implements a Capital Improvement Program (CIP) on a 10-year planning basis that focuses on installing or replacing existing components of the water system to ensure the provision of a reliable and high-quality water supply to all the citizens of Los Angeles (LADWP 2010a). The focus of the CIP is to develop a 10-year capital budget to program funds for capital improvements to the water system. The CIP is updated periodically to serve as a continuous planning and budgeting tool. Because LADWP will continue to update the CIP and provide water services for its customers, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts on water treatment facilities.

The TITP is currently operating at 57% of its capacity of 30 million gallons per day; therefore, it is able to adequately accommodate current wastewater generation that is a result of existing and past projects. Wastewater in the TITP service area is conveyed to TITP through the conveyance system that is designed and sized to accommodate TITP capacity. Wastewater flows are substantially below the plant's capacity and capacity of the conveyance system. The City projects that by 2020, wastewater flows in the TITP service area will grow to 19.9 mgd (LADPW 2004); therefore, approximately 10 mgd in daily capacity at TITP would remain unused and available for future years (beyond 2020). Wastewater from the related projects would not significantly affect existing or future capacity at TITP due to the substantial remaining capacity at TITP beyond 2020, which, based on the wastewater flow growth rate projected between 2006 and 2020, is estimated to adequately handle 2037 wastewater flow demands (LAHD 2011). Similarly, conveyance system capacity would accommodate wastewater flows from the related projects. Consequently, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts on wastewater treatment facilities.

4.2.12.3.2 Contribution of the Proposed Project

The proposed Project's increased water and wastewater demands would not exceed the capacity of existing facilities. The proposed Project would result in a water demand of approximately 45,197 gpd. Preliminary consultation with LADWP indicates that, based on the projected water demand, the proposed Project can be served by existing facilities.

Under the worst case scenario, the proposed Project would generate approximately 65,615 gpd of wastewater, with potentially all being discharged to the sanitary sewer and on to TITP. Adequate capacity remains at TITP to treat wastewater discharged from the proposed Project. As discussed in Section 3.13, "Utilities," the TITP currently has 43% capacity, and the addition of the proposed Project's wastewater generation would amount to 0.05% of this available capacity. Thus, the increased wastewater generated by the proposed Project would be easily accommodated. The 22nd and Signal Street Pump Station may require upgrades to accommodate local sewer flows from the proposed project site, which would be determined during final project design. However, the upgrade would be a minor switch out of the pump, which is located within the public-right-of-way and accessible via an underground vault. Therefore, the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative impact related to water or wastewater treatment facilities.

4.2.12.3.3 Mitigation Measures and Residual Cumulative Impacts

The proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact related to water and wastewater treatment facilities. No mitigation is required.

4.2.12.4 Cumulative Impact UT-3: Have sufficient water supplies available to serve the project from existing entitlements and resources, and would not require new or expanded entitlements—Less than Cumulatively Considerable

Cumulative Impact UT-3 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to require substantial demand for water supplies and therefore require the substantial expansion of entitlements and resources to meet that demand.

4.2.12.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction and operation of past projects has resulted in existing demands for water. These demands are currently accommodated by existing facilities. In order to properly plan for water supply, the LADWP determines water demands using factors such as demographics, weather, economy, and trends in development. The LADWP, in Chapter 6 of the UWMP, determined an existing water demand within the LADWP service area that can be accommodated by the planned water supply of the same amount (LADWP 2010b). The UWMP projects overall water supply reliability within the DWP service area through 2035; the LADWP forecast specifically includes anticipated demand from projects that are included in the Port's Community Plan or the PMP, including all past, present and reasonably foreseeable future Port-related projects (LADWP 2010b). The LADWP expects it will be able to meet the demand through 2035 with a combination of existing supplies, planned supplies, and MWD purchases (existing and planned).

The California Urban Water Management Planning Act requires water suppliers to develop water management plans every 5 years. Because of this, LADWP would continue to project future water demands and supply through new UWMPs every 5 years. The planning horizon for the current UWMP would include the proposed project horizon of 2024. Therefore, because the LADWP will continue to plan and provide water supply for its customers based on the water supply planning process including preparation of the UWMP every 5 years, past, present, and reasonably foreseeable future projects would not result in a significant cumulative impact on the provision of water.

Many of the projects identified in Table 4-1 involve new or expanded land uses and/or cargo throughput that may result in additional utility demands. These projects include the Marine Terminal, West Basin (#1), San Pedro Waterfront (#2), Cabrillo Way Marina (#4), Evergreen Container Terminal Improvements (#5), Plains All American Oil Marine Terminal (#10), China Shipping Development (#14), Pasha Marine Terminal Improvements (#15), SCIG (#17), YTI Container Terminal Improvements (#23), Yang Ming Container Terminal Improvements (#24), and Pier 500 Container Terminal Development (#32). The number of related projects would increase the demands for water. However, based on the above, past, present, and reasonably foreseeable future projects would not result in a significant cumulative impact on the provision of water.

4.2.12.4.2 Contribution of the Proposed Project

The proposed Project would result in increased water demands that would not require new or expanded entitlements. As discussed in Section 3.12, "Utilities," operation of the proposed Project would result in a water demand increase over baseline conditions of approximately 40,899 gpd (see Table 3.12-6). This would represent less than 0.01% of the existing water demand and the projected water demand estimated in the UWMP for 2025 (LADWP 2010a) with passive water conservation. Given that the UWMP projects adequate supplies are available to meet projected demands in the City through 2035, and that the proposed Project would require a relatively small increase in water supply to the proposed project site, it is expected that water would be available for the proposed Project. Therefore, the proposed Project would not impact future water supply such that new or expanded entitlements would be required, and the proposed Project's contribution to cumulative water demand would be less than cumulatively considerable.

4.2.12.4.3 Mitigation Measures and Residual Cumulative Impacts

The proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact related to water supply. No mitigation is required.

4.2.12.5 Cumulative Impact UT-4: Result in a determination by the wastewater provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments—Less than Cumulatively Considerable

Cumulative Impact UT-4 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in a determination by the wastewater provider that it has inadequate capacity to serve projected demands in addition to the provider's existing commitments.

4.2.12.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction and operation of past projects has created a demand for wastewater infrastructure that is currently accommodated by existing utility lines. The TITP is currently operating at 57% of its capacity of 30 million gallons per day; therefore, it is able to adequately accommodate current wastewater generation that is a result of past projects. Wastewater in the TITP service area is conveyed to TITP through the conveyance system that is designed and sized to accommodate TITP capacity. Wastewater flows are substantially below the plant's capacity and capacity of the conveyance system. The City projects that by 2020, wastewater flows in the TITP service area will grow to 19.9 mgd (LACSD, Bureau of Sanitation 2004); therefore, approximately 10 mgd in daily capacity at TITP would remain unused and available for future years (beyond 2020). Wastewater from the cumulative projects would not significantly affect existing or future capacity at TITP due to the substantial remaining capacity at TITP beyond 2020.The wastewater flow growth rate projected between 2006 and 2020, is estimated to adequately handle 2037 wastewater flow demands. Similarly, conveyance system capacity would accommodate wastewater flows from the related projects. Therefore, the past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts on wastewater treatment capacity.

Many of the projects identified in Table 4-1 involve relocation of existing facilities within the Port and vicinity, and generally do not require any expansion of facilities. Therefore, it is expected that wastewater generation would remain similar to current levels. However, several of the projects involve new or expanded land uses or throughput operations that may result in additional demands on utilities and service systems. These projects include Marine Terminal, West Basin (#1), San Pedro Waterfront (#2), Cabrillo Way Marina (#4), Evergreen Container Terminal Improvements (#5), Plains All American Oil Marine Terminal (#10), China Shipping Development (#14), Pasha Marine Terminal Improvements (#15), SCIG (#17), YTI Container Terminal Improvements (#23), Yang Ming Container Terminal Improvements (#24), and Pier 500 Container Terminal Development (#32). The related projects would likely require construction and/or expansion of wastewater utility systems on their respective sites, and may have to connect with nearby supply utility lines (usually in streets and other public rights-of-way). Because the wastewater utility lines may reach capacity in the future, past, present, and reasonably foreseeable future projects would result in a cumulatively significant impact on wastewater conveyance capacity.

4.2.12.5.2 Contribution of the Proposed Project

The proposed Project would result in increased wastewater generation that would not exceed the capacity of existing facilities. Proposed project activities would generate up to approximately 65,615 gpd of wastewater, an increase of approximately 61,743 gpd from the baseline percentage going toward the TITP daily capacity. Because the TITP currently has 43% capacity and the addition of the proposed Project's wastewater generation would amount to 0.05% of this available capacity; the increased wastewater generated by the proposed Project would be easily accommodated. The amount of increased wastewater generated by proposed project construction and operations would not significantly affect existing or future capacity at TITP due to the limited proposed project operational flows and the adequate remaining capacity at TITP beyond 2020 (to 2037), as described above. Moreover, conveyance capacity for wastewater within the proposed project site would likely be sufficient with the existing infrastructure. However, in the event a pump upgrade is required, a simple switch out would be needed within the existing vault located in the public right-of-way and within the proposed project site. Therefore, impacts on the TITP wastewater treatment facility and local conveyance system would be less than significant, and the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative impact related to wastewater capacity.

4.2.12.5.3 Mitigation Measures and Residual Cumulative Impacts

The proposed Project would not result in a cumulatively considerable contribution to a significant cumulative impact related to wastewater capacity. No mitigation is required.

4.2.12.6 Cumulative Impact UT-5: Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs—Less than Cumulatively Considerable

Cumulative Impact UT-5 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to generate substantial solid waste that would exceed the capacity of existing facilities.

4.2.12.6.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction and operation of past projects has resulted in generation of solid waste which is currently accommodated by existing facilities. The landfill that serves the Port area is the Sunshine Canyon City/County Landfill. Sunshine Canyon has a daily throughput capacity of 12,100 tons allotted for City use and is expected to accommodate demands until 2037 (CalRecycle 2011a). In addition there are several other landfills identified in Section 3.12, "Utilities" for secondary uses. However, the City of Los Angeles, as well as Southern California in general, is currently faced with reduced landfill space due to increases in population. To comply with AB 939, recycling studies for the City of Los Angeles have been conducted, and currently there is a citywide diversion rate of 65% with a goal of 70% by 2013 and a zero waste goal (90% or greater diversion) by 2025 (Pereira pers. comm. 2011).

Additionally, the City of Industry certified and approved a conditional use permit for a Puente Hills Intermodal Facility in June of 2008. This is a waste-by-rail project, intended to accommodate the solid waste removal needs for Los Angeles County. The proposed facility would eventually have the capacity to handle up to two trains per day, transporting a total of 8,000 tons of municipal solid waste per day. It is currently under construction and is expected to commence operations in 2012 (LACSD 2011a). With the remaining capacity of Sunshine Canyon City/County

Landfill, along with the proposed intermodal system and anticipated recycle diversion rates for the area, solid waste removal and disposal would be adequately provided for past, current, and future projects; and cumulative impacts would be less than significant.

Many of the projects identified in Table 4-1 are Port redevelopment projects within the proposed project vicinity, and generally do not require any expansion of facilities. However, several of the projects involve new or expanded land uses or throughput operations that may result in additional generation of solid waste. These projects include Marine Terminal, West Basin (#1), San Pedro Waterfront Project (#2), Cabrillo Way Marina (#4), Evergreen Container Terminal Improvements (#5), Plains All American Oil Marine Terminal (#10), China Shipping Development (#14), Pasha Marine Terminal Improvements (#15), SCIG (#17), YTI Container Terminal Improvements (#23), Yang Ming Container Terminal Improvements (#24), and Pier 500 Container Terminal Development (#32). While the number of related projects would increase the generation of solid waste, existing and planned capacity would be able to accommodate the increased demand. Therefore, based on the above, past, present, and reasonably foreseeable future projects would not result in a significant cumulative impact on landfill capacity.

4.2.12.6.2 Contribution of the Proposed Project

Construction and demolition activities would generate significant quantities of debris that would require disposal in a landfill. Construction and demolition materials would include asphalt, concrete, building materials, and solids. In the event that unidentified hazardous materials are encountered during proposed improvements and/or proposed project construction, recycling options and hazardous disposal would be explored. The proposed Project would generate approximately 10.33 tons of solid waste per day, which is an increase of 5.42 tons per day. Currently, the City of Los Angeles has a recycle diversion rate of 65%, with a goal of 70% by 2013 and a zero waste goal (90% or greater diversion) by 2025(Pereira pers. comm. 2011). With the current recycle diversion rate of 65%, the amount of solid waste that would go to the landfill represents 0.03% of the permitted daily throughput of 12,100 tons. If the goal of 70% diversion is achieved by 2013, that amount would remain at 0.03%. Finally, if the goal of zero waste (90% or greater diversion) is achieved by 2030, the amount of solid waste sent to Sunshine Canyon City/County Landfill would be less than 0.01% in 2037. The Sunshine Canyon City/County Landfill would be able to accommodate the negligible increase in solid waste generated by proposed project operations. Therefore, the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative impact related to solid waste.

4.2.12.6.3 Mitigation Measures and Residual Cumulative Impacts

The proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact related to solid waste generation. No mitigation is required.

4.2.12.7 Cumulative Impact UT-6: Require new, offsite energy supply and distribution infrastructure, or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs—Less than Cumulatively Considerable with Mitigation

Cumulative Impact UT-6 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to generate increases in energy demands such that the construction of new energy supply facilities and distribution infrastructure would be required.

4.2.12.7.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction and operation of past and present projects has resulted in demands for energy and natural gas. These demands are currently accommodated by existing facilities as provided by the LADWP and the Gas Company. Many of the projects identified in Table 4-1 involve new or expanded land uses and/or cargo throughput that may result in additional demands on electricity and natural gas. These projects include Marine Terminal, West Basin (#1), San Pedro Waterfront (#2), Cabrillo Way Marina (#4), Evergreen Container Terminal Improvements (#5), Plains All American Oil Marine Terminal (#10), China Shipping Development (#14), Pasha Marine Terminal Improvements (#15), SCIG (#17), YTI Container Terminal Improvements (#23), Yang Ming Container Terminal Improvements (#24), and Pier 500 Container Terminal Development (#32).

LADWP has a total generating capacity of approximately 7,125 MW per day to serve a peak Los Angeles demand of about 6,142 MW (LADWP 2010c). Under the Los Angeles City Charter (Sections 220 and 673), LADWP has the power and duty to construct, operate, maintain, extend, manage, and control water and electric works and property for the benefit of the City and its inhabitants. LADWP’s IRP anticipates load growth and plans new generating capacity or demand side management programs to meet load requirements for future customers. The LADWP prepared IRPs in 2000, 2007, and most recently in 2010 to provide a framework to assure that future energy needs of LADWP customers are reliably met at the least cost and are consistent with the City commitment to environmental excellence (LADWP 2010c). In 2002, SB 1078 implemented a Renewable Portfolio Standard, which established a goal that 20% of the energy sold to customers be generated by renewable resources by 2017. The IRP provides objectives and recommendations to reliably supply LADWP customers with power and to meet the 20% renewable energy goal by 2017.

As of the 2010 IRP, LADWP prepared a Load Forecast that predicts that LADWP customers’ electricity consumption will increase at an average rate of 1.3% per year over the next 20 years with less growth over the next few years due to the current economic recession. For 2027, LADWP predicts that peak demand will reach 7,445 megawatts.

Through implementation of strategies identified in the IRP, electricity resources and reserves at LADWP will adequately provide electricity for the Port. LADWP is required by the Charter to provide a reliable supply of electricity for its customers, and because LADWP is moving toward increasing renewable energy supplies in its resource portfolio, the electricity demand of the past, present, and reasonably foreseeable future projects would not result in the need to construct a new unplanned offsite power station or facility. As a result, past, present, and reasonably foreseeable future related projects would not result in a significant cumulative impact related to the provision of energy.

Natural gas service to the proposed project site would be supplied by the Gas Company. As a public utility, the Gas Company is under the jurisdiction of the state PUC and can be affected by actions of federal regulatory agencies. Although regulatory actions may affect the regional and local supply and pricing of natural gas, substantial changes in this utility supply are not anticipated based on current supply and demand projections (California Gas and Electric Utilities 2010). Therefore, past, present, and reasonably foreseeable future projects would not result in a cumulatively significant impact related to natural gas service.

4.2.12.7.2 Contribution of the Proposed Project

Energy expenditures during construction would be short term in duration, occurring periodically during each of the proposed project construction phases. Operational electricity demand at the proposed project site would be mainly related to office use, research and development, and classes, with the majority of the demand stemming from running the proposed Berths 57–60 seawater system. As discussed in Section 3.12, "Utilities," the proposed Project would consume 40,247 kWh per day, with the Berths 57–60 seawater system constituting approximately 62% of the total demand. This is an increase of 38,742 kWh per day (see Table 3.12-9).

However, the increase in electricity demands associated with the proposed Project would not exceed existing supplies or result in the need for major new facilities. The proposed Project would incorporate energy conservation measures in compliance with California Building Code CCR Title 24 that requires building energy efficient standards for new construction (including requirements for new buildings, additions, alterations, and, in non-residential buildings, repairs). In addition to complying with the California Building Code, LAHD has committed to design any new building over 7,500 square feet with a minimum LEED Silver certification. As such, energy efficiency standards would be incorporated on various buildings to decrease energy demands. The LADWP has ample generation capacity to meet the needs of its customers, including the proposed Project, and will continue to do so with proper planning and development of facilities in accordance with the City Charter. Because LADWP is required by the Charter to provide a reliable supply of electricity for its customers and because LADWP is moving toward increasing renewable energy supplies in its resource portfolio, the electricity demand of the proposed Project by itself would not result in the need to construct a new offsite power station or facility.

Additionally, the proposed Project would generate demands for natural gas associated with space and water heating. Natural gas demand at the proposed project site would be primarily oriented to water heating. The proposed Project would have a natural gas demand of 338,725 kBtu per day, which is approximately a 337,956 kBtu per day increase over the existing condition. The 2010 California Gas Report predicts the total capacity for natural gas to be 3,875 MMcf/day through 2030 with the projected annual gas supply taken to be approximately 2,733 MMcf/day in 2015 and 2,661 MMcf/day in 2030. Therefore, the California Gas Report predicts the total capacity for natural gas to be greater than the demand predicted through 2030. As discussed in Section 3.12, "Utilities," compared to the California Gas Report estimates, the proposed Project would have a natural gas demand of approximately 33.9 MMcf/day (see Table 3.12-10), which equates to approximately 1.2% of the supply taken in 2015, 1.3 % of the supply taken in 2030, and approximately 0.9% of the total capacity through 2030. The increase in natural gas demands associated with the proposed Project would not exceed existing supplies or result in the need for major new facilities. Therefore, the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative impact related to electricity and natural gas demand.

4.2.12.7.3 Mitigation Measures and Residual Cumulative Impacts

The proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact related to electricity and natural gas demand. No mitigation is required and impacts would be less than cumulatively considerable.

4.2.13 Water Quality, Sediments, and Oceanography

4.2.13.1 Scope of Analysis

The geographic scope for cumulative impacts on water quality, sediments, and oceanography varies depending on the impact. The geographic scope with respect to water and sediment quality and changes to the surface area of a water body would be confined to the outer LA/LB Harbor and lands draining to that water body, because this water body represents receiving waters for construction and operation of the cumulative projects. The geographic scope for surface water hydrology and flooding is the proposed Project's backlands and immediately adjacent lands along the San Pedro waterfront, because that represents the drainage area that would be influenced by the proposed Project. The geographic scope for surface water movement includes a broader area consisting of the LA/LB Harbor because the federal breakwater shelters the two harbors as a unit and water circulates within the Harbor Complex.

The scope of past, present, and future projects that contribute to the cumulative effects analysis on water quality, sediments, and oceanography spans historic Port activities dating back to the early 1900s through to future projects and conditions in 2035. The CEQA Baseline for determining the significance of potential impacts is 2010, and this year has been used to distinguish between past projects and present activities.

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.13, "Water Quality, Sediments, and Oceanography."

4.2.13.2 Cumulative Impact WQ-1: Substantially reduce or increase the amount of surface water in a water body—Less than Cumulatively Considerable

Cumulative Impact WQ-2 represents the potential for the proposed Project when combined with past, present, and reasonably foreseeable future projects to substantially reduce or increase the amount of surface water in a water body.

4.2.13.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The LA/LB Harbor environment has been highly modified by past dredging, filling, and shoreline development in support of maritime operations. Over time wharves have been built, harbors dredged, and channels deepened; and to the extent these structures are still present and sediments have not filled back into the dredged areas, changes to surface area and volume persist to the present day.

Cumulative past, present, and future projects identified in Table 4-1 which would have a negligible potential to increase or decrease the surface area or volume of the LA/LB Harbor include Cabrillo Way Marina, Phase II (#4), Evergreen Container Terminal Improvements (#5), Yang Ming Container Terminal Improvements (#24), Inner Cabrillo Beach Water Quality Improvement Program (#33), Middle Harbor Terminal Redevelopment (#27), Piers G & J Terminal Redevelopment (#91), and Pier A East (#92). These projects have a negligible impact potential because they represent redevelopment projects that do not propose to alter the surface area or volume of the LA/LB Harbor.

Cumulative past, present, and future projects identified in Table 4-1 that could have a minor increase or decrease in the surface area or volume of the LA/LB Harbor include: Marine Terminal, West Basin (#1), San Pedro Waterfront (#2), China Shipping Development (#14), APL Container Terminal (#30), Chemoil Marine Terminal (#96), Schuyler Heim Bridge Replacement (#105), and I-710 (Long Beach Freeway) Major Corridor Study (#106). These projects have a minor impact potential because although they do propose placing material into or removing material from the harbor, they propose only localized and small changes in harbor surface area or volume. Some of these projects propose to increase, and others to decrease, harbor surface area or volume. Thus the net potential change in harbor surface area or volume, resulting from implementation of all the listed projects, is approximately zero.

Cumulative past, present, and future projects that could considerably increase or decrease the surface area or volume of the LA/LB Harbor include Pier 400 Container Terminal, Pier 500 Container Terminal Development (#32), and the Gerald Desmond Bridge Replacement (#95). Many of these projects (see Table 4-1) would place fill in the harbor, totaling over 700 acres, of which about 600 acres are completed or under construction. Other cumulative projects with a dredging component, such as Channel Deepening (#3), have removed watershed-derived sediments that accumulated within navigational channels and new project areas. The largest such project, Channel

Deepening, has removed up to 8 million cubic yards of sediment and thereby increased the volume of water in the harbor.

These cumulative projects have caused a cumulatively significant reduction in the surface area of the inner LA/LB Harbor, as well as a decrease in the volume of water in the harbor.

4.2.13.2.2 Contribution of the Proposed Project

Construction of the proposed Project would result in a minimal change in the surface area and volume of the inner LA/LB Harbor. The proposed Project does not include any substantial filling of water area or removal of land area. The placement of new concrete piles (127 72-inch diameter piles with 20 feet of spacing) would not result in a measurable change in the surface area of the East Channel because they would replace existing piles. This relatively minor change would not have a measurable effect on the East Channel or the volume of water in the harbor, or adversely affect beneficial uses.

Operation of the proposed Project would withdraw seawater from the harbor for use in research, holding, and aquaculture facilities, and discharge the spent water either back to the harbor or into the sanitary sewer system. The withdrawal of seawater from the harbor to support operational activities could be as high as 2 million gallons per day, although a similar amount of water could be discharged through the onsite discharge pipe, depending upon the type of system selected for the proposed Project. If a 100% recirculation system option is selected for the proposed facility, the water exchange rate would be reduced to about 27,400 gallons per day. The discharge of this recirculated water would occur at the nearby TITP. Therefore, no measurable changes in water volume or water elevation would occur in the East Channel or the harbor from Project operations. Thus, there is no mechanism by which operation of the proposed Project could affect the amount of surface water in Los Angeles Harbor.

As such, the contribution of the proposed Project to a cumulatively significant impact related to an increase in surface area in a water body would be less than cumulatively considerable.

4.2.13.2.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project related to an increase in surface area in a water body would be less than cumulatively considerable. No mitigation measures are required.

4.2.13.3 Cumulative Impact WQ-2: 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—Less than Cumulatively Considerable

Cumulative Impact WQ-2 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to create pollution, cause nuisances, or violate applicable standards as defined in Section 13050 of the California Water Code (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.

4.2.13.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Water and sediment quality within the geographic scope are affected by activities within the harbor, inputs from the watershed including aerial deposition of particulate pollutants, and effects from historical (legacy) inputs to the harbor. As discussed in Section 3.13, "Water Quality, Sediments, and Oceanography," portions of the LA/LB Harbor are identified on the current 303(d) list as impaired for a variety of chemical and bacteriological stressors and effects on biological communities. For those stressors causing water quality impairments, TMDLs will be developed that will specify load allocations from the individual input sources, such that the cumulative loadings to the harbor would be below levels expected to adversely affect water quality and beneficial uses of the water body. Bacteria TMDLs have been completed for Inner Cabrillo Beach and the Los Angeles Harbor Main Channel. In addition, a framework has been developed and analysis is underway to develop Toxic and Metal TMDLs for waterbodies within the LA/LB Harbor (Anchor et al. 2005). In the absence of restricted load allocations, the impairments would be expected to persist. Present and reasonably foreseeable future projects with in-water construction components, such as dredging and pier upgrades, would result in temporary and localized effects on water quality that would be individually comparable to those associated with the proposed Project. Such changes to water quality associated with in-water construction for the other related projects would be temporary in nature, with a duration less than or equal to the time during which in-water work was performed. Therefore, cumulative impacts would occur only if both the timeframe and geographic influences of concurrent projects overlapped. Of the cumulative projects listed in Table 4.1, none are proposing in-water work within Slip 5, the area that would be affected by in-water work for the proposed Project. Thus, there is no potential for overlapping construction impacts between the proposed Project and other projects identified in Table 4-1.

The Dominguez watershed is characterized primarily by urban and industrial land uses with a high proportion of paved surface. Therefore, soil loadings to the harbor are not excessive and waters are not impaired by sedimentation or turbidity. Cumulative projects involving demolition or construction are expected to disturb soils and make them subject to erosion by wind or runoff, with potentials for subsequent transport into, and accumulation in, the harbor. Soils exposed by construction activities would be subject to erosion, transport off site, and deposition in the harbor. The sedimentation and turbidity effects associated with each of these projects would be temporary in nature and thus would be cumulative only if the projects were to overlap in both the spatial and temporal extent of their impacts on water quality. Given the size of the affected area and the number of projects, it is likely that several projects would overlap in temporal extent, but these projects are distributed over a large area. In addition, these projects would be subject to sediment and erosion control requirements and would be required to prevent and control sediment in runoff. None of the projects identified in Table 4-1 is known to have been individually shown to have a significant impact attributable to sedimentation. Thus, the cumulative impacts of concurrent backland construction projects would not result in significant cumulative impacts on turbidity and sedimentation.

Many projects, once operational, would result in wastewater and/or stormwater discharges that could contain a variety of constituents such as dissolved metals and organic compounds. However, given that wastewater and stormwater discharges would be regulated by NPDES permits, impacts from these discharges would be minimized to a level consistent with existing regulation and approved TMDLs for the constituents of concern. The permits would specify constituent limits and/or mass emission rates that are intended to protect water quality and beneficial uses of receiving waters.

Cumulative projects associated with the development of Port facilities are expected to contribute to a greater number of ship visits to the Ports of Los Angeles and Long Beach. Increases in vessel traffic would be expected to result in higher mass loadings of contaminants such as copper that are released from vessel hull anti-fouling paints. Portions of the LA/LB Harbor are impaired with respect to copper; thus increased loadings associated with increases in vessel traffic relative to baseline conditions would likely exacerbate water and sediment quality conditions for copper. In addition, with the increase in vessel traffic, the risk of accidental or illegal discharges could reasonably be expected to increase in proportion to the increased ship traffic. Waste loadings to the harbor would also be expected to increase. The significance of this increased loading related to these discharges would depend on the volumes and composition of the releases and the timing and effectiveness of spill response actions. The combined water quality effect of these projected increases in vessel traffic is a cumulatively significant impact which would result in a substantial increase in contaminant loading in the Ports of Los Angeles and Long Beach.

4.2.13.3.2 Contribution of the Proposed Project

In-water construction activities, primarily piling placement, would disturb bottom sediments. Disturbances of bottom sediments would alter some water quality parameters such as DO, nutrients, chemical contamination, and turbidity. These changes would be of short duration and localized to the mixing zone associated with the construction activity. As discussed in Section 3.13, "Water Quality, Sediments, and Oceanography," changes to water quality from in-water construction are not expected to exceed applicable standards outside of any approved mixing zone. Because the effects are not expected to overlap in time and space with those from other projects, the impacts of such disturbances would not be cumulatively considerable relative to the CEQA baseline. Once the construction phase of the proposed Project was completed, operations would not be expected to cause further disturbances to bottom sediments or contribute to cumulative impacts.

The proposed Project would not result in any direct discharge of wastewater to the harbor, except for the potential discharge of spent seawater from the research facility. However, such discharges would be regulated by NPDES permits, such that impacts would be minimized to a level consistent with existing regulation and approved TMDLs for the constituents of concern. The permits would specify constituent limits and/or mass emission rates that are intended to protect water quality and beneficial uses of receiving waters. If a 100% recirculation system is used instead of a flow-through system, the discharge would be routed to the TITP, which would also be subject to NPDES permit and TMDL regulations. Therefore, the proposed Project's direct contribution to pollution loading to the harbor would be less than cumulatively considerable.

Stormwater runoff from the onshore portions of the proposed project area would flow into the harbor, along with runoff from adjacent areas of the large, primarily urbanized, watershed. Stormwater runoff from backland areas within the proposed project site would be governed by a stormwater permit, similar to those required for the other cumulative projects, that specifies constituent limits and/or mass emission rates that are intended to protect water quality and beneficial uses of receiving waters. Relative to the CEQA baseline, the proposed project operations would contribute similar or lower volumes of runoff and no substantial differences in the chemical composition of the runoff because the land uses would be similar or less industrial. Although the inputs from the proposed Project would be negligible compared with those from the entire watershed, the runoff could contain contaminants (e.g., metals) that have been identified as stressors for portions of the LA/LB Harbor.

BMPs to prevent or minimize contaminant loadings to the harbor from stormwater runoff from past, present, and future projects, including the proposed Project, are required by the SUSMP, which is incorporated into the Los Angeles County Urban Runoff and Stormwater NPDES Permit issued by the RWQCB. SUSMP requirements must be incorporated into the proposed project plan and approved prior to issuance of building and grading permits. Specifically, the SUSMP requires that each project incorporate BMPs specifically designed to minimize stormwater pollutant discharges. While adopted BMPs will vary by project, all BMPs must meet specific design standards to mitigate stormwater runoff and control peak flow discharges. The SUSMP also requires implementation of a monitoring and reporting program to ensure compliance with the constituent limitations in the permit. Thus, water quality impacts from stormwater runoff would be less than cumulatively considerable.

The proposed Project would not alter the levels of vessel traffic visiting the Ports of Los Angeles and Long Beach, and thus would not contribute to higher mass loadings of contaminants such as copper that are released from vessel hull anti-fouling paints, and would not contribute to accidental spills and illegal vessel discharges within the harbor. Thus the proposed Project's contribution to contaminant loading due to anti-fouling paints, accidental spills, and vessel discharges would be less than cumulatively considerable.

4.2.13.3.3 Mitigation Measures and Residual Cumulative Impacts

BMPs and compliance monitoring would reduce the residual cumulative impacts from stormwater runoff to less than cumulatively considerable.

4.2.14 Summary of Impact Determinations

Table 4-6 summarizes the cumulative impact determinations of the proposed Project. Identified potential impacts may be based on federal, state, and City of Los Angeles significance criteria, LAHD criteria, and the conclusions of the technical reports.

For each type of potential impact, the table describes the impact, notes the 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 4-6. Summary Matrix of Potential Cumulative Impacts and Mitigation Measures Associated with the Proposed Project

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
AESTHETICS			
AES-1: Result in an adverse effect on a scenic vista from a designated scenic resource due to obstruction of views	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
AES-2: Substantially damage scenic resources (including, but not limited to, trees, rock outcroppings, and historic buildings) within a state scenic highway	No Cumulative Impact	No mitigation is required.	No Cumulative Impact
AES-3: Substantially degrade the existing visual character or quality of the site or its surroundings	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
AES-4: Result in an adverse effect due to shading on the existing visual character or quality of the site or its surroundings	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
AES-5: Create a new source of substantial light or glare that would adversely affect day or nighttime views of the area	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
AIR QUALITY			
AQ-1: Result in construction-related emissions that exceed an SCAQMD threshold of significance	Cumulatively Considerable	Implement Mitigation Measures **MM AQ-1** through **MM AQ-7**	Cumulatively Considerable and Unavoidable

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
AQ-2: Result in offsite ambient air pollutant concentrations during construction that exceed a threshold of significance	Cumulatively Considerable	Implement Mitigation Measures **MM AQ-1** through **MM AQ-7**	Cumulatively Considerable and Unavoidable
AQ-3: Result in operational emissions that exceed a SCAQMD threshold of significance	Cumulatively Considerable	Implement Mitigation Measures **MM AQ-4** and **MM AQ-7**	Cumulatively Considerable and Unavoidable
AQ-4: Result in offsite ambient air pollutant concentrations during operation that exceed a threshold of significance	Less than Cumulatively Considerable	Mitigation is not required	Less than Cumulatively Considerable
AQ-5: Generate on-road traffic that would contribute to an exceedance of the 1- or 8-hour CO standards	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
AQ-6: Create an objectionable odor at the nearest sensitive receptor	Less than Cumulatively Considerable	Mitigation is not required	Less than Cumulatively Considerable
AQ-7: Expose receptors to significant levels of TACs	Cumulatively Considerable	Implement Mitigation Measures **MM AQ-1** through **MM AQ-7**	Cumulatively Considerable and Unavoidable
AQ-8: Conflict with or obstruct implementation of an applicable air quality plan	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
GHG-1: Produce GHG emissions that exceed CEQA thresholds	Cumulatively Considerable and Unavoidable	Implement Mitigation Measure **MM GHG-1**	Cumulatively Considerable and Unavoidable
GHG-2: Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
BIOLOGICAL RESOURCES			
BIO-1: Cause the loss of individuals, or the reduction of existing habitat, of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a species of special concern, or the loss of federally listed critical habitat	Cumulatively Considerable	Implement **MM BIO-1** through **MM BIO-3**	Less than Cumulatively Considerable
BIO-2: Result in a substantial reduction or alteration of a state-, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
BIO-3: Result in interference with wildlife movement/migration corridors that may diminish the chances for long-term survival of a species	No Cumulative Impact	No mitigation is required.	No Cumulative Impact
BIO-4: Result in a substantial disruption of local biological communities	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
BIO-5: Result in a permanent loss of marine habitat	No Cumulative Impact	No mitigation is required.	No Cumulative Impact
CULTURAL RESOURCES			
CR-1, CR-2, CR-3: Result in adverse effects on known and unknown prehistoric or historical archaeological resources including buried human remains	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
CR-4: Result in the permanent loss of, or loss of access to, a paleontological resource of regional or statewide significance	Less than Cumulatively Considerable	No mitigation is required	Less than Cumulatively Considerable
CR-5: Result in a substantial adverse change in the significance of a historical resource, involving demolition, relocation, conversion, rehabilitation, alteration, or other construction that reduces the integrity or significance of important resources on the site or in the vicinity	Cumulatively Considerable	Implement Mitigation Measure **MM CR-1**	Cumulatively Considerable and Unavoidable
GEOLOGY			
GEO-1: Result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
GEO-2: Result in substantial damage to structures or infrastructure, or expose people to substantial risk involving tsunamis or seiches	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
GEO-3: Result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from land	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
subsidence/settlement			
GEO-4: Result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from expansive soils	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
GEO-5: Result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from landslides or mudslides	No Cumulative Impact	No mitigation is required.	No Cumulative Impact
GEO-6: Result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from unstable soil conditions from excavation, grading, or fill	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
GEO-7: Destroy, permanently cover, or materially and adversely modify one or more distinct and prominent geologic or topographic features. Such features may include, but not be limited to, hilltops, ridges, hillslopes, canyons, ravines, rock outcrops, water bodies, streambeds, and wetlands	No Cumulative Impact	No mitigation is required.	No Cumulative Impact
GROUNDWATER AND SOILS			
GW-1: Result in short-term exposure to construction/operations personnel and/or long-term exposure to future site occupants	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
GW-2: Result in changes in the rate or direction of movement of existing contaminants, expansion of the area affected by contaminants, or increased level of groundwater contamination, which would increase risk of harm to humans	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
GW-3: Result in a change to potable water levels	No Cumulative Impact	No mitigation is required.	No Cumulative Impact
GW-4: Result in a violation of regulatory water quality standards at an existing production well, as defined in CCR, Title 22, Division 4, Chapter 15 and in the Safe	No Cumulative Impact	No mitigation is required.	No Cumulative Impact

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
Drinking Water Act			
HAZARDS AND HAZARDOUS MATERIALs			
RISK-1: Comply with applicable federal, state, regional, and local security and safety regulations, and LAHD policies guiding Port development	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
RISK-2: Substantially interfere with an existing emergency response or evacuation plan or require a new emergency or evacuation plan, thereby increasing the risk of injury or death	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
RISK-3: Result in a substantial increase in public health and safety concerns as a result of the accidental release, spill, or explosion of hazardous materials due to a tsunami	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
RISK-4: Substantially increase the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
RISK-5: Substantially increase the likelihood of an accidental spill, release, or explosion of hazardous material(s) as a result of proposed project–related modifications	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
RISK-6: Introduce the general public to hazard(s) defined by the EPA and the Port RMP associated with offsite facilities	Cumulatively Considerable	Implement Mitigation Measure **MM RISK-1**	Less than Cumulatively Considerable
LAND USE AND PLANNING			
LU-1: Be inconsistent with the adopted land use/density designation in the Community Plan, redevelopment plan, or specific plan for the site	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
LU-2: Be inconsistent with the General Plan or adopted environmental goals or policies contained in other applicable plans, which would result in an adverse physical effect on the environment	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
NOISE			
NOI-1: Construction lasts more than 1 day and exceeds existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use; construction activities lasting more than 10 days in a 3-month period exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use	Cumulatively Considerable	Implement Mitigation Measures **MM NOI-1** through **MM NOI-4**	Cumulatively Considerable and Unavoidable
NOI-2: Construction activities exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9 p.m. and 7 a.m. Monday through Friday, before 8 a.m. or after 6 p.m. on Saturday, or at any time on Sunday	No Cumulative Impact	No mitigation is required.	No Cumulative Impact
NOI-3: Expose persons to, or generate, excessive groundborne vibration or groundborne noise levels	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
NOI-4: Operations result in ambient noise level measured at the property line of affected uses increasing by 3 dBA in CNEL to or within the “normally unacceptable” or “clearly unacceptable category,” or increasing in any way by 5 dBA or more	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
PUBLIC SERVICES			
PS-1: Substantially reduce public services such as law enforcement, emergency services, and park services during construction	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
PS-2: Burden existing LAPD or Port Police staff levels and facilities such that the LAPD or Port Police would not be able to maintain an adequate level of service without constructing additional facilities that could cause significant environmental effects	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
PS-3: Require the addition of a new fire station or the expansion,	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
consolidation, or relocation of an existing facility to maintain service			Considerable
PS-4: Increase the demand for recreation and park services and facilities resulting in the physical deterioration of these facilities	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
TRANSPORTATION AND CIRCULATION—GROUND AND MARINE			
TC-1: Result in a short-term, temporary increase in construction-related truck and auto traffic, decreases in roadway capacity, and disruption of vehicular and non-motorized travel	Cumulatively Considerable	Implement Mitigation Measure **MM TC-1**	Less than Cumulatively Considerable
TC-2a: I Increase traffic volumes and degrade LOS at intersections within the proposed project vicinity	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
TC-2b: Significantly increase traffic volumes or degrade operations on CMP facilities within the proposed project vicinity beyond adopted thresholds	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
TC-3: Cause increases in demand for transit service beyond the supply of such services	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
TC-4: Result in a violation of the City's adopted parking policies and parking demand would not exceed supply	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
TC-5: Include design elements that would result in conditions that would increase the risk of accidents, either for vehicular or non-motorized traffic	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
VT-1a: Interfere with operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, East Basin area, or precautionary areas during construction	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
VT-1b: Interfere with the operation of designated vessel traffic lanes and/or impair the level of safety for vessels	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
navigating the Main Channel, West Basin area, or precautionary areas during operations			
UTILITIES			
UT-1: Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
UT-2: Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
UT-3: Have sufficient water supplies available to serve the project from existing entitlements and resources, and would not require new or expanded entitlements	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
UT-4: Result in a determination by the wastewater provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
UT-5: Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
UT-6: Require new, offsite energy supply and distribution infrastructure, or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
WATER QUALITY, SEDIMENTS, AND OCEANOGRAPHY			
WQ-1: Substantially reduce or increase the amount of surface water in a water body	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
WQ-2: 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	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
applicable NPDES stormwater permit or Water Quality Control Plan for the receiving water body			

5.0

PROJECT ALTERNATIVES

5.0 PROJECT ALTERNATIVES

5.1 Introduction

This chapter presents a comparison of alternatives to the proposed Project. Various alternatives were considered during the preparation of this Draft EIR, but several were eliminated from further discussion because they did not satisfy the requirements for an alternative as defined by CEQA. Section 15126.6 of the State CEQA Guidelines requires that an "EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, that would feasibly attain most of the basic objectives of the project, which would avoid or substantially lessen any of the significant effects of the project." Accordingly, those alternatives that met most of the proposed project objectives and that would avoid or substantially lessen a significant impact are identified in Section 5.3. In addition, as required by CEQA, the No Project Alternative is included in the analysis. Section 5.4 identifies those alternatives that were considered but eliminated and explains why; and Section 5.5 compares the selected alternatives against each other and the proposed Project. Finally, Section 5.6 identifies the environmentally superior alternative. The alternatives have been qualitatively analyzed in this Draft EIR at a level that provides sufficient information about the environmental effects of each alternative for comparative purposes and to allow for informed decision-making.

5.2 Requirements for Alternatives Analysis

CEQA's evaluation criteria for alternatives are described fully in Chapter 1, Section 1.6.7. Briefly, Section 15126.6 of the State CEQA Guidelines requires that an EIR present a range of reasonable alternatives to a proposed project, or to the location of a project, that could feasibly attain a majority of the basic project objectives, but that would avoid or substantially lessen one or more significant environmental impact of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice. An EIR need not consider every conceivable alternative to a project. Rather, the alternatives must be limited to ones that meet the project objectives, are ostensibly feasible, and would avoid or substantially lessen at least one of the significant environmental effects of the project (State CEQA Guidelines, Section 15126.6[f]). The EIR must also identify the environmentally superior alternative, which cannot be the No Project Alternative. Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially lessen any significant environmental effects (State CEQA Guidelines, Section 15126.6[c]).

5.3 Alternatives Considered for Evaluation

This EIR presents a reasonable range of alternatives pursuant to CEQA. LAHD defines a reasonable range of alternatives in light of its legal mandates under the Port of Los Angeles Tidelands Trust (Los Angeles City Charter, Article VI, Sec. 601), the California Coastal Act (20 PRC 30700 et seq.), and LAHD's leasing policy (LAHD 2006). The Port is one of only five locations in the state identified in the California Coastal Act for the purposes of international maritime commerce (20 PRC 30700–30701). These mandates identify the Port and its facilities as a primary economic/coastal resource of the state and an essential element of the national maritime industry for promotion of commerce, navigation, fisheries, environmental preservation, and public recreation (California State Lands Commission 2001). In developing an appropriate range of alternatives, the starting point is the proposed Project's objectives.

The proposed Project's objectives were developed based on the community planning process described in Chapter 2, "Project Description." Objectives are numbered 1 through 6 for ease of reference within this chapter.

1. Adaptively reuse Berths 56–60 and 70–71 to provide marine researchers in Southern California with world-class marine research facilities including laboratories, a seawater circulation system, offices, classrooms, a lecture hall/auditorium, and storage space to study the most pressing marine-related problems of the day.
2. Construct a natural seawater wave tank to allow scientists from around the world to study tsunamis, rogue waves, and the generation of wave energy; and conduct vessel, platform, and coastal engineering studies.
3. Provide space within Los Angeles Harbor to relocate, upgrade, and expand SCMI's operations, which are currently located at Berth 260 in Fish Harbor.
4. Provide an opportunity for SCMI and its members, government and other institutional researchers and research organizations with multiple deep draft berths to accommodate vessels ranging in size from small to large 300-foot vessels adjacent to landside facilities.
5. Provide a location for a marine-related business incubator park for synergy among research and commercial interests, and develop commercial technologies to address marine environmental problems.
6. Provide public amenities, including public education classroom space and interpretive exhibits related to marine studies and a cafe, along with a waterfront promenade, consistent with the San Pedro Waterfront Project while not impacting the health and safety of the visiting public.

Two alternatives—the No Project Alternative and a Reduced Project Alternative—are analyzed in this Draft EIR. The Reduced Project Alternative meets a majority of the proposed Project's objectives and would reduce at least one potentially significant impact of the proposed Project. Several additional alternatives were considered, but none were found to meet the main project objectives and reduce at least one potentially significant impact in comparison to the proposed Project.

Under CEQA, the analysis of alternatives need not be as in-depth as the analysis for the proposed Project, but should be at a level that allows the decision-maker to make an informed determination regarding the differences in impacts between the proposed Project and each of its alternatives. Table 5-1 provides a summary comparison of each of the alternatives in relation to the proposed Project.

Table 5-1. Summary of Proposed Project and Alternatives at Full Buildout (2024)

Feature	*Proposed Project*	*Alternative 1 – No Project*	*Alternative 2 – Reduced Project*
Total Project Area Redeveloped and Enhanced	33.8 ac	33.8 ac	18.85 ac
Project Area Structures	411,100 sf	NC	249,600 sf
Proposed Cafe	1,000 sf	NC	1,000 sf
Proposed Office-Related	132,000 sf	NC	82,000 sf
Proposed Laboratory	144,500 sf	NC	144,500 sf
Proposed Outdoor Space	38,100 sf	NC	38,100 sf
Learning Center at Berth 56	11,500 sf	NC	NC
Wave Tank Building	100,000 sf	NC	NC
ac = acres; sf = square feet; NC= No change from existing conditions			

5.3.1 Alternative 1—No Project Alternative

Alternative 1 considers what would reasonably be expected to occur on the site if no future discretionary actions occurred. LAHD would not issue any discretionary permits or discretionary approvals, and would take no further action to construct or permit the construction of any portion of the proposed Project. Under this alternative, no construction impacts associated with a discretionary permit would occur.

Under Alternative 1, the proposed Project would not be constructed. Berths 57–60 would continue to be used for warehousing space; these berths would not be converted to a marine research center, and wharf repair and transit shed repairs would not occur. SCMI would continue to operate the 19,000-square-foot office building in Fish Harbor and continue to face the inadequate space and conditions required for their research. Berth 56 would continue with existing uses, which include the paved area where the 11,500-square-foot Learning Center would no longer be proposed for construction.

As part of the SPWP action (and not part of the proposed Project), the Westway Terminal liquid bulk storage tanks would be removed and Berths 70–71 would subsequently be remediated. With the exception of the existing historic Westway/Pan-American Oil Company Pump House, which would remain, and the existing office building, Berths 70–71 would otherwise remain vacant indefinitely after remediation until new development plans could be established and evaluated.

The No Project Alternative would maintain the existing conditions at the proposed project site and none of the proposed project objectives would be met.

5.3.2 Alternative 2—Reduced Project Alternative

Under this alternative, only Berths 57–60 would be developed into marine research space, with Berth 57 to be occupied by SCMI; repairs, rehabilitation, and upgrades would be made to Berth 57 and Berths 58–60 transit sheds and wharves as described in Chapter 2, “Project Description.” SCMI would be relocated to Berth 57, and SCMI facilities at Berth 260 would be demolished as described in Chapter 2.

Development of Berths 70–71, including the NOAA facilities, opportunity site, and wave tank, would not occur. Because it is proceeding under a separate permitting process (i.e., not part of the proposed Project), the Westway Terminal liquid bulk storage tanks would be removed, and Berths 70–71 would subsequently be remediated. With the exception of the existing historic Westway/Pan-American Oil Company Pump House, which would remain, and the existing office building, Berths 70–71 would otherwise remain vacant indefinitely after remediation until new development plans could be established and evaluated. This alternative would also not include the auditorium at Berth 56 or the additional 15 parking spaces proposed at Berth 56. The waterfront promenade would be constructed within City Dock No. 1 as part of implementation of the SPWP. Table 5-2 summarizes development under this alternative.

Table 5-2. Alternative 2: Reduced Project Alternative

Phase/Element	*Area*
PHASE I (2012–2016)	
Berth 57	
▪ Convert Berth 57 Transit Shed into SCMI Research Facility and Develop Marine Research- and Education-Related Facilities	46,500 sf
▫ Office-Related Space (12,000 sf)	
o Faculty Office Space	
o Administrative Suite	
o Staff Support Facilities (toilets, showers, and lockers)	
▫ Laboratory-Related Space (34,500 sf)	
o Teaching Laboratories	
o Research Laboratories and Facilities	
o Lab Support Space	
o Building Support Facilities (machine shop, storeroom, chemical storage, hazardous waste, scuba gear, instrument support, etc.)	

Phase/Element	*Area*
▫ Outdoor Space (8,200 sf)[1] o Outdoor Teaching/Outreach Classroom o Outside Storage Space	
▪ Replace Berth 57 Entrance (3,640 sf) with New Addition (Public Interpretive Center)	3,600 sf
▪ Install Seawater Circulation and Life Support System including Exterior Storage Tanks for Berth 57 and Seawater Intake/Discharge Infrastructure to Serve City Dock No.1 Research Laboratory Buildout	New utility
▪ Construct Floating Docks Adjacent to Berth 57 (12 vessel slips)	18,500 sf
▪ Rehabilitate/Repair Berth 57 Wharf and Associated Ground Improvements	625 lf[1]
▫ Create Berthing for Research Vessels and Loading Space on the Wharf for Crane	--
▪ Construct Public Plaza at Berth 57	7,500 sf[1]
▪ Relocate SCMI from Berth 260 to New Berth 57 Facilities	--
Berth 260	
▪ Demolish Existing SCMI Facility (demolition of existing 19,000-sf building, 2,700-sf warehouse, and 2,400-sf shop storage)	(24,100 sf)
Total Structure Square Feet in Phase I	*80,100 sf*[2]
Signal Street Improvements/Parking Facilities	
▪ Repair/Repave/Restripe	625 lf[1]
▪ Add Surface Parking Adjacent to Berth 57	40 spaces
▪ Utilize Sampson Way and 22nd Street (existing parking lot)	409 spaces
Total Parking Added in Phase I	*40 spaces*
Total Available Parking in Phase I	*449 spaces*
Total Area Redeveloped and Enhanced in Phase I	*7.35 ac*[3]
PHASE II (2013–2024)	
Berths 58–60	
▪ Covert Transit Sheds into Marine Research Facility ▫ Office-Related Space (50,000 sf) o Office/Administrative Space o Staff Support Facilities (toilets, showers, and lockers) o Hallways, Walkways ▫ Laboratory-Related Space (70,000 sf) o Research Laboratories and Facilities o Lab Support Space o Storage Facilities (robotics, instruments, etc. deployed on marine research vessels) o Marine Research Vessel Support Facilities (crew quarters, showers, etc.) o Building Support Facilities (machine shop, storeroom, chemical storage, hazardous	120,000 sf

Phase/Element	*Area*
waste, scuba gear support, etc.) ▫ Outdoor Space (16,400 sf) o Outside Storage Space	
■ Convert Transit Shed to Marine Business Incubator Space ▫ Office-Related Space (20,000 sf) o Office/Administrative Space o Staff Support Facilities (toilets, showers, and lockers) ▫ Laboratory-Related Space (40,000 sf) o Research Laboratories and Facilities o Laboratory Support Space o Storage Facilities (robotics, instruments, etc. deployed on marine research vessels)	60,000 sf
■ Develop Waterfront Promenade including Public Plaza/Viewing Platform at Berth 60	6,000 lf[1]
■ Construct Waterfront Café	1,000 sf
■ Install Seawater Circulation System including Exterior Storage Tanks for Berths 58–60	New utility
■ Relocate Items Stored by Water Taxi Service (to within the general vicinity)	--
■ Rehabilitate/Repair Berth 58–60 Wharf and Associated Ground Improvements	1,875 lf[1]
▫ Create Berthing for Research Vessels and Loading Space on the Wharf	--
Signal Street Improvements/Parking Facilities	
■ Implement Repaving and Restriping	1,875 lf[1]
■ Install New Diagonal Parking	155 spaces
■ Remove Existing Heavy Rail Line from Street	8,000 lf[1]
Total Parking Added in Phase II	*155 spaces*
Total Parking Available in Phase II	*604 spaces*[4]
Total Area Redeveloped and Enhanced in Phase II	*10.70 ac*[5]
PROPOSED PROJECT TOTALS	
Total Project Area Structures	249,600 sf
Total Parking Spaces Available for Proposed Project	604
Total Project Area Redeveloped and Enhanced	18.85 acres[5]

[1] Not a structure and is therefore not counted in total structure sf.

[2] Excludes demolition of existing SCMI Facility at Berth 260.

[3] Acreage was calculated by taking the 8 acres of Phase I minus the 0.65 acre at Berth 56 for the auditorium and parking.

[4] In addition to the 155 new parking spaces provided under Phase II, visitors and employees would have access to the 449 parking spaces identified under Phase I for a total of 604 spaces for the proposed Project.

[5] Acreage was calculated by taking the Phase II total of 25 acres from the proposed Project and subtracting 14.3 for Berths 70–71.

[6] Acreage was calculated by taking the total 33.8 acres from the proposed Project and subtracting 0.65 for Berth 56 and 14.3 for Berths 70–71.

sf=square feet; lf = linear feet

Alternative 2 would meet a majority of the proposed Project's objectives except for Objective 2, which includes development of a natural seawater wave tank and part of Objective 1, which includes the lecture hall/auditorium and classroom development at Berth 56 and adaptive reuse of Berths 70–71.

5.4 Alternatives Considered but Eliminated

As discussed in Section 5.2 above, CEQA requires an EIR to present a range of reasonable alternatives to the proposed Project, or to the location of the proposed Project, that could feasibly attain the main project objectives, but would avoid or substantially lessen one or more significant environmental impacts of the proposed Project. CEQA also requires an evaluation of the comparative merits of the alternatives. An EIR is not required to consider alternatives that would be infeasible or that would not reduce any identified significant impact.

The following proposed project alternatives were considered in the selection process, but were rejected due to one or more of the following:

- infeasibility due to physical, legal, or technical factors;
- inability to meet the main project objectives; or
- inability to reduce one or more identified significant impact(s).

The alternatives discussed below were considered but eliminated from further analysis due to their infeasibility.

5.4.1 New Construction at Berths 57–60

This alternative would involve demolition of the existing transit sheds at Berth 57 and Berths 58–60, and construction of new buildings in their place. The programming of the site would be the same as the proposed Project, but this alternative would not adaptively reuse the transit shed structures. Because these structures are considered potentially eligible for listing as historic resources, their demolition would constitute a significant impact, and this alternative would not avoid or minimize the proposed Project's significant unavoidable impacts on cultural resources. Additionally, the demolition of these structures and construction of new buildings in their place would likely increase other impacts, such as air quality, GHGs, and noise. Therefore, because this alternative would not reduce significant impacts, it has been rejected from further consideration in this EIR.

5.4.2 Alternative Site

Alternative sites within the Port were considered but rejected. No other sites within the Port with substantial size, availability, and locational qualities were identified. The City Dock No. 1 site provides approximately 28.3 acres of waterfront property with available buildings that can be adaptively reused for the proposed marine research facilities. The location provides synergies with the future buildout of the

SPWP, and includes public amenities that provide connections to the community and brings additional visitors to the waterfront. Additionally, the location provides deep draft berths to accommodate vessels ranging in size from small to large 250-foot vessels adjacent to landside facilities. Therefore, no other sites were considered feasible for the proposed Project.

5.5 Analysis of Impacts from Alternatives

Thirteen environmental resources are analyzed in Chapter 3 of this Draft EIR, which identifies resource areas that would have impacts with implementation of the proposed Project. The No Project Alternative and the Reduced Project Alternative are qualitatively evaluated in this chapter. Section 5.6 identifies the alternative that qualifies as the overall Environmentally Superior Alternative.

5.5.1 Summary of Alternatives Impact Analysis

Table 5-3 presents a summary of the results of the analysis for the resource areas that involve significant impacts from one or more of the alternatives, and identifies the alternatives that would result in significant unavoidable impacts. Resources with significant impacts that can be mitigated to less than significant are also discussed below.

Table 5-3. Summary of CEQA Significance Analysis by Alternative

Environmental Resource Area	*Proposed Project*	*No Project Alternative 1*	*Reduced Project Alternative 2*
Aesthetics	L	N	L
Air Quality and Greenhouse Gases	S	N	S
Biological Resources	M	N	M
Cultural Resources	S	N	M
Geology	L	N	L
Groundwater and Soils	L	N	L
Hazards and Hazardous Materials	M	N	M
Land Use and Planning	M	N	M
Noise	S	N	S
Public Services and Recreation	L	N	L
Transportation and Circulation—Ground and Marine	M	N	M
Utilities	L	N	L
Water Quality, Sediments, and Oceanography	L	N	L

L = Less than Significant
N = No Impact
M = Significant but Mitigable
S = Significant Unavoidable

Alternative 2 would avoid a significant and unavoidable impact on cultural resources as a result of not constructing the five-story, 100,000-square-foot wave tank building. However, the proposed Project and Alternative 2 would both have unavoidable significant impacts in the areas of air quality and greenhouse gases and noise. Additionally, the proposed Project and Alternative 2 would have the same significant but mitigable impacts on biological resources and transportation and circulation. The No Project Alternative, which would continue the current conditions on site indefinitely, would have no impacts on the baseline condition.

Table 5-4 ranks the alternatives on the basis of a comparison of their environmental impacts with those of the proposed Project. The ranking is based on the significance determinations for each resource area, as discussed in Chapter 3 and the qualitative analysis below, and reflects differences in the levels of impact among alternatives. This ranking also takes into consideration the relative number of significant impacts that are mitigated to a level below significance, the number of impacts that remain significant after mitigation, and the relative intensity of impacts.

As shown in Table 5-3 above and Table 5-4 below, the No Project Alternative is the environmentally superior alternative because it would have an impact on fewer resources; however, because CEQA requires a selection of a design alternative in the event the No Project Alternative is the environmentally superior, the Reduced Project Alternative is the environmentally superior alternative. As discussed in Section 5.5.2, the Reduced Project Alternative would have reduced impacts and notably would reduce the significant and unavoidable cultural resources impact that would occur with the proposed Project to a less-than-significant impact with mitigation.

Table 5-4. Comparison of Alternatives to the Proposed Project (with Mitigation; CEQA Impacts)

Environmental Resource Area[a]	*No Project / Alternative 1*	*Alternative 2*
Air Quality and Greenhouse Gases	-2	-1
Biological Resources	-2	0
Cultural Resources	-2	-1
Hazards and Hazardous Materials	-1	-1
Land Use and Planning	-1	-1
Noise	-2	-1
Transportation and Circulation—Ground and Marine	-1	0
Total	**-11**	**-5**

[a] Only environmental resources with unavoidable significant impacts or significant but mitigable impacts are included in this table and the analysis used to rank alternatives; the analysis includes project-level impacts, not cumulative effects.

-2 = Impact considered to be substantially less when compared with the proposed Project.
-1 = Impact considered to be somewhat less when compared with the proposed Project.
0 = Impact considered to be equal to the proposed Project.
1 = Impact considered to be somewhat greater when compared with the proposed Project.
2 = Impact considered to be substantially greater when compared with the proposed Project.

Where significant unavoidable impacts would occur across different alternatives but there are impact intensity differences between those alternatives, numeric differences are used to differentiate alternatives (i.e., in some cases, there are differences at the individual impact level, such as differences in number of impacts or relative intensity).

5.5.2 Resources with Significant Unavoidable Impacts

Tables 5-3 and 5-4 identify the alternatives that would result in both unavoidable and significant impacts and those impacts on resources that would be significant without mitigation but that would be reduced to levels less than significant with mitigation, as analyzed in Chapter 3 for the proposed Project and qualitatively analyzed for each alternative in the sections below.

5.5.2.1 Air Quality and Greenhouse Gases

5.5.2.1.1 Alternative 1—No Project Alternative

Under Alternative 1, construction activities would not occur. Development on the site would consist of the existing operations. Because large-scale construction would not occur, air quality and GHG impacts from construction would not occur. Operational air quality and GHG impacts would also not occur because no new vehicle trips would be generated to the site, and no new stationary sources would occur. As compared to the proposed Project, Alternative 1 would have a reduced impact on air quality and GHG emissions.

5.5.2.1.2 Alternative 2—Reduced Project Alternative

Alternative 2 would substantially reduce the amount of construction that would take place within the proposed project area. Impacts from air quality construction emissions would be substantially reduced as well. However, as discussed above, impacts from construction and operation would overlap largely. While air quality construction emissions would be reduced, the reduction would likely not be enough to reduce impacts from air quality construction emissions and the combination of construction and operation emissions during 2014 through 2016. Impacts would be reduced compared to the proposed Project, but would still remain significant even after implementation of mitigation measures.

In addition, GHG emissions from construction activities would be reduced under this alternative. GHG emissions associated with research vessels during operation would also be reduced. However, the combined total of amortized construction GHG emissions and operational GHG emissions would remain significant. As compared to the proposed Project, Alternative 2 would have a reduced impact on air quality and GHG emissions.

5.5.2.2 Cultural Resources

5.5.2.2.1 Alternative 1—No Project Alternative

Alternative 1 would not have any construction-related impacts on historical resources. The wave tank would not be constructed, which in turn would not significantly affect the potentially historic district. This significant and unavoidable impact on a historical resource would be avoided under the No Project Alternative when compared with the proposed Project. However, the proposed Project would have a beneficial impact on the potentially historic transit sheds by rehabilitating them; an improvement that would not be implemented under the No Project. Overall, however, the No Project Alternative would have reduced impacts on cultural resources when compared with the proposed Project.

5.5.2.2.2 Alternative 2—Reduced Project Alternative

Alterative 2 would reduce the development footprint and construction activities in comparison to the proposed Project by not including the learning center at Berth 56 (11,500 sf) and the NOAA administration building (50,000 sf), wave tank building (100,00 sf), and opportunity site at Berths 70–71. Therefore, Alternative 2 would avoid the significant and unavoidable impacts the wave tank would impose on the historic setting of the Westway Terminal Building, the transit shed at Berth 57, and the Municipal Pier No. 1 Historic District.

5.5.2.3 Noise

5.5.2.3.1 Alternative 1—No Project Alternative

Under Alternative 1, the existing uses on the proposed project site would continue. Noise levels would remain the same as the baseline measurements listed in Section 3.9, "Noise." No construction-related noise impacts would occur. No noise-related impacts would occur under the No Project Alternative.

5.5.2.3.2 Alternative 2—Reduced Project Alternative

Alternative 2 would reduce the development footprint and construction activities in comparison to the proposed Project by not including the learning center at Berth 56 (11,500 sf) and the NOAA administration building (50,000 sf), wave tank building (100,000 sf), and opportunity site at Berths 70–71. When compared with the proposed Project, Alternative 2 would result in reduced construction-related noise impacts because it is a smaller project and would eliminate pile driving associated with construction of the wave tank. However, construction-related impacts (Impact NOI-1) would remain significant and unavoidable due in large part to the pile driving at the wharf along Berths 57–60 and construction noise exceeding a noise threshold at the Cabrillo Way Marina MR-1 location. Impacts from Alternative 2 related to noise would be reduced when compared to the proposed Project, but would remain significant and unavoidable.

5.5.3 Resources with Significant Impacts that Can Be Mitigated to Less than Significant

5.5.3.1 Biological Resources

5.5.3.1.1 Alternative 1—No Project Alternative

Alternative 1 would continue the existing uses on the proposed project site. No in-water construction would occur and repairs, rehabilitation, and upgrades to Berths 57–60 transit sheds and wharves would not be performed. No impacts on biological resources would occur.

5.5.3.1.2 Alternative 2—Reduced Project Alternative

Alternative 2 would reduce the development footprint and construction activities in comparison to the proposed Project by not including the learning center at Berth 56 and the NOAA administration building, wave tank, in-take for the wave tank, and opportunity site at Berths 70–71. Alternative 2 would perform the same repairs, rehabilitation, and upgrades to Berths 57–60 transit sheds and wharves and have the same in-water impacts. As with the proposed Project, implementation of mitigation measures would reduce impacts on marine mammals and special-status terrestrial birds to less-than-significant levels.

Impacts from Alternative 2 related to biological resources would be the same as the proposed Project's, and would be less than significant after mitigation.

5.5.3.2 Hazards and Hazardous Materials

5.5.3.2.1 Alternative 1—No Project Alternative

Alternative 1 would continue the existing uses on the proposed project site. Mike's fueling station currently meets all safety and environmental standards for the handling and storing of hazardous materials, and would not expand or increase its inventory of materials. Although the facility would remain in its existing location, it would not continue to handle hazardous materials with flashpoints below 140°F per Mitigation Measure MM RISK-1 of the San Pedro Waterfront Project EIS/EIR. Moreover, Berths 70–71 would not be developed with the wave tank or office space. Therefore, the No Project Alternative would not increase the risk of an accidental spill, release, or explosion at Mike's fueling station. Moreover, because no mitigation would be required under the No Project Alternative, impacts would be slightly less than the proposed Project.

5.5.3.2.2 Alternative 2—Reduced Project Alternative

Alternative 2 would reduce the development footprint and construction activities in comparison to the proposed Project by not including the learning center at Berth 56 and the NOAA administration building, wave tank, in-take for the wave tank, and opportunity site at Berths 70–71. Mitigation Measure MM RISK-1 of the San Pedro Waterfront Project EIS/EIR, carried over to Alternative 2, would ensure hazards and hazardous materials impacts would be less than significant, similar to the proposed Project.

5.5.3.3 Land Use and Planning

5.5.3.3.1 Alternative 1—No Project Alternative

Alternative 1 would continue the existing uses on the proposed project site. No additional people or facilities would be proposed adjacent to Mike's fueling station, which stores and handles hazardous liquid bulk materials; therefore, Alternative 1 would not result in an inconsistency with the objective of the RMP of the PMP to locate vulnerable populations away from hazardous facilities. No impacts on land use and planning would occur under the No Project Alternative.

5.5.3.3.2 Alternative 2—Reduced Project Alternative

Alternative 2 would reduce the development footprint and construction activities in comparison to the proposed Project by not including the learning center at Berth 56 and the NOAA administration building, wave tank, in-take for the wave tank, and opportunity site at Berths 70–71. However, there would be additional people and structures would be developed in proximity to Mike's fueling station. As with the proposed Project, implementation of Mitigation Measure MM RISK-1 would reduce impacts related to land use and planning to less-than-significant levels.

5.5.3.4 Transportation and Circulation—Ground and Marine

5.5.3.4.1 Alternative 1—No Project Alternative

Alternative 1 would keep the existing uses in place and only allow modest improvements in future years that are allowed by right through the underlying zone. No significant construction would occur under this alternative, and, therefore, this alternative would not result in any construction-related traffic impacts. When compared to the proposed Project, Alternative 1 would have a reduced impact on ground transportation.

5.5.3.4.2 Alternative 2—Reduced Project Alternative

During construction, Alternative 2 would still have many if not all of the same impacts discussed under the proposed Project. Lane closures would be likely and disruption to local street networks and transit schedules might occur. As with the proposed Project, a Traffic Control Plan would be implemented throughout construction. Impacts during construction would be mitigated to a less-than-significant level.

5.6 Environmentally Superior Alternative

Based on the above analysis, the No Project Alternative is the Environmentally Superior Alternative because it would create fewer adverse impacts, including those that would be significant and unavoidable. Under the No Project Alternative, impacts on air quality, biological resources, cultural resources, noise, and traffic would be reduced in comparison to the proposed Project. However, none of the proposed project objectives, such as the rehabilitation of the potentially historic transit sheds, would be met (See Section 5.3).

However, State CEQA Guidelines Section 15126.6(e)(2) requires that in cases where the No Project Alternative is determined to be the environmentally superior alternative, another must also be identified as environmentally superior. Consequently, the Reduced Project Alternative would be the environmentally superior alternative. Under the Reduced Project Alternative, Berths 57–60 would be developed in the same manner as the proposed Project. However, development of Berths 70–71, including the NOAA facilities, opportunity site, and installation of the wave tank, would not occur. Therefore, proposed project objectives #1 and #2 would not be met, which call for the redevelopment of Berths 70-71 and the construction of a wave tank, respectively. Significant and unavoidable impacts on cultural resources would be avoided; impacts on air quality, GHG, and noise would be slightly reduced; and impacts on biological resources, hazards and hazardous materials, land use and planning, and transportation and circulation would remain similar to the proposed Project.

6.0

ENVIRONMENTAL JUSTICE

6.0 ENVIRONMENTAL JUSTICE

6.1 Introduction

This environmental justice analysis is prepared in accordance with Executive Order 12898, Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations, and with the Council on Environmental Quality's (CEQ's) *Guidance for Environmental Justice Under NEPA* (CEQ 1997). While Executive Order 12898 and CEQ Guidance for Environmental Justice are typically required only for federal actions pursuant to NEPA, LAHD includes this analysis in all EIRs to assess the potential for its actions to have disproportionately high and adverse environmental and health impacts on minority and low-income populations. This assessment is also consistent with California state law regarding environmental justice in accordance with PRC Sections 71110–71116.

After implementation of mitigation measures, the proposed Project would result in disproportionate effects on minority and low-income populations as a result of significant impacts related to construction noise and air quality.

6.1.1 Background

This Environmental Justice (EJ) chapter evaluates whether the proposed Project would result in disproportionately high and adverse human health or environmental impacts on minority and low-income populations. The following topics are discussed:

- Environmental Setting, including minority and low-income populations in the study area (data from the 2000 U.S. Census)
- Applicable EJ statutes, executive orders, and regulatory guidance
- The Public Outreach process and the provision of a Spanish translation to provide access to proposed project information as well as increased opportunities for public participation by potentially affected minority and low-income communities
- Impacts and Mitigation Measures covering significant impacts identified in Chapter 3, "Environmental Analysis," Sections 3.1 through 3.13, and a discussion of how such impacts might disproportionately affect minority and low-income populations

- Cumulative Impacts, as applicable, when the proposed Project's impacts are added to disproportionate impacts of other actions and activities in the study area

6.2 Environmental Setting

The proposed Project is located in the Port of Los Angeles near the San Pedro Community in the City of Los Angeles. For this assessment, the APE was determined in accordance with CEQ's guidance for identifying the "affected community," which requires consideration of the nature of likely proposed project impacts and identification of a corresponding unit of geographic analysis. Therefore, the environmental justice APE corresponds to the areas of effect associated with the specific environmental issues analyzed in this EIR. Areas of potential effect differ somewhat for each environmental issue. The cities of Los Angeles, Long Beach, and Carson, and the county of Los Angeles form part of the reference community. The reference community is used to determine whether a disproportionately high and adverse human health or environmental impact would be borne by low-income and/or minority populations in the affected community when compared to the general population in and around the proposed Project.

6.2.1 Minority and Low-Income Populations

Environmental justice guidance from CEQ (1997) defines "minority persons" as "individuals who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black (not of Hispanic origin); or Hispanic" (CEQ 1997:25). Hispanic (or Latino) refers to an ethnicity, whereas American Indian, Alaskan Native, Asian, Pacific Islander, and Black/African-American (as well as White or European-American) refer to racial categories; thus, for Census purposes, individuals classify themselves into racial as well as ethnic categories, where ethnic categories include Hispanic/Latino and non-Hispanic/Latino. The 2000 Census (which is the most current census for which data is available) allowed individuals to choose more than one race. For this analysis, consistent with guidance from CEQ as well as EPA, "minority" refers to people who are Hispanic/Latino of any race, as well as those who are non-Hispanic/Latino of a race other than White or European-American (CEQ 1997; EPA 1998, 1999a).

The same CEQ environmental justice guidance suggests low-income populations be identified using the national poverty thresholds from the Census Bureau (CEQ 1997). Guidance from EPA also suggests using other regional low-income definitions as appropriate (EPA 1998, 1999b). Due to the higher cost of living in southern California compared to the nation as a whole, a higher threshold is appropriate for the identification of low-income populations. For the purposes of this analysis, low-income people are those with a household income at or below 1.25 times the national Census poverty threshold. The 1.25 ratio is based on application of a methodology developed by the National Academy of Sciences (Citro and Michael 1995) and incorporates detailed data about fair market rents, over the period 1999–2007, for Los Angeles County from the U.S. Department of Housing and Urban Development (HUD 2007). Appendix X.1 of the HUD report contains a detailed description of the method used to derive the low-income definition.

To establish context for this environmental justice analysis, race and ethnicity (i.e., minority) and income characteristics of the population residing in the vicinity of the proposed project site were reviewed. Table 6-1 presents population, minority, and low-income status from the 2000 Census and the Los Angeles City Planning Department for Wilmington, San Pedro, Los Angeles County and the City of Los Angeles, and all of California. The table also presents similar data for other cities in the general vicinity of the Port. Los Angeles County is used as a comparison population because it is considered representative of the general population that could be affected by the proposed Project.

Table 6-1. Minority and Low-Income Populations

Area	*Total Population*	*Minority Population (%)*	*Low-Income Population (%)*
California	33,871,648	53.4	19.2
Los Angeles County	9,519,338	69.1	23.9
City of Los Angeles	3,694,834	70.4	29.1
San Pedro	76,028	55.3	22.5
Wilmington	72,215	87.1	32.2
Nearby Cities			
Carson	89,730	88.0	13.4
Lomita	20,246	46.4	15.5
Long Beach	461,522	66.9	29.8
Palos Verdes Estates	13,340	23.9	2.2
Rancho Palos Verdes	41,145	36.9	3.5
Rolling Hills	1,871	23.5	1.3
Rolling Hills Estates	7,676	29.4	3.3
Torrance	137,946	47.6	8.8
West Carson	21,138	70.7	13.3
Sources: U.S. Census Bureau 2000; Los Angeles Department of City Planning, 2011 (2000 Census data for Wilmington and San Pedro are defined based on Community Plan Areas).			

Table 6-1 shows that within the San Pedro community, minorities constitute 55.3% of the population, and low-income persons constitute 22.5% of the population. With the Wilmington community, minorities constitute 87.1% of the population, and low-income persons constitute 32.2% of the population. Thus, the communities closest to the proposed project site constitute a “minority population concentration” under CEQ guidance, which sets the threshold at 50%; and the Wilmington community also represents a low-income population when compared to the whole of Los Angeles City and County.

Figure 6-1 shows the percentage of minority residents in Census block groups near the San Pedro Community and the Port, and Figure 6-2 shows the percentage of low-income residents in the same area. Table 6-2 presents data for the 59 Census tracts shown in Figures 6-1 and 6-2.

Table 6-2. Minority and Low-Income Characteristics by Census Tract in the Proposed Project Vicinity

Census Tracts	*Total Population*	*Minority Population (%)*	*Low-Income Population (%)*
2933.01	2,805	72.0	5.9
2933.02	4,720	75.7	11.9
2933.04	4,178	84.8	26.2
2933.06	2,189	55.0	14.5
2933.07	2,306	84.6	10.8
2941.10	4,140	93.6	25.8
2941.20	2,370	98.6	30.6
2942	4,951	93.5	18.5
2943.01	2,448	91.1	19.0
2943.02	4,754	94.0	33.8
2944.10	4,579	86.5	26.3
2944.21	2,950	91.3	28.1
2945.10	4,214	96.2	15.5
2945.20	3,564	97.3	40.5
2946.10	4,065	95.9	33.3
2946.20	4,219	98.5	27.9
2947.01	3,019	95.8	54.2
2948.10	3,991	98.4	37.9
2948.20	3,579	97.6	46.3
2948.30	3,707	96.9	55.1
2949	3,265	96.4	40.5
2951.03	4,875	38.7	11.3
2962.10	3,019	93.7	51.1
2962.20	4,307	87.0	51.0
2963	4,221	58.8	12.7
2964.01	3,191	40.9	9.2
2964.02	3,091	61.8	3.0
2965	3,910	86.8	39.4
2966	5,218	82.0	36.8

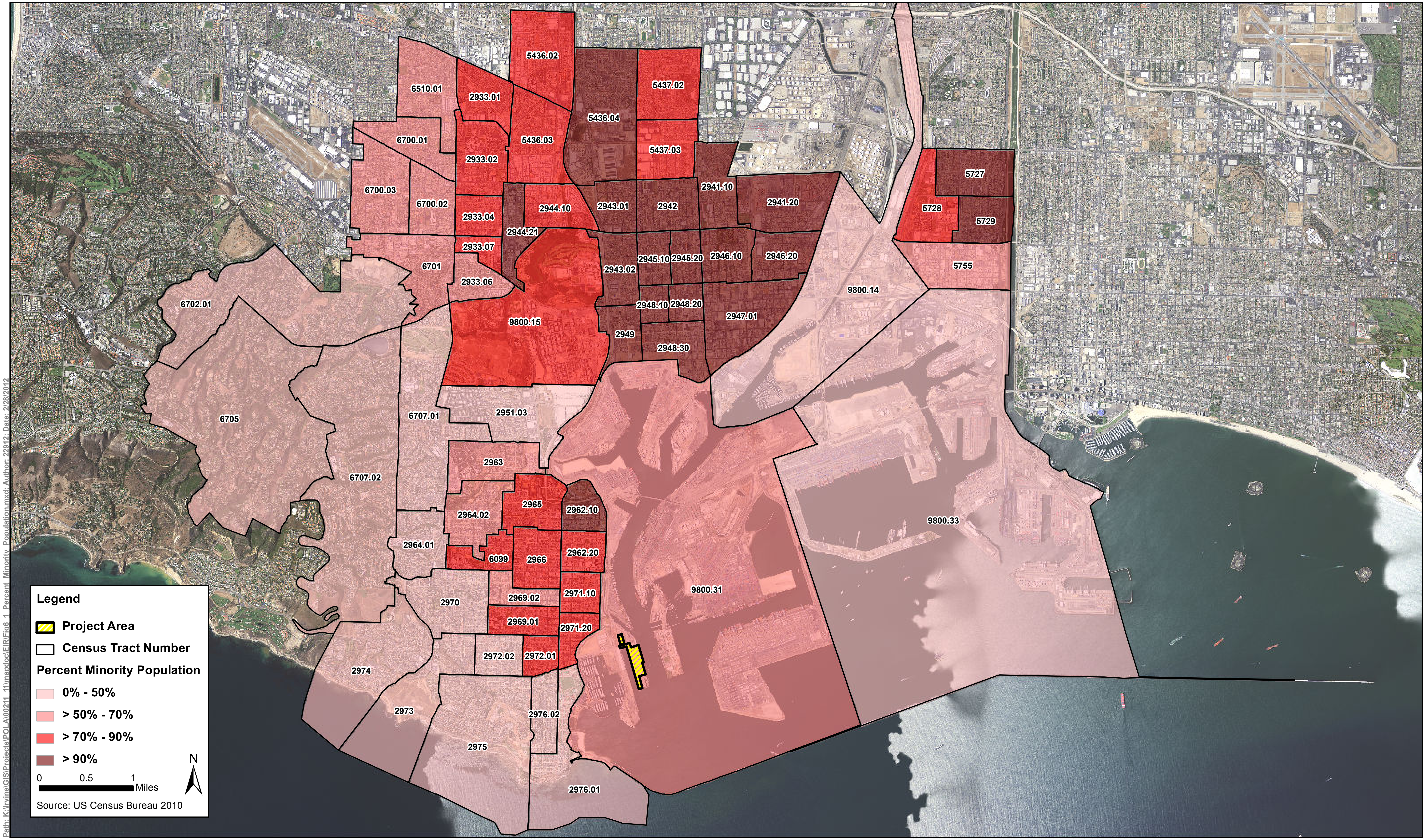


Figure 6-1
Percent Minority Population
City Dock No. 1 Marine Research Center Project

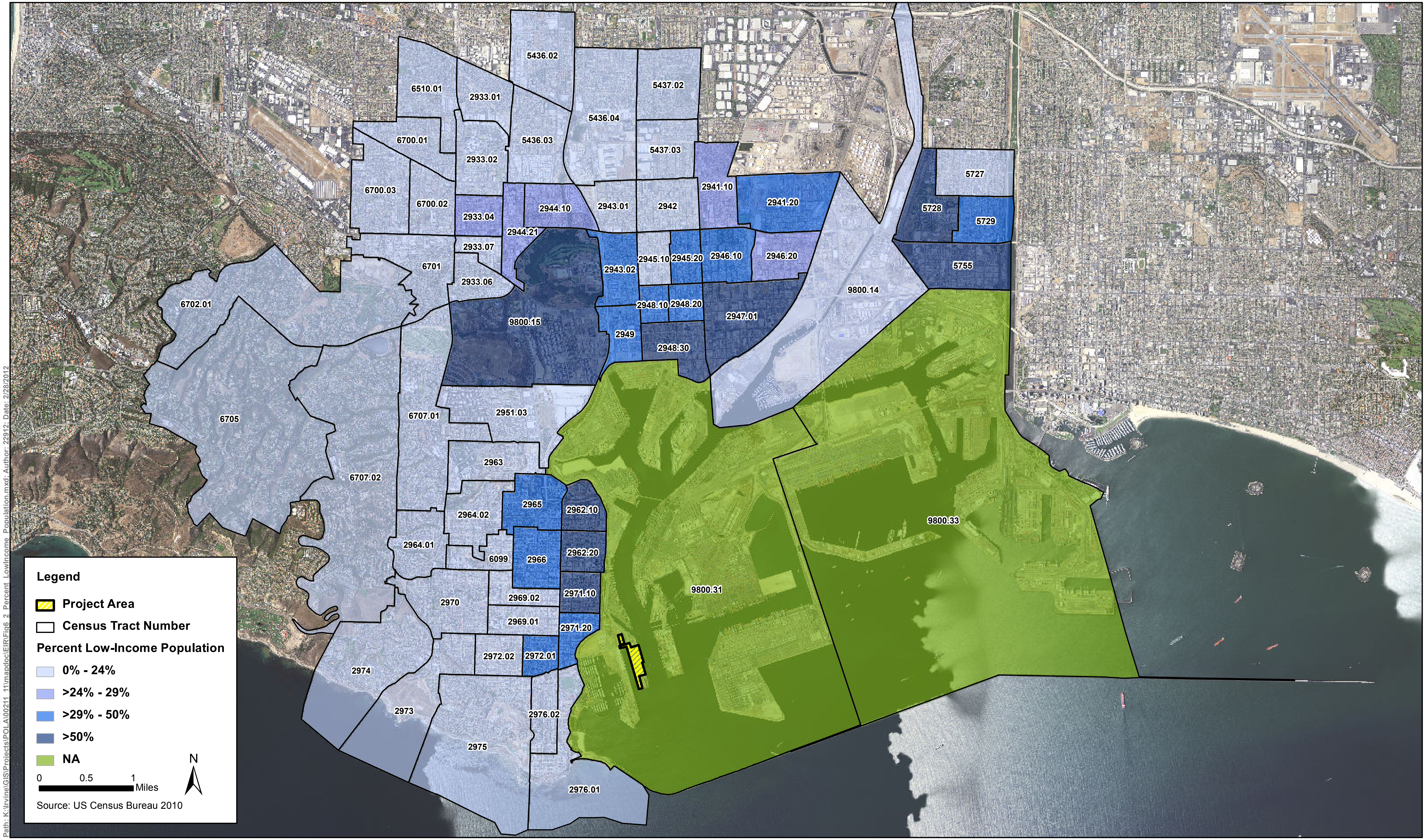


Figure 6-2
Percent Low-Income Population
City Dock No. 1 Marine Research Center Project

Census Tracts	*Total Population*	*Minority Population (%)*	*Low-Income Population (%)*
2969.01	4,127	75.6	23.6
2969.02	3,851	67.2	17.5
2970	5,343	39.1	4.2
2971.10	4,679	79.6	57.6
2971.20	3,315	81.6	32.2
2972.01	3,475	71.5	33.7
2972.02	3,423	49.7	12.4
2973	2,374	35.6	7.8
2974	3,603	24.8	4.9
2975	5,163	40.5	10.0
2976.01	2,594	49.9	16.7
2976.02	3,503	46.6	8.9
5436.02	7,762	79.2	7.4
5436.03	3,690	70.5	1.8
5436.04	5,620	90.9	9.2
5437.02	7,083	90.0	19.6
5437.03	3,472	89.9	16.5
5727	5,499	96.3	15.9
5728	839	74.7	81.7
5729	5,250	97.3	32.8
5755	76	69.7	100.0
6099	2,034	70.3	3.5
6510.01	5,522	58.6	8.6
6700.01	3,311	53.3	10.4
6700.02	4,001	61.3	9.9
6700.03	5,788	52.2	10.5
6701	6,659	58.3	11.8
6702.01	3,852	31.5	2.1
6705	1,860	25.9	1.7
6707.01	6,882	42.6	9.5
6707.02	5,477	27.5	5.9
9800.14	239	23.4	16.7
9800.15	554	80.3	81.3

Census Tracts	*Total Population*	*Minority Population (%)*	*Low-Income Population (%)*
9800.31	1,262	59.4	0.0
9800.33	61	42.6	-
Total Census Tract	**240,088**	**72.4 (Average %)**	**21.0 (Average %)**
Source: Census Bureau Summary File 1 & American Community Survey, 2010			

6.3 Applicable Regulations

6.3.1 Federal

6.3.1.1 Executive Order 12898

In 1994, in response to growing concern that minority and/or low-income populations bear a disproportionate amount of adverse health and environmental effects, President Clinton issued Executive Order 12898 on Environmental Justice, formally focusing federal agency attention on these issues. The Executive Order contains a general directive that states that “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.”

The Executive Order authorized the creation of an Interagency Working Group (IWG) on Environmental Justice, overseen by EPA, to implement the Executive Order’s requirements. The IWG includes representatives of a number of executive agencies and offices and has developed guidance for terms contained in the Executive Order. EPA provides the following definitions:

Environmental Justice: The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. (EPA 2004, Section 2.2)

Fair Treatment: No group of people, including a racial, ethnic, or a socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies. (EPA 2004, Section 2.2)

Meaningful Involvement:

1. Potentially affected community residents have an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health;
2. The public's contribution can influence the regulatory agency's decision;
3. The concerns of all participants involved will be considered in the decision making process; and
4. The decision makers seek out and facilitate the involvement of those potentially affected. (EPA 2004, Section 2.2)

Disproportionately High and Adverse Effect: An adverse effect or impact that: (1) is predominately borne by any segment of the population, including, for example, a minority population and/or a low-income population; or (2) will be suffered by a minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect or impact that will be suffered by a non-minority population and/or non-low-income population. (EPA 2004, Section 3.1)

Although the proposed Project is not subject to this federal regulation, the EJ analysis in this EIR is prepared in accordance with its guidance.

6.3.2 State

6.3.2.1 PRC Sections 71110–71116

Environmental justice is defined by California state law as "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies."

PRC Section 71113 states that the mission of CalEPA includes ensuring that it conducts any activities that substantially affect human health or the environment in a manner that ensures the fair treatment of people of all races, cultures, and income levels, including minority and low-income populations of the state.

As part of its mission, CalEPA was required to develop a model environmental justice mission statement for its boards, departments, and offices. CalEPA was tasked to develop a Working Group on Environmental Justice to assist it in identifying any policy gaps or obstacles impeding the achievement of environmental justice. An advisory committee including representatives of numerous state agencies was established to assist the Working Group pursuant to the development of a CalEPA intra-agency strategy for addressing environmental justice. PRC Sections 71110–71116 charge CalEPA with the following responsibilities:

- Conduct programs, policies, and activities that substantially affect human health or the environment in a manner that ensures the fair treatment of people of all races, cultures, and income levels, including minority populations and low-income populations of the state.

- Promote enforcement of all health and environmental statutes within Cal/EPA's jurisdiction in a manner that ensures the fair treatment of people of all races, cultures, and income levels, including minority populations and low-income populations of the state.
- Ensure greater public participation in the agency's development, adoption, and implementation of environmental regulations and policies.
- Improve research and data collection for programs within the agency relating to the health and environment of minority populations and low-income populations of the state.
- Coordinate efforts and share information with EPA.
- Identify differential patterns of consumption of natural resources among people of different socio-economic classifications for programs within the agency.
- Consult with and review any information received from IWG pursuant to developing an agency-wide strategy for Cal/EPA.
- Develop a model environmental justice mission statement for Cal/EPA's boards, departments, and offices.
- Consult with, review, and evaluate any information received from IWG pursuant to the development of its model environmental justice mission statement.
- Develop an agency-wide strategy to identify and address any gaps in existing programs, policies, or activities that may impede the achievement of environmental justice.

6.3.2.2 California Government Code Sections 65040–65040.12

California Government Code Sections 65040–65040.12 identify the Governor's OPR as the comprehensive state agency responsible for long-range planning and development. Among its responsibilities, OPR is tasked with serving as the coordinating agency in state government for environmental justice issues. Specifically, OPR is required to consult with CalEPA, the state Resources Agency, the Working Group on Environmental Justice, and other state agencies as appropriate, and share information with CEQ, EPA, and other federal agencies as appropriate to ensure consistency.

CalEPA released its final Intra-Agency Environmental Justice Strategy in August 2004. The document sets forth the agency's broad vision for integrating environmental justice into the programs, policies, and activities of its departments. It contains a series of goals, including the integration of environmental justice into the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.

6.3.2.3 California State Lands Commission Environmental Justice Policy

CSLC adopted an Environmental Justice Policy on October 1, 2002 (CSLC 2002), wherein CSLC pledges to continue and enhance its processes, decisions, and programs with environmental justice as an essential consideration by, among other actions, "identifying relevant populations that might be adversely affected by commission programs or by projects submitted by outside parties for its consideration." The policy also cites the definition of environmental justice in state law and points out that this definition is consistent with the Public Trust Doctrine principle that the management of trust lands is for the benefit of all of the people. To date, CSLC has not issued any guidance to implement the policy, although environmental justice is addressed in CSLC environmental documents.

6.3.3 Local

6.3.3.1 City of Los Angeles General Plan

The City of Los Angeles General Plan has adopted environmental justice policies as outlined in its Framework and Transportation Elements; these policies are summarized below. The Framework Element is a "strategy for long-term growth which sets a citywide context to guide the update of the community plan and citywide elements."

The Framework Element includes a policy to "assure the fair treatment of people of all races, cultures, incomes and education levels with respect to the development, implementation and enforcement of environmental laws, regulations and policies, including affirmative efforts to inform and involve environmental groups, especially environmental justice groups, in early planning stages through notification and two-way communication."

The Transportation Element includes a policy to "assure the fair and equitable treatment of people of all races, cultures, incomes and education levels with respect to the development and implementation of citywide transportation policies and programs, including affirmative efforts to inform and involve environmental groups, especially environmental justice groups, in the planning and monitoring process through notification and two-way communication."

The City of Los Angeles also has committed to a Compact for Environmental Justice, which was adopted by the City's Environmental Affairs Department as the City's foundation for a sustainable urban environment. Statements relevant to the proposed Project include the following:

- All people in Los Angeles are entitled to equal access to public open space and recreation, clean water, and uncontaminated neighborhoods.
- All planning and regulatory processes must involve residents and community representatives in decision making from start to finish.

6.3.3.2 South Coast Air Quality Management District

In 1997, SCAQMD adopted a set of guiding principles on environmental justice, addressing the rights of area citizens to clean air, the expectation of government safeguards for public health, and access to scientific findings concerning public health. Subsequent follow-up plans and initiatives led to the SCAQMD Board's approval in 2003–2004 of an Environmental Justice Workplan. SCAQMD intends to update this as needed to reflect ongoing and new initiatives.

SCAQMD's environmental justice program is intended to "ensure that everyone has the right to equal protection from air pollution and fair access to the decision making process that works to improve the quality of air within their communities." Environmental justice is defined by SCAQMD as "...equitable environmental policymaking and enforcement to protect the health of all residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location, from the health effects of air pollution."

6.4 Impact Analysis

6.4.1 Methodology

The methodology for conducting the impact analysis for environmental justice included reviewing impact conclusions for each of the resources in Chapter 3, "Environmental Analysis," and Chapter 4, "Cumulative Effects." Where chapters identified significant impacts or a cumulatively considerable contribution to a cumulatively significant impact, an evaluation was conducted to determine if these impacts would result in disproportionately high and adverse effects on minority or low-income populations.

Because CEQA deals only with the physical change in the environment, the *L.A. CEQA Thresholds* does not identify significance thresholds for environmental justice or for disproportionately high and adverse effects on minority and low-income populations. In the absence of local thresholds for the proposed Project, federal guidance provided by CEQ has been utilized as the basis for determining whether the proposed Project would result in environmental justice effects. CEQ's *Environmental Justice Guidance under the National Environmental Policy Act* (CEQ 1997) identifies three factors to be considered to the extent practicable when determining whether environmental effects are disproportionately high and adverse (CEQ 1997:26–27):

(a) Whether there is or would be an impact on the natural or physical environment that significantly and adversely affects a minority population, or low-income population. Such effects may include ecological, cultural, human health, economic, or social impacts on minority communities, low-income communities, or Indian tribes when those impacts are interrelated to impacts on the natural or physical environment; and

(b) Whether the environmental effects are significant and are or may be having an adverse impact on minority populations, or low-income populations that appreciably exceeds or is likely to appreciably exceed those on the general population or other appropriate comparison group; and

(c) Whether the environmental effects occur or would occur in a minority population or low-income population affected by cumulative or multiple adverse exposures from environmental hazards.

Findings for proposed Project–related impacts and the contribution of the proposed Project to cumulative impacts were reviewed to determine which impacts were significant, or represented cumulatively considerable contributions to cumulatively significant impacts, and would therefore require environmental justice analysis.

Identified significant and unavoidable impacts—or where the contribution to cumulative impacts would be cumulatively considerable and unavoidable—were analyzed to determine if they could cause substantial effects on *human populations* (i.e., the public), as opposed to primarily affecting the natural or physical environment and/or result in limited public exposure.

Impacts that would be mitigated from significant to less than significant after mitigation is incorporated—or, in the case of a cumulative contribution, if the contribution would be less than cumulatively considerable after mitigation—the impact was documented for disclosure purposes, but detailed analysis to determine if the impact or contribution would occur disproportionately on low-income and/or minority populations was not performed.

For impacts that were less than significant and also less than cumulatively considerable, or classified as “No Impact” (and therefore also not cumulatively considerable), further evaluation of the potential for disproportionately high and adverse effects on minority and low-income populations was not needed because impacts that would not be significant would not have the potential to result in such disproportionate effects.

In cases where the minority and low-income characteristics of populations in the impacted area could be estimated, the impact area characteristics were compared to data for the general population (i.e., Los Angeles County). If the minority population in the adversely affected area is greater than 50% or if either the minority or low-income percentage of the population in the adversely affected area is meaningfully greater than that of the general population, disproportionate effects on minority or low-income populations would occur. (“Meaningfully greater” is not defined in CEQ or EPA guidance; for this analysis, “meaningfully greater” is interpreted to mean simply “greater,” which provides for a conservative analysis.) In addition, disproportionate effects would also occur in cases where impacts are predominantly borne by minority or low-income populations.

Proposed project benefits were also considered to determine whether adverse effects would still be appreciably more severe or of greater magnitude after these other elements are considered. In addition, if significant unavoidable impacts or contributions to cumulatively significant impacts were determined to be disproportionate, the identified mitigation measures were reviewed to determine whether they would be effective in avoiding or reducing the impacts on minority and low-income populations. If necessary, additional mitigations were considered.

6.4.2 Project-Related Direct, Indirect, and Cumulative Impacts

The proposed Project's individual and cumulative impacts are described in detail for each resource in Chapter 3, "Environmental Analysis," and Chapter 4, "Cumulative Effects." As described in Chapter 3, the following proposed project impacts were found to be significant and unavoidable:

- **Impact AQ-1:** The proposed Project would result in construction-related emissions that exceed an SCAQMD threshold of significance.
- **Impact AQ-2:** The proposed Project would result in offsite ambient air pollutant concentrations during construction that exceed a threshold of significance.
- **Impact AQ-3:** The proposed Project would result in operational emissions that exceed a SCAQMD threshold of significance.
- **Impact AQ-7:** The proposed Project would expose receptors to significant levels of TACs.
- **Impact GHG-1:** The proposed Project would produce GHG emissions that exceed SCAQMD thresholds.
- **Impact CR-5:** The proposed Project would result in a substantial adverse change in the significance of a historical resource, involving demolition, relocation, conversion, rehabilitation, alteration, or other construction that reduces the integrity or significance of important resources on the site or in the vicinity.
- **Impact NOI-1:** Construction of the proposed Project would last more than 1 day and would exceed existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use; construction activities lasting more than 10 days in a 3-month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use.

Additionally, the following proposed project impacts were found to be potentially significant, but would be mitigated to a level less than significant:

- **Impact BIO-1a:** Construction of the proposed Project would result in the loss of individuals, or the reduction of existing habitat, of a state- or federally listed endangered, threatened, rare, protected, or candidate, or a species of special concern, or the loss of federally listed critical habitat.
- **Impact RISK-6a:** Construction of the proposed Project would introduce the general public to hazard(s) defined by the EPA and the Port RMP associated with offsite facilities.
- **Impact RISK-6b:** Operation of the proposed Project would introduce the general public to hazard(s) defined by the EPA and the Port RMP associated with offsite facilities.

- **Impact LU-2b:** Operation of the proposed Project would be inconsistent with the General Plan or adopted environmental goals or policies contained in other applicable plans, which would result in an adverse physical effect on the environment.
- **Impact TC-1:** Construction of the proposed Project would result in a short-term, temporary increase in construction-related truck and auto traffic, decreases in roadway capacity, and disruption of vehicular and non-motorized travel.

Finally, the following proposed project cumulative impacts were found to be cumulatively considerable:

- **Cumulative Impact AQ-1:** Result in construction-related emissions that exceed an SCAQMD threshold of significance—Cumulatively Considerable and Unavoidable.
- **Cumulative Impact AQ-2:** Result in offsite ambient air pollutant concentrations during construction that exceed a threshold of significance—Cumulatively Considerable and Unavoidable.
- **Cumulative Impact AQ-3:** Result in operational emissions that exceed a SCAQMD threshold of significance—Cumulatively Considerable and Unavoidable.
- **Cumulative Impact AQ-7:** Expose receptors to significant levels of TACs—Cumulatively Considerable and Unavoidable
- **Cumulative Impact GHG-1:** Produce GHG emissions that exceed CEQA thresholds—Cumulatively Considerable and Unavoidable
- **Cumulative Impact CR-5:** Result in a substantial adverse change in the significance of a historical resource, involving demolition, relocation, conversion, rehabilitation, alteration, or other construction that reduces the integrity or significance of important resources on the site or in the vicinity—Cumulatively Considerable and Unavoidable.
- **Cumulative Impact NOI-1:** Construction lasts more than 1 day and exceeds existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use; construction activities lasting more than 10 days in a 3-month period exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use—Cumulatively Considerable and Unavoidable.

6.4.2.1 Evaluation of Disproportionately High and Adverse Effects on Minority and/or Low Income Populations

Section 6.4.2.1.1 provides a summary of impacts that would represent disproportionately high and adverse effects on minority and low-income populations. Section 6.4.2.1.2 addresses impacts that would not represent disproportionately high and adverse on minority and/or low-income populations.

6.4.2.1.1 Summary of Impacts that Would Cause Disproportionately High and Adverse Effects on Minority and/or Low-Income Populations

This section provides a summary of the individual and cumulative impacts that would cause disproportionately high and adverse effects on minority and low-income populations as a result of direct or indirect significant and unavoidable impacts or because the proposed Project would result in a cumulatively considerable contribution to significant cumulative impacts. Impacts that would be potentially significant, but mitigated to a level less than significant are discussed under 6.4.2.1.2 below.

Air Quality (Sections 3.2 and 4.2.2)

The region of analysis for air quality impacts is the entire South Coast Air Basin as well as the area within the immediately vicinity of the proposed project site.

Impact AQ-1: Proposed project unmitigated emissions for VOC, CO, and NO_X from construction would exceed the SCAQMD daily thresholds. With implementation of Mitigation Measures MM AQ-1 through MM AQ-7, impacts from CO and NO_X would remain significant. Because residential areas closest to the proposed project site are predominately minority (Figure 6-1) and have a concentration of low-income population relative to Los Angeles County (Figure 6-2), the elevated ambient concentrations of CO and NO_X would constitute a disproportionately high and adverse effect on minority and low-income populations.

In addition, the proposed Project would make a cumulatively considerable contribution to a significant cumulative air quality impact associated with emissions of VOCs, CO, NO_X SO_X, PM_{10}, and $PM_{2.5}$ from construction. Because residential areas closest to the proposed project site are predominately minority (Figure 6-1) and have a concentration of low-income population (Figure 6-2), the elevated ambient concentrations of VOCs, CO, NO_X SO_X, PM_{10}, and $PM_{2.5}$ would constitute a disproportionately high and adverse effect on minority and low-income populations.

Impact AQ-2: Proposed project construction would result in offsite ambient concentrations of criteria air pollutants (specifically NO_2 during construction that would exceed SCAQMD thresholds of significance, even after implementation of Mitigation Measures MM AQ-1 through MM AQ-7). This determination applies to individual Project impacts as well as the proposed Project's cumulative contribution. Although the receptor points with maximum concentration would not be in residential areas, residential areas would experience higher concentrations the closer they are to the proposed project site. Because residential areas closest to the proposed project site are predominately minority (Figure 6-1) and have a concentration of low-income population relative to Los Angeles County (Figure 6-2), the elevated ambient concentrations of NO_2 would constitute a disproportionately high and adverse effect on minority and low-income populations.

Adverse human health effects of NO_2 include (a) potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups and (b) risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structure changes. NO_2 also contributes to atmospheric discoloration, although this impact would be regional and would not primarily affect populations closest to the emission sources. These adverse health effects may occur disproportionately among minority and low-income populations in the vicinity of the proposed Project as a result of elevated ambient concentrations in exceedance of SCAQMD thresholds.

In addition, the proposed Project would make a cumulatively considerable contribution to a significant cumulative air quality impact related to NO_X during construction. Because residential areas closest to the proposed project site are predominately minority and have a concentration of low-income population, the elevated ambient concentrations of NO_X would constitute a disproportionately high and adverse effect on minority and low-income populations.

Impact AQ-3: Proposed project peak daily emissions of VOC, CO, and NO_X would exceed the SCAQMD daily emission thresholds. Even with incorporation of Mitigation Measures MM AQ-4, MM AQ-7, and MM AQ-8, as well as lease measures, increases in VOC, CO, and NO_X would remain significant. Because residential areas closest to the proposed project site are predominately minority (Figure 6-1) and have a concentration of low-income population relative to Los Angeles County (Figure 6-2), the elevated ambient concentrations of VOCs, CO, and NO_X would constitute a disproportionately high and adverse effect on minority and low-income populations.

In addition, the proposed Project would make a cumulatively considerable contribution to a significant cumulative air quality impact from VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ during operation, and this cumulative impact would constitute a disproportionately high and adverse effect on minority and low-income populations.

Impact AQ-7: SCAQMD's *Facility Prioritization Procedures for the AB 2588 Program* (SCAQMD 2011) provided the methodology for the screening level health risk calculation. The prioritization procedures take into consideration the potency, toxicity, quantity, and volume of hazardous materials released from the facility, adjustment factors for receptor proximity, exposure period, averaging times, and multi-pathway factors for resident and worker receptors in calculating a total facility prioritization score. A score of 10 or more signifies a potentially high impact facility and requires that a health risk assessment (HRA) be conducted, under the AB 2588 program, to assess the risk to the surrounding community. A score above 1 but below 10 signifies a potentially intermediate impact and requires, under the AB 2588 program, that an HRA be conducted to assess potential risks. A score of 1 or below signifies a low potential for impacts on the surrounding community and does not require the facility to conduct an HRA. Cancer risk, non-cancer chronic, and non-cancer acute impacts with the proposed Project would each have a prioritization score of less than 1. The direct cancer risk, non-cancer chronic, and non-cancer acute health impacts would therefore be below significance.

However, because the proposed Project would attract sensitive individuals to a location that most likely has a higher risk than their place of residence, an indirect recreational health risk impact may result. The magnitude of the impact would depend on a variety of factors, including the frequency and duration of a person's visit, the person's exertion level (i.e., breathing rate) during the visit, the amount of Port and industrial activity occurring during the visit, and the prevailing meteorological conditions (wind speed, wind direction, and atmospheric stability level).

Although most visitors would probably receive a relatively slight health risk impact, the possibility exists that a frequent visitor could accumulate a significant long-term cancer or non-cancer impact. The possibility also exists that any visitor could receive a significant short-term (acute) impact if the visit takes place during a high level of adjacent industrial activity coupled with worst-case meteorological conditions. Therefore, in the short term, the indirect health impacts on visitors to the proposed Project would be significant and unavoidable. Furthermore, it is reasonably foreseeable that a large percent of visitors would be from the surrounding communities of San Pedro and Wilmington. Therefore, Impact AQ-7 of the proposed Project would result in a disproportionately high and adverse effect on minority and low-income populations.

It is important to note that in the long term levels of pollution from Port facilities will substantially diminish in accordance with the CAAP and CARB regulatory requirements. Specifically, DPM from Port trucks has diminished by 80% under the Port's proposed Clean Trucks Program. The Ports of Los Angeles and Long Beach have also instituted voluntary programs to reduce DPM emissions from Port operations including installation of diesel oxidation catalysts on yard equipment, funding the incremental costs of cleaner fuels, cold-ironing of ocean-going ships, and providing monetary support to the Gateway Cities truck fleet modernization program. In addition, efforts at the state and local level to implement the Diesel Risk Reduction Plan and to fulfill commitments in the SIP will also reduce emissions. For example, the new off-road engine standards adopted by CARB and EPA will reduce emissions from new off-road engines by over 95% compared to uncontrolled levels. As another example, CARB adopted a regulation in July 2008 that requires low sulfur fuel in ships operating within 24 nautical miles of the California coast, starting in 2009. This regulation would reduce DPM emissions from ships by about 75% in 2009 and 83% by 2012 compared to uncontrolled levels. Other current regulations and future rules adopted by CARB and EPA will further reduce air emissions and associated cumulative impacts in the proposed project region.

6.4.2.1.2 Summary of Impacts that Would Not Cause Disproportionately High and Adverse Effects on Minority and/or Low-Income Populations

This section provides a summary of the individual and cumulative impacts that would not cause disproportionately high and adverse effects on minority and low-income populations, either because (1) the significant impact or cumulatively considerable contribution would not affect human populations or would not have a disproportionately high and adverse effect on minority and/or low income populations based on the comparison of the affected population to the general population; or (2) mitigation measures and lease measures applied to the proposed Project would reduce impacts to levels less than significant and cumulative contributions to levels less than cumulatively considerable. Impacts that would be less than significant (or where a determination of no impact is made) could not result in disproportionately high and adverse effects on minority and low-income populations, and no discussion is required for these impacts.

Greenhouse Gases (Sections 3.2 and 4.2.2)

Impact GHG-1: Operation of the proposed Project would emit GHG emissions that would exceed the SCAQMD threshold. Therefore, a significant GHG impact would occur. Mitigation is incorporated to reduce the proposed Project's GHG emissions; however, even after incorporation of Mitigation Measure MM GHG-1, impacts would remain significant.

Unlike criteria pollutants, however, GHG emissions do not cause direct adverse human health effects. Rather, the direct environmental effect of GHG emissions is the increase in global temperatures, which in turn has numerous indirect effects on the environment and humans. This effect is not specific to the area surrounding the proposed project site, but instead has global ramifications on a cumulative level. Because the proposed Project's direct GHG emissions would not adversely affect the surrounding communities and because the cumulative GHG impact is a global concern, the proposed Project's significant GHG impact would not represent a disproportionately high and adverse effect on minority and low-income populations.

Biological Resources (Sections 3.3 and 4.2.3)

Impact BIO-1a: The potential for noise-related effects on special-status marine mammals, diving sea birds, and fish species would be significant during pile driving despite use of the soft start procedure. Moreover, proposed construction activities could affect special-status terrestrial birds if they occur during the nesting season. Therefore, construction of the proposed Project could result in the loss of a few individuals, and the reduction or modification of existing habitat, of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or species of special concern. After mitigation is incorporated, impacts would be reduced to a level less than significant.

Because the impact would be less than significant and is limited to wildlife, the impact would not have a substantial effect on human populations and would not create a disproportionately high and adverse effect on minority and/or low-income population groups.

Cultural Resources (Sections 3.4 and 4.2.4)

Impact CR-5: The proposed Project would construct a 5-story wave tank facility enclosed in a 100,000 square foot building. This structure would be adjacent to the historic 6-story Municipal Warehouse No.1 building and would be located in a potentially historic district (i.e., the entire Municipal Pier No.1). Modifications to the immediate setting of Municipal Warehouse No. 1 and the Westway Terminal/Pan American Oil Co. Pump House and the potential Municipal Pier 1 Historic District would be significant. Even with the incorporation of Mitigation Measure MM CR-1, impacts associated with the wave tank building's effect on the Municipal Warehouse No. 1 building and the potential Municipal Pier 1 Historic District would remain significant and unavoidable. Moreover, the impact would be considered a cumulatively considerable impact because it would contribute to the loss of historic structures within the Port, which is considered a significant cumulative impact.

However, the impact would not represent a disproportionately high and adverse effect on minority and low-income populations because the effect would be limited to the proposed project site and the effect on historical structures within the Port.

Hazards and Hazardous Materials (Sections 3.7 and 4.2.7)

Impact RISK-6a and -6b: The proposed Project would introduce additional people and structures in the vicinity of Mike's fueling station. Mike's fueling station currently meets all safety and environmental standards for the handling and storing of hazardous materials, and would not expand or increase its inventory of materials. Per Mitigation Measure MM RISK-1 of the San Pedro Waterfront Project EIS/EIR, products with a flashpoint below 140°F will not be permitted and Mike's fueling station will cease to handle hazardous materials with flashpoints below 140°F. Therefore, the proposed Project would not result in a substantial increase in the potential for a hazardous materials spill, release, or explosion at Mike's fueling station with incorporation of Mitigation Measure MM RISK-1 identified in the San Pedro Waterfront Project EIS/EIR.

Although this would be a significant impact prior to mitigation, the additional visitors to the site would be from diverse backgrounds and socio-economic status (i.e., students, researchers, employees, professors, etc.). Therefore, the risk associated with accidental release, spill, or explosion related to Mike's fueling station on populations visiting or working at the proposed project site would not constitute a disproportionately high and adverse effect on minority and low-income populations.

Land Use and Planning (Sections 3.8 and 4.2.8)

Impact LU-2b: The proposed Project would locate project facilities (including implementation of the proposed waterfront promenade as planned in the San Pedro Waterfront Project) adjacent to Mike's fueling station, which stores and handles hazardous liquid bulk materials. This would be inconsistent with the objective of the RMP of the PMP to locate vulnerable populations away from hazardous facilities. This land use inconsistency could result in adverse physical environmental impacts on vulnerable populations (i.e., public recreationists) should Mike's fueling station ever have an accidental release, spill, or explosion of the hazardous liquid bulk materials. Therefore, this land use inconsistency is a significant impact under CEQA. Implementation of Mitigation Measure MM RISK-1, identified in Section 3.7, "Hazards and Hazardous Materials," would reduce impacts to less-than-significant levels.

Although this would be a significant impact prior to mitigation, the additional people coming to the site would be from diverse backgrounds and socio-economic status. Therefore, the land use plan inconsistency associated with risk from Mike's fueling station on populations visiting or working at the proposed project site would not constitute a disproportionately high and adverse effect on minority and low-income populations.

Noise (Sections 3.9 and 4.2.9)

Impact NOI-1: Proposed project construction activities would last more than 10 days in any 3-month period. The closest sensitive receiver is modeled receiver MR-1 (east side of the marina) located approximately 1,200 feet from the proposed project site. The closest measured sensitive receiver to MR-1 is sensitive receiver ST-1. Construction noise levels would result in an approximately 14 dBA increase above the existing noise environment at MR-1 during the loudest construction sub-phase of Phases 1 and 2. Consequently, construction would exceed the construction noise standards by more than 5 dB at the closest sensitive receiver, MR-1. No other sensitive receiver would experience a noise increase of more than 5 dB.

Although this would be a significant impact, the few liveaboards located at Cabrillo Way Marina are not represented in Figures 6-1 and 6-2 because the data primarily reflects the nearby residential neighborhoods. Moreover, as shown in Figure 6-2, income information is not available for the area that includes Cabrillo Way Marina. Given the target market for Cabrillo Way Marina, it is reasonable to assume liveaboards are not likely to be considered low-income and information of minority status is unknown. Therefore, significant temporary construction noise impacts at modeled sensitive receiver M-1 would not constitute a disproportionately high and adverse effect on minority and low-income populations.

Transportation and Circulation (Sections 3.11 and 4.2.11)

Impact TC-1: Proposed project construction would result in a temporary increase in traffic volumes and a decrease in roadway capacity due to temporary lane closures on Signal Street and possibly on 22nd Street. The potential lane closure would be a result of temporary construction traffic generated from truck and other vehicular traffic associated with construction worker commutes, transport and staging of construction equipment, transport of construction materials to the construction site, and hauling excavated and demolished materials away from the site. The impact of construction-generated traffic on transportation operations is considered significant. With incorporation of Mitigation Measure MM TC-1, impacts would be reduced to less than significant.

However, because the impact is limited to the area immediately within and adjacent to the proposed project site and the impact would be less than significant after incorporation of Mitigation Measure MM TC-1, Impact TC-1 would not result in disproportionately high and adverse effects on minority and low-income populations.

6.4.2.2 Beneficial Impacts

As part of an Environmental Justice analysis, offsetting benefits should also be considered by decision-makers when a project would result in disproportionately high and adverse effects. The overall purpose of the proposed Project is to adaptively reuse the transit sheds at Berths 57–60 and the adjacent Berths 70-71 to provide world-class marine research facilities and space to bring together leading researchers and entrepreneurs. The facility is intended to host a range of research organizations, including SCMI, Southern California universities and colleges, government research agencies, and private businesses. These groups would focus their efforts to conduct cutting-edge urban marine research and education, and develop technologies to address the most pressing marine-related problems of the day. The proposed Project would achieve this purpose though: rehabilitating existing buildings and wharves to house state-of-the art marine research and educational facilities; providing deep draft berthing space for research vessels; and providing for a cluster of university researchers, educational programs, and spin-off marine science technology ventures. As a consequence, the redevelopment of City Dock No.1 would remove and repurpose existing industrial land uses closest to the residential communities in San Pedro.

The proposed Project would create economic benefits in the form of jobs and revenue (see Chapter 7, “Socioeconomics and Environmental Quality”). In addition, the proposed Project would improve the existing proposed project site conditions by adaptively reusing the existing transit sheds and would create opportunities for new views within the landscape by constructing pedestrian promenade and a viewing plaza. Finally, the proposed Project would further the marine research goals of the scientific community.

6.5 Public Outreach

CEQA requires that all state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before taking action on them. The purpose of this draft EIR is to inform agencies and the public of significant environmental effects associated with the proposed Project, to describe and evaluate reasonable alternatives to the proposed Project, and to propose mitigation measures that would avoid or reduce the significant effects of the proposed Project.

LAHD goes to considerable effort to provide public outreach beyond the minimum required by CEQA. Typically noticing and public outreach for an EIR is limited to sending the NOP to the State Clearinghouse, and each responsible and trustee agency (CEQA Guidelines Section 15082). Additionally, scoping meetings are typically only required for projects of statewide, regional, or areawide significance (CEQA Guidelines Section 15082(c)). Similarly, notice of public review of a Draft EIR Is limited to one of the following procedures: mail to organizations and individuals previously requesting notice; publication one time in a newspaper of general circulation in the area of effect; posting of the notice on and offsite in the project area; and/or direct mailing to owners and occupants of property contiguous to the project site (CEQA Guidelines Section 15087). All NOPs/ISs and draft EIRs are presented at public meetings at locations and times convenient for the affected community.

Notification of availability of documents is extensive and uses a variety of media. CEQA notices are placed in five newspapers: the *Los Angeles Times*, *Daily Breeze*, *La Opinion*, *Long Beach Press Telegram*, and *Random Lengths*. Meeting notices are sent to all active community organizations and to anyone who has requested to be on the LAHD CEQA mailing list. Postcards noticing a document and any public meetings also are sent to all San Pedro and Wilmington addresses. A free copy of documents is provided to community organizations.

LAHD also consults with affected community groups through the PCAC, a special stakeholder advisory committee of the Los Angeles Board of Harbor Commissioners. This committee, which meets monthly, includes representatives from a number of community groups. PCAC also has subcommittees and focus groups that address a broad range of environmental issues, including studies on those impacts that might result in disproportionate impacts on relevant populations.

The following is a timeline of the noticing and public involvement that has happened to date within the environmental review process for the proposed Project:

- **December 3, 2010**. The CEQA NOP and IS were released and distributed to over 14 agencies, organizations, individuals, and the California Office of Planning and Research, State Clearinghouse. The proposed Project was assigned State Clearinghouse Number 2010121013. An executive summary of the NOP was translated into Spanish and included in the distribution. Over 70,000 postcards were distributed notifying the public of the date of the scoping meeting and the term of the comment period. Notice of the comment period and meeting were also posted in five local newspapers.
- **December 3, 2010.** The NOP was also filed with the Los Angeles City Clerk and the Los Angeles County Clerk.
- **January 13, 2011**. A public scoping meeting was held at the LAHD Board Room in San Pedro, California. Nine people at the meeting provided written or oral comments on the proposed Project. Spanish translation services were made available at the meeting.
- **January 31, 2011.** The comment period ended. Six comment letters were received during the scoping period.

6.5.1 Alternative Forms of Distribution

The draft EIR for the proposed Project has been distributed directly to numerous agencies, organizations, and interested groups and persons for comment during the formal review period. The draft EIR also has been made available for review at the LAHD, Environmental Management Division, and at three Los Angeles public library branches: Central, San Pedro, and Wilmington. In addition to the printed copies, the draft EIR is available in electronic format on LAHD's website, at http://www.portoflosangeles.org/Environmental/publicnotice.htm, and is available at no cost on CD-ROM.

6.5.2 Spanish Translation

With a large Hispanic population living adjacent to the Port, meeting notifications and executive summaries of major CEQA documents will be provided in Spanish as well as English. The Executive Summary of this draft EIR is available in a Spanish translation in order to keep Spanish-speaking members of the local community informed as to the purpose of the draft EIR, project overview, project description, environmental impacts, alternatives to the proposed Project, areas of controversy, and issues to be resolved.

LAHD also provides an interpreter at public meetings, where required, and publishes its regular community newsletter, *The Main Channel*, in both English and Spanish.

7.0

SOCIOECONOMICS AND ENVIRONMENTAL QUALITY

7.0 SOCIOECONOMICS AND ENVIRONMENTAL QUALITY

7.1 Introduction

This chapter describes the existing socioeconomic conditions of the proposed project area and surrounding vicinity, as well as the factors contributing to positive or adverse conditions affecting environmental quality. The socioeconomic character of the local area in the vicinity of the Port and the larger Southern California region is described using information regarding employment and earnings, population, and housing resources. Chapter 6, “Environmental Justice,” discusses the racial/ethnic compositions of the population in the vicinity of proposed Project.

The description of the environmental quality in the vicinity of the Port presents information regarding community redevelopment activities; planning and zoning actions taken by the City in general and LAHD in particular; and other physical, social, and economic factors contributing to community perceptions of environmental quality.

7.2 Environmental Setting

This section describes existing or baseline conditions and describes attributes of the human and built environment (including infrastructure) in the vicinity of the Port and within the larger region of Southern California. For the purposes of this analysis and as used in this section, Southern California refers to a five-county region that includes the counties of Los Angeles, Orange, Riverside, San Bernardino, and Ventura (i.e., Imperial and San Diego Counties are excluded). This region represents the area in which the bulk of the economic activity stimulated by the Port (directly and indirectly) occurs and for which economic modeling is appropriate.

7.2.1 Socioeconomics Topical Areas

Socioeconomics encompasses a number of topical areas including population, employment and income, and housing. Within each of these areas, subtopics include an examination of conditions at different geographical scales that are relevant to the potential impacts associated with implementation of the proposed Project.

7.2.1.1 Population

7.2.1.1.1 Existing Population

The number of residents in the five-county region increased by almost 3.5 million between 1990 and 2010, at an average annual rate of 1.2%. The most rapid rates of change took place in Riverside County (4.35% annually) and San Bernardino County (2.17% annually). The largest numeric increases occurred in Riverside County (1,019,228 persons) and Los Angeles County (955,553 persons); however, Los Angeles County had the lowest rate of change (0.5% annually) (see Table 7-1).

The population of the City of Los Angeles increased at a substantially slower pace over the past two decades than previous decades, with the number of residents increasing by 307,223, an average annual rate of 0.44%. Four cities in the South Bay section of Los Angeles County experienced population increases at rates greater than that of the City of Los Angeles: Signal Hill (1.58% annually), Redondo Beach (0.55% annually), Torrance (0.46% annually), and Carson (0.46% annually). The communities of San Pedro and Wilmington-Harbor City experienced modest annual population gains of between 10 and 17% for the period from 1990 to 2009.

7.2.1.1.2 Projected Population

Population projections prepared by SCAG forecast a compound rate of growth over the 30-year period between 2005 and 2035 of slightly less than 1% annually for Southern California. The region is projected to add almost 5.8 million residents over this 30-year period with the highest growth rates projected for the Counties of Riverside (an increase of 1,665,348; 86.2%) and San Bernardino (an increase of 1,162,483; 58.97%). The population of the City of Los Angeles is projected to increase by slightly over 460,000 residents at an annual average rate of 0.4% (see Table 7-2).

Table 7-1. Population by Region, County, Place, and Community Plan Area (1990–2010)

	April 1, 1990 (Census)	*April 1, 2000 (Census)*	*April 1, 2010 (Census)*	*Population Change (1990–2010)*	*Percent*	*Average Annual Percent*
Southern California (Five-County Region)	14,531,529	16,373,645	17,877,006	3,345,477	23.02	1.15
COUNTIES						
Los Angeles	8,863,052	9,519,338	9,818,605	955,553	10.78	0.54
Orange	2,410,668	2,846,289	3,010,232	599,564	24.87	1.24
Riverside	1,170,413	1,545,387	2,189,641	1,019,228	87.08	4.35
San Bernardino	1,418,380	1,709,434	2,035,210	616,830	43.49	2.17
Ventura	669,016	753,197	823,318	154,302	23.06	1.15
INCORPORATED CITIES						
Carson	83,995	89,730	91,714	7,719	9.19	0.46
Lakewood	73,553	79,345	80,048	6,495	8.83	0.44
Long Beach	429,321	461,522	462,257	32,936	7.67	0.38
Los Angeles	3,485,398	3,694,820	3,792,621	307,223	8.81	0.44
Palos Verdes Estates	13,512	13,340	13,438	-74	-0.55	-0.03
Rancho Palos Verdes	41,667	41,145	41,643	-24	-0.06	0.00
Redondo Beach	60,167	63,261	66,748	6,581	10.94	0.55
Rolling Hills	1,871	1,871	1,860	-11	-0.59	-0.03
Rolling Hills Estates	7,789	7,676	8,067	278	3.57	0.18
Signal Hill	8,371	9,333	11,016	2,645	31.60	1.58
Torrance	133,107	137,946	145,438	12,331	9.26	0.46
	April 1, 1990 (Census)	*April 1, 2000 (Census)*	*2009 (Estimate)*	*Population Change*	*Percent*	*Average Annual*

				(1990–2009)		*Percent*
COMMUNITY PLAN AREAS						
Harbor Area Planning Commission	182,054	193,168	205,218	23,164	12.72	0.67
Harbor Gateway	36,011	39,685	41,605	5,594	15.53	0.82
Port of Los Angeles	1,785	1,804	2,094	309	17.31	0.91
San Pedro	74,175	76,173	81,631	7,456	10.05	0.53
Wilmington-Harbor City	70,083	75,506	79,888	9,805	13.99	0.74

[1] The population increase for the Southern California region, the five counties, the City of Los Angeles, and other incorporated cities is calculated for the period of 1990–2010. The population increase for the Harbor Area Planning Commission and the four Community Plan Areas is calculated for the period of 1990–2009, as 2009 was the latest information available on the Los Angeles City Planning website.

Source: California Department of Finance 2011; Los Angeles City Planning Department 2011.

1 **Table 7-2**. Population Projections for Region, County, and Place (2005–2035)

								Change (2005–2035)		
	2005	*2010*	*2015*	*2020*	*2025*	*2030*	*2035*	*Numeric*	*Percent*	*Average Annual Percent*
Southern California (Five-County Region)	17,982,655	19,216,079	20,218,791	21,192,904	22,097,476	22,943,062	23,736,844	5,754,189	32.00	1.07
COUNTIES										
Los Angeles	10,206,001	10,615,730	10,971,602	11,329,829	11,678,552	12,015,889	12,338,620	2,132,619	20.90	0.70
Orange	3,059,952	3,314,948	3,451,755	3,533,935	3,586,283	3,629,539	3,653,990	594,038	19.41	0.65
Riverside	1,931,332	2,242,745	2,509,330	2,809,003	3,089,999	3,343,777	3,596,680	1,665,348	86.23	2.87
San Bernardino	1,971,318	2,182,049	2,385,748	2,582,765	2,773,945	2,957,753	3,133,801	1,162,483	58.97	1.97
Ventura	814,052	860,607	900,356	937,372	968,697	996,104	1,013,753	199,701	24.53	0.82
CITIES										
Los Angeles	3,955,392	4,057,484	4,128,125	4,204,329	4,277,732	4,348,281	4,415,772	460,380	11.64	0.39
Carson	97,864	101,507	104,233	107,089	109,580	112,512	115,059	17,195	17.57	0.59
Palos Verdes Estates	14,083	14,175	14,188	14,223	14,255	14,283	14,308	225	1.60	0.05
Rancho Palos Verdes	43,130	43,192	43,246	43,251	43,256	43,261	43,266	136	0.32	0.01
Redondo Beach	67,018	68,095	69,928	71,016	72,046	73,135	74,136	7,118	10.62	0.35
Rolling Hills	1,970	1,985	1,988	1,994	2,000	2,006	2,012	42	2.13	0.07
Rolling Hills Estates	8,109	8,336	9,150	9,215	9,273	9,307	9,311	1,202	14.82	0.49
Torrance	146,820	150,393	152,825	155,464	158,005	160,444	162,772	15,952	10.87	0.36
Lakewood	83,231	84,060	84,354	84,420	84,425	84,430	84,435	1,204	1.45	0.05
Long Beach	489,427	503,251	517,226	531,854	545,980	559,598	572,614	83,187	17.00	0.57

	2005	2010	2015	2020	2025	2030	2035	Change (2005–2035)		
								Numeric	Percent	Average Annual Percent
Signal Hill	10,986	11,405	11,772	12,155	12,527	12,887	13,234	2,248	20.46	0.68
Source: SCAG 2008.										

7.2.1.2 Employment and Income

Existing conditions with regard to employment and income are described from a number of perspectives:

- conditions at the regional level (the five-county region within Southern California as identified above);
- contributions to the regional economy by the cruise industry;
- the role of the Port; and
- conditions at the county and local level (small geographical areas in the vicinity of the Port, including Wilmington, San Pedro, Carson, and Harbor City).

Southern California

Between 1990 and 2010 employment in Southern California increased by more than 500,000 jobs at an average annual rate of 0.41% (see Table 7-3). Examination of the information presented in Table 7-3 illustrates the manner in which this growth varied geographically. The greatest increase in number of employees over the 20-year period (280,800 jobs) as well as the largest percentage increase in employment (56.35%), at an annual average rate of 2.82%, occurred in Riverside County. San Bernardino County experienced the next greatest percentage increase in employment (133,800 jobs) for a 22.31% increase. Los Angeles County experienced an employment increase of 2,600 jobs, which when compared to the base of almost 4,259,700 jobs in 1990, registered an increase of 0.003% over the 20-year period (CEDD 2011).

Based on SCAG projections, employment in Southern California will continue to expand, especially in Riverside and San Bernardino Counties (see Table 7-4). These two counties are anticipated to experience much higher growth rates compared to those of Los Angeles, Orange, and Ventura Counties. Unemployment levels in Southern California counties have mirrored closely the cyclical pattern of that of the State of California. Unemployment rose steeply in the early 1990s. This rise was associated with a reduction in military spending (especially in the aerospace industry) at the end of the Cold War. Rates peaked in 1993 and then fell gradually throughout the rest of the decade with the rebound of the economy buoyed by the surge in activity in the computer software industry and the residential construction boom. Following this period, unemployment rates rose for a few years before moving downwards again.

Throughout these cycles, unemployment rates in Orange County were consistently lower than those in the other counties of Southern California as well as the state (see Table 7-5).

1 **Table 7-3.** Total Employment (Farm and Nonfarm) by County (1990–2010)

Year	*Los Angeles*	*Orange*	*Riverside*	*San Bernardino*	*Ventura*	*SCAG Region*
1990	4,259,700	1,306,200	498,300	599,600	345,600	7,009,400
1991	4,101,000	1,247,900	493,800	590,500	338,400	6,771,600
1992	4,006,700	1,241,500	507,600	604,100	339,400	6,699,300
1993	3,908,500	1,236,800	511,600	608,900	341,400	6,607,200
1994	3,898,600	1,257,500	534,000	612,900	350,400	6,653,400
1995	3,938,600	1,245,400	549,900	622,500	351,100	6,707,500
1996	3,967,800	1,280,400	563,100	634,300	349,600	6,795,200
1997	4,117,000	1,328,200	589,600	658,600	353,400	7,046,800
1998	4,246,100	1,385,300	615,900	680,100	364,500	7,291,900
1999	4,309,400	1,422,100	653,600	712,600	375,600	7,473,300
2000	4,424,900	1,429,100	644,200	704,000	374,900	7,577,100
2001	4,483,400	1,453,400	672,000	724,500	380,000	7,713,300
2002	4,447,100	1,456,500	701,800	743,200	384,600	7,733,200
2003	4,427,100	1,482,600	730,700	757,500	388,800	7,786,700
2004	4,454,100	1,508,000	771,600	784,400	391,600	7,909,700
2005	4,516,000	1,529,000	808,100	808,400	396,800	8,058,300
2006	4,578,700	1,547,300	839,000	820,700	402,500	8,188,200
2007	4,626,900	1,547,000	849,400	815,600	403,300	8,242,200
2008	4,563,200	1,532,300	834,700	794,200	402,500	8,126,900
2009	4,336,600	1,446,900	793,600	747,100	387,000	7,711,200
2010	4,262,300	1,428,900	779,100	733,400	384,100	7,587,800
CHANGE 1990–2010						
Number	2,600	122,700	280,800	133,800	38,500	578,400
Percent	0.06%	9.39%	56.35%	22.31%	11.14%	8.25%
Average Annual Percent	0.00%	0.47%	2.82%	1.12%	0.56%	0.41%
Source: CEDD 2011.						

Table 7-4. Employment Projections (2005–2035)

Area	2005	2010	2015	2020	2025	2030	2035	Change (2005–2035)		
								Numeric	Percent	Average Annual Percent
Southern California (Five-County Region)	7,712,876	8,276,240	8,718,452	9,076,942	9,429,680	9,787,437	10,154,571	2,441,695	31.66	1.06
Counties										
Los Angeles	4,397,025	4,552,398	4,675,875	4,754,731	4,847,436	4,946,420	5,041,172	644,147	14.65	0.49
Orange	1,615,936	1,755,167	1,837,771	1,897, 352	1,933,058	1,960,633	1,981,901	365,965	22.65	0.75
Riverside	650,319	784,998	911,381	1,042,145	1,168,769	1,295,487	1,413,522	763,203	117.36	3.91
San Bernardino	704,239	810,233	897,489	965,778	1,045,480	1,134,960	1,254,749	550,510	78.17	2.61
Ventura	345,357	373,444	395,936	416,936	434,937	449,937	463,227	117,870	34.13	1.14
Cities										
Los Angeles	1,764,768	1,820,092	1,864,061	1,892,039	1,925,148	1,960,393	1,994,134	229,366	13.00	0.43
Carson City	51,937	52,616	53,155	53,499	53,904	54,336	54,750	2,813	5.42	0.18
Palos Verdes Estates	3,447	3,560	3,649	3,706	3,774	3,845	3,914	467	13.55	0.45
Rancho Palos Verdes	6,191	6,406	6,577	6,686	6,815	6,952	7,083	892	14.41	0.48
Redondo Beach	30,079	30,586	30,989	31,246	31,548	31,871	32,180	2,101	6.98	0.23
Rolling Hills	476	490	502	509	518	527	536	60	12.61	0.42
Rolling Hills Estates	3,786	3,897	3,984	4,040	4,106	4,177	4,244	458	12.10	0.40
Torrance	104,992	107,277	109,092	110,252	111,615	113,071	114,464	9,472	9.02	0.30
Lakewood	17,000	17,606	18,088	18,396	18,758	19,144	19,514	2,514	14.79	0.49
Long Beach	180,842	185,938	189,987	192,573	195,614	198,860	201,967	21,125	11.68	0.39
Signal Hill	11,822	12,085	12,294	15,211	12,584	12,752	12,912	1,090	9.22	0.31
Source: SCAG 2008.										

Table 7-5. Unemployment Rate (%) by County (1990–2010)

Year	County					California
	Los Angeles	*Orange*	*Riverside*	*San Bernardino*	*Ventura*	
1990	5.80	3.50	7.20	5.60	5.80	5.80
1991	8.00	5.30	10.10	8.30	7.60	7.80
1992	9.90	6.70	11.90	9.70	9.00	9.40
1993	10.00	6.90	12.20	10.00	9.10	9.50
1994	9.30	5.70	10.60	8.70	7.90	8.60
1995	8.00	5.10	9.50	7.90	7.40	7.90
1996	8.30	4.20	8.40	7.40	7.30	7.30
1997	6.90	3.30	7.60	6.50	6.70	6.40
1998	6.60	2.90	6.70	5.70	5.60	6.00
1999	5.90	2.70	5.50	4.90	4.80	5.30
2000	5.40	3.50	5.40	4.80	4.50	4.90
2001	5.70	4.00	5.50	5.10	4.80	5.40
2002	6.80	5.00	6.50	6.00	5.80	6.70
2003	7.00	4.80	6.50	6.30	5.80	6.80
2004	6.50	4.30	6.00	5.80	5.40	6.20
2005	5.40	3.80	5.40	5.20	4.80	5.40
2006	4.80	3.40	5.00	4.80	4.30	4.90
2007	5.10	3.90	6.00	5.60	4.90	5.30
2008	7.50	5.30	8.50	7.90	6.20	7.20
2009	11.50	8.90	13.40	13.00	9.90	11.30
2010	12.60	9.60	14.70	14.30	10.80	12.40
Source: California Employment Development Department, Labor Market information Division, 2011.						

As mentioned above, jobs have decreased in Los Angeles County over the 20-year period between 1990 and 2010 (see Table 7-6). Cut backs in the natural resources and mining, manufacturing, and federal government sectors have played a major part in the overall decline in the County. In the 1980s, the decline in manufacturing jobs numbered about 53,000 (5.7%), while in the 1990s the loss increased to over 220,000 jobs (25%). This decline was more than offset by a substantial increase in jobs in other sectors of the economy, especially in the services sector, which experienced an increase in employment of over 934,000 jobs (80%) between 1980 and 2000.

Over the period from 1990 to 2010, many of the lost jobs have been in well-paying sectors such as manufacturing (aerospace, electronic instrument, computer and peripheral, machinery, and fabricated metal) and Department of Defense and other federal agencies. Although a significant number of well-paying jobs were added to the regional economy over the same time period (arts/entertainment/recreation, wholesale trade, transportation and warehousing, construction, local government, and health care), the majority of new jobs were lower-paying in the services (office administrative, employment, and food and drink establishments) and local government education sectors. The average annual wage level of the losing sectors was slightly over $45,000; gaining sectors was just over $33,000 (approximately 27% lower than the losing sectors' average annual wage).

The proposed Project would involve a modest construction effort over two phases spanning a long period of time. As shown in Table 7-6, over the 20-year period (1990–2010), employment in the construction industry registered a decrease of 40,300 jobs (almost 28%). This represents a decrease of 1.4% annually. In 2010, the construction industry represented 1.23% of the total employment in Los Angeles County (see Table 7-6).

Table 7-6. Total Employment for Los Angeles County, California (1990–2010)

Industry Group	*1990*	*1995*	*2000*	*2005*	*2010*	*Change (1990–2010)*		
						Number	*Percent*	*Average Annual Percent*
Total, All Industries	**4,149,500**	**3,754,500**	**4,079,800**	**4,031,600**	**3,766,500**	**-383,000**	**-9.2**	**-0.5**
Total Farm	13,700	8,000	7,700	7,400	6,400	-7,300	-53.3	-2.7
Total Nonfarm	4,135,700	3,746,600	4,072,100	4,024,200	3,760,100	-375,600	-9.1	-0.5
Natural Resources and Mining	8,200	4,100	3,400	3,700	4,200	-4,000	-48.8	-2.4
Construction	145,100	113,300	131,700	148,700	104,800	-40,300	-27.8	-1.4
Manufacturing	812,000	628,100	612,200	471,700	373,400	-438,600	-54.0	-2.7
Trade, Transportation, and Utilities	794,900	721,100	786,000	795,400	728,100	-66,800	-8.4	-0.4
Information	186,200	190,900	243,700	207,600	190,700	4,500	2.4	0.1
Financial Activities	279,900	223,900	224,500	244,000	209,200	-70,700	-25.3	-1.3
Professional and Business Services	541,600	516,100	587,900	576,100	520,500	-21,100	-3.9	-0.2
Educational and Health Services	384,700	372,200	416,800	471,300	524,500	139,800	36.3	1.8
Leisure and Hospitality	306,700	309,800	344,700	377,800	376,600	69,900	22.8	1.1
Other Services	136,700	131,300	140,000	144,300	135,400	-1,300	-1.0	0.0
Government	539,800	535,700	581,300	583,700	592,700	52,900	9.8	0.5
Federal Government	71,900	63,400	57,900	53,500	47,300	-24,600	-34.2	-1.7
State and Local Government	467,900	472,300	523,300	530,200	545,400	77,500	16.6	0.8
State Government	69,900	70,500	77,100	78,200	81,200	11,300	16.2	0.8
Local Government	398,100	401,800	446,200	452,000	464,200	66,100	16.6	0.8
Source: California Employment Development Department, Labor Market Information Division, 2011.								

Geographical Distribution of Port Workers

The employment generated by maritime cargo activity at the marine terminals owned by the Port can be categorized into trucking, International Longshore and Warehouse Union (ILWU) workers, freight forwarders/customs house brokers, warehousing, steamship agents, chandlers, surveyors, etc. About 43,398 jobs are directly generated by activities at the marine terminals (Martin Associates 2007).

Table 7-7 presents the distribution of these 43,398 direct jobs by place of employment. The geographic residency is based on the results of interviews with 721 firms. As the table indicates, 12.7% of the direct job holders reside in the City of Los Angeles (excluding Wilmington and San Pedro), 16.8% in the City of Long Beach, 13% in San Pedro, and 8.7% in Wilmington. Another 37% reside in other parts of Los Angeles County (Martin Associates 2007).

Table 7-7. Distribution of Direct Cargo Jobs by Place of Residency for the Port of Los Angeles

Jurisdiction	*Share (in %)*	*Cargo Direct Jobs*
City of Los Angeles (excluding San Pedro and Wilmington)	12.66	5,495
City of Long Beach	16.78	7,280
San Pedro	13.06	5,669
Wilmington	8.73	3,790
Other Los Angeles County	36.97	16,042
Orange County	7.76	3,367
Riverside County	1.15	498
San Bernardino County	2.25	978
Ventura County	0.13	58
Other Los Angeles County	0.51	220
Total	**100.00**	**43,398**
Totals may not add due to rounding. Source: Martin Associates 2007.		

Occupation by Place of Residence

Information regarding occupation (aggregated to industrial sectors similar to those addressed above) is contained in the 2000 decennial census. Category definitions vary somewhat from those presented earlier; however, these differences are minor. The occupational breakdown (for the employed civilian population 16 years of age and over) is available for small geographical areas by zip code as presented in Table 7-8. The zip codes selected are in the immediate vicinity of the Port for the communities of Wilmington, San Pedro, and Harbor City, and the cities of Torrance, Carson, and Long Beach.

The proportion engaged in the transportation and warehousing sector in 2000 for Los Angeles County was 4.43% and 3.64% for the City of Los Angeles. All of the communities near the Port have much higher proportions of their residents employed in the transportation and warehousing sector of the economy than is the case for Los Angeles County and the City of Los Angeles. The San Pedro area has proportions that are twice or more than those of the County or City.

Table 7-8. Occupational Breakdown (%) by Place of Residence, 2000 (Employed Civilian Population 16 Years and Over)

Occupation	*90501 Torrance*	*90502 Torrance*	*90710 Harbor City*	*90731 San Pedro*	*90732 San Pedro*	*90744 Wilmington*	*90745 Carson*	*90802 Long Beach*	*90806 Long Beach*	*90810 Long Beach*	*90813 Long Beach*
Agriculture, forestry, fishing and hunting, and mining	0.19	0.23	0.05	0.58	0.36	0.63	0.37	0.31	0.58	0.68	0.42
Agriculture, forestry, fishing and hunting	0.10	0.23	0.05	0.53	0.36	0.48	0.17	0.21	0.10	0.54	0.18
Mining	0.09	0.00	0.00	0.05	0.00	0.15	0.20	0.09	0.48	0.14	0.24
Construction	5.98	3.69	3.86	6.63	4.22	6.89	3.45	4.88	4.73	5.39	8.79
Manufacturing	16.69	18.43	20.31	12.77	12.95	22.24	22.16	12.55	15.29	20.70	19.10
Wholesale trade	4.42	5.69	3.81	4.07	4.31	6.16	4.64	4.00	4.30	5.55	4.13
Retail trade	13.00	10.50	10.75	10.32	8.56	9.83	12.23	9.96	10.60	9.66	9.96
Transportation and warehousing, and utilities	7.25	7.03	7.35	11.33	13.08	8.47	8.49	6.11	8.52	9.27	4.92
Transportation and warehousing	6.88	6.15	6.88	10.80	12.71	8.06	8.14	5.68	7.71	8.74	4.63
Utilities	0.38	0.88	0.47	0.52	0.36	0.42	0.35	0.44	0.80	0.53	0.29
Information	2.17	3.89	2.08	2.52	3.00	2.18	2.58	4.17	2.98	2.14	1.70
Finance, insurance, real estate, and rental and leasing	5.01	6.85	5.95	5.28	6.49	3.44	4.86	5.45	4.45	3.78	3.51
Finance and insurance	3.06	4.50	3.99	3.19	4.51	1.95	3.23	3.25	2.98	2.81	1.55
Real estate and rental and leasing	1.95	2.35	1.95	2.09	1.98	1.49	1.63	2.20	1.48	0.97	1.95

Occupation	*90501 Torrance*	*90502 Torrance*	*90710 Harbor City*	*90731 San Pedro*	*90732 San Pedro*	*90744 Wilmington*	*90745 Carson*	*90802 Long Beach*	*90806 Long Beach*	*90810 Long Beach*	*90813 Long Beach*
Professional, scientific, management, administrative, and waste management services	12.33	7.59	9.52	9.36	10.53	8.83	8.71	11.14	9.35	8.28	9.67
Professional, scientific, and technical services	5.46	4.23	3.05	4.10	8.33	1.70	4.08	5.13	3.45	2.48	2.15
Management of companies and enterprises	0.14	0.09	0.00	0.00	0.00	0.08	0.22	0.10	0.03	0.05	0.00
Administrative and support and waste management services	6.72	3.27	6.47	5.26	2.20	7.06	4.41	5.91	5.86	5.74	7.52
Educational, health, and social services	16.35	18.39	18.39	18.38	21.94	12.42	18.25	20.97	20.61	19.07	12.21
Educational services	6.15	7.53	6.74	8.70	10.89	5.37	5.40	9.05	6.78	5.51	3.94
Health care and social assistance	10.20	10.87	11.65	9.68	11.05	7.05	12.85	11.92	13.82	13.57	8.28
Arts, entertainment, recreation, accommodation, and food services	8.70	7.13	7.94	7.30	5.18	9.35	6.63	12.15	8.64	6.91	14.52
Arts, entertainment, and recreation	1.47	1.77	1.66	2.06	1.58	1.12	1.05	2.79	1.87	1.38	1.34
Accommodation and food services	7.24	5.36	6.28	5.24	3.61	8.23	5.58	9.36	6.77	5.53	13.18
Other services	5.13	4.27	6.11	7.31	4.93	7.90	4.78	5.61	6.09	5.83	9.06

Occupation	*90501 Torrance*	*90502 Torrance*	*90710 Harbor City*	*90731 San Pedro*	*90732 San Pedro*	*90744 Wilmington*	*90745 Carson*	*90802 Long Beach*	*90806 Long Beach*	*90810 Long Beach*	*90813 Long Beach*
(except public administration)											
Public administration	2.78	6.30	3.89	4.15	4.45	1.65	2.85	2.70	3.88	2.74	2.01
Source: Census 2000, Summary File (SF3).											

7.2.1.2.2 Income

The median household income reported in the 2010 American Community Survey in Los Angeles County was $42,189 (Table 7-9). Riverside and San Bernardino Counties had very similar values, while the values for Orange and Ventura Counties were $58,820 and $59,666, respectively. By comparison, the median household income for the City of Los Angeles was $36,687 (see Tables 7-9 and 7-10). Of total aggregate income, by far the largest proportion (between 69 and 77%) is contributed by wages and salary income at the county level.

Median family income varied between approximately $46,452 and $65,285 across the five counties, and was $39,942 for the City of Los Angeles (Table 7-9). For the zip codes in the vicinity of the Port, median family income exhibited a wider range: between approximately $30,259 and $63,614. The median family income for San Pedro (zip code 90731) was $35,910, while median family income for San Pedro (zip code 90732) was $63,614 (Table 7-10).

Table 7-9. Household and Family Income by Source of Income (1999)

	County					*City of Los Angeles*
	Los Angeles	*Orange*	*Riverside*	*San Bernardino*	*Ventura*	
Median household income ($) in 1999	42,189	58,820	42,887	42,066	59,666	36,687
Median family income ($) in 1999	46,452	64,611	48,409	46,574	65,285	39,942
Per capita income ($) in 1999	20,683	25,826	18,689	16,856	24,600	20,671
CONTRIBUTION (%) TO TOTAL AGGREGATE INCOME FROM:						
Wage or salary income	74.39	76.05	69.25	76.90	74.67	72.76
Self-employment income	8.28	7.76	6.89	6.03	8.20	9.60
Interest, dividends, or net rental income	7.22	7.48	8.24	4.15	6.92	8.00
Social Security	3.54	3.16	6.10	4.55	3.54	3.40
Supplemental Security Income	0.65	0.33	0.59	0.74	0.35	0.72
Public assistance income	0.51	0.16	0.36	0.60	0.16	0.56
Retirement income	3.70	3.59	6.15	4.96	4.55	3.24
Other types of income	1.72	1.47	2.44	2.07	1.62	1.73
Source: Census 2000, Summary File (SF3).						

Table 7-10. Household and Family Income by Source of Income by City (1999)

	90501 Torrance	90502 Torrance	90710 Harbor City	90731 San Pedro	90732 San Pedro	90744 Wilmington	90745 Carson	90802 Long Beach	90806 Long Beach	90810 Long Beach	90813 Long Beach
Median household income ($) in 1999	42,117	48,601	42,299	35,910	63,614	30,259	50,610	25,860	31,488	36,966	20,015
Median family income ($) in 1999e	47,076	51,829	45,854	39,057	73,461	30,800	53,218	26,865	31,050	40,119	19,594
Per capita income ($) in 1999	18,784	19,749	18,425	18,043	30,842	11,600	15,665	17,668	13,412	12,848	7,567
CONTRIBUTION (%) TO TOTAL AGGREGATE INCOME FROM:											
Wage or salary income	78.37	79.86	76.84	76.90	73.53	80.88	80.63	79.94	79.18	77.52	76.56
Self-employment income	7.48	5.51	6.81	6.65	5.58	4.90	3.26	5.03	4.79	2.54	3.95
Interest, dividends, or net rental income	4.32	3.08	4.43	4.41	7.92	2.76	3.07	3.53	3.92	3.48	1.75
Social Security	3.51	3.84	4.54	4.09	4.75	4.31	4.43	3.85	2.95	4.64	3.34
Supplemental Security Income	0.69	0.55	0.74	0.67	0.33	0.77	1.09	1.49	1.24	1.09	3.00
Public assistance income	0.50	0.34	0.42	0.81	0.07	1.20	0.44	0.98	1.98	1.03	4.65
Retirement income	3.79	5.55	4.69	4.35	6.32	3.04	5.09	3.31	3.93	7.42	2.77
Other types of income	1.33	1.28	1.53	2.12	1.50	2.14	1.99	1.87	2.00	2.26	3.99
Source: Census 2000, Summary File (SF3).											

7.2.1.2.3 Business and Tax Revenue

According to data compiled by the U.S. Census Bureau in the 2007 Economic Census[1], most business establishments, sales, and employees in the five-county region were distributed among wholesale and retail trade, health care and social assistance, accommodation and food service, professional services, real estate, and other service industries (see Table 7-11). Business establishments in the County of Los Angeles and the City of Los Angeles were similarly distributed (see Tables 7-12 and 7-13).

Table 7-11. Business Establishments—Southern California Association of Governments Five-County Region

Industry	*Number of Establishments*	*Sales, shipments, receipts, or revenue ($1,000)*	*Annual Payroll ($1,000)*	*Number of Employees*
Manufacturing [r]	25,131	243,775,552	35,659,953	784,463
Retail Trade	53,274	221,081,813	20,504,323	792,591
Information	12,082	N	21,447,127	283,059
Real Estate	24,662	42,851,563	7,218,147	160,999
Professional/Scientific/Technical Services	53,263	93,668,799	35,245,098	637,995
Administrative/Support/Waste Management/ Remediation Services	20,628	30,813,329	23,151,665	603,061
Education Services	3,795	54,329,915	19,951,927	459,967
Health Care and Social Assistance	47,237	87,612,892	32,199,255	379,792
Arts, Entertainment, and Recreation	13,655	23,124,411	7,710,389	156,504
Accommodation and Food Services	34,336	37,554,129	10,380,655	640,012
Other Services (except Public Administration)	27,206	22,633,759	5,383,522	192,020
Total	**315,269**	**857,446,162**	**218,852,061**	**5,090,463**
Notes: [r] = Revised; N = Not Available/Comparable Source: U.S. Bureau of the Census, 2007 Economic Census.				

[1] This is the most recent economic census data currently available. Updated every 5 years, 2012 Economic Census to be updated starting Fall 2012.

Table 7-12. Business Establishments—Los Angeles County

Industry	*Number of Establishments*	*Sales, shipments, receipts, or revenue ($1,000)*	*Annual Payroll ($1,000)*	*Number of Employees*
Manufacturing [r]	15,158	153,343,705	20,520,091	451,656
Retail Trade	30,179	119,111,840	10,849,209	418,153
Information	9,085	N	17,400,586	215,569
Real Estate	14,085	26,790,409	4,129,236	90,847
Professional/Scientific/ Technical Services	30,921	62,029,765	24,622,944	471,602
Administrative/Support/Waste Management/Remediation Services	10,988	19,181,402	8,841,472	319,495
Education Services	2,226	53,200,930	19,568,800	444,806
Health Care and Social Assistance	27,728	53,200,930	19,568,800	87,396
Arts, Entertainment, and Recreation	11,413	16,425,668	5,964,653	87,396
Accommodation and Food Services	19,476	20,238,148	5,570,102	339,815
Other Services (except Public Administration)	16,089	15,230,431	3,369,603	117,748
Total	**187,348**	**538,753,228**	**140,405,496**	**3,044,483**

Notes: [r] = Revised; N = Not Available/Comparable

Source: U.S. Bureau of the Census, 2007 Economic Census.

Table 7-13. Business Establishments—City of Los Angeles

Industry	*Number of Establishments*	*Sales, shipments, receipts, or revenue ($1,000)*	*Annual Payroll ($1,000)*	*Number of Employees*
Manufacturing [r]	6,118	41,805,565	5,391,483	129,537
Retail Trade [r]	11,880	36,672,803	3,602,714	140,076
Information	4,936	N	6,881,891	95,064
Real Estate	5,912	13,742,314	1,904,881	38,870
Professional/Scientific/Technical Services	14,243	27,457,048	10,820,572	179,752
Administrative/Support/Waste Management/Remediation Service	4,464	7,696,080	3,333,509	115,228
Educational Services	862	838126	268,541	10,783
Health Care and Social Assistance	10,555	22,925,848	8,167,261	178,191
Arts, Entertainment, and Recreation	6,795	9,173,951	3,309,990	40,003
Accommodation and Food Services	7,609	8,271,789	2,279,213	130,390
Other Services [p]	6,518	6,927,679	1,386,090	49,630
Total	**79,892**	**175,511,203**	**47,346,145**	**1,107,524**

Notes: [p] = not published for places; [r] = Revised; N = Not Available/Comparable
Source: U.S. Bureau of the Census, 2007 Economic Census.

The California Board of Equalization report on taxable sales for the fourth quarter of 2009 indicates that total taxable sales for the SCAG five-county region were $56,327,880. For the County of Los Angeles for the third quarter of 2009, total taxable sales were $29,485,211, while in the City of Los Angeles, total taxable sales were $ 8,709,718 for the third quarter of 2009.

The San Pedro community had 1,219 private business establishments, employing 13,638 people. The largest private sector industries in the San Pedro area were transportation and warehousing, accommodation and food services, retail trade, and health care (Kaiser Marston 2007).

The existing retail and restaurant activity in the Ports O’Call area on average shows retail sales levels of approximately $100 per square foot, and restaurants generate an average $300 per square foot (Kaiser Marston 2007). In contrast, successful retail projects typically have sales of $300 per square foot or more, while successful restaurants typically exhibit sales levels of $400 to $500 per square foot (Kaiser Marston 2007). Thus, Ports O’Call retail sales are 33% lower than most retail areas, and restaurant sales are 60 to 70% of sales generated in other successful areas (Kaiser Marston 2007).

7.2.1.3 Housing

Aspects of housing described below include construction trends, characteristics of the existing housing stock, and trends in housing prices.

7.2.1.3.1 Housing Construction

Housing construction typically exhibits a cyclical pattern in response to local, regional, and national economic conditions. In the case of Southern California, residential construction experienced periods of expansion between 1967 and 1972, 1975 and 1977, 1982 and 1986, and 1995 to 2006, with periods of decline in between. The decline housing construction from 1986 through 1993 was in response to the economic dislocation associated with reductions in military defense spending and base closures. From a level of over 133,000 units authorized for construction in 1988, the number fell to just over 28,000 in 1993 (see Figure 7-1). By 2004, the number of housing units authorized for construction had reached almost 90,000 and again started to decline, with about 71,000 units permitted for construction in 2006. Due to the economic housing decline, the number of new housing construction in Los Angeles County dropped in 2006 from 26,398 units to 5,614 units in 2009 (SCAG 2011).

Over the 43-year period from 1967 to 2010, about 3 million housing units were permitted for construction in Southern California. The majority of these were constructed in Los Angeles County (39% of the regional total), followed by Orange County (with 21.7% of the total) and Riverside County (with 18.8% of the total). Between 2000 and 2010, the housing market experienced new construction at all-time highs and lows. During this period, permits were issued for 623,091 new residential units in Southern California, with the majority of these units constructed in Riverside County (33% of the regional total), followed by Los Angeles County (32% of the regional total) and San Bernardino (17% of the regional total).

The contribution made to the new housing constructed in Southern California by each of the individual counties has changed noticeably over time, as can be seen from the information presented in Figure 7-2. At the start of the reporting period, Los Angeles County contributed over 50% of all new residential construction in Southern California. However, this share declined to about 30% in the 1990s and rose up to 32% in the 2000s. In contrast, the Riverside County share increased from approximately 5% to 33% in 2010, becoming the Southern California leader in new housing construction. Likewise, the San Bernardino County contribution rose from around 7% to approximately 17% in 2010.

7.2.1.3.2 Housing Characteristics

In Los Angeles County the proportion of owner-occupied housing units in 2000 was almost 48% (52% was renter-occupied). For the City of Los Angeles, the corresponding shares were 39 and 61%, respectively. Within the zip codes in the vicinity of the Port, the percentage of owner-occupied housing units varies from high values for western San Pedro and Carson to low values for Wilmington and areas of Long Beach (see Table 7-14).

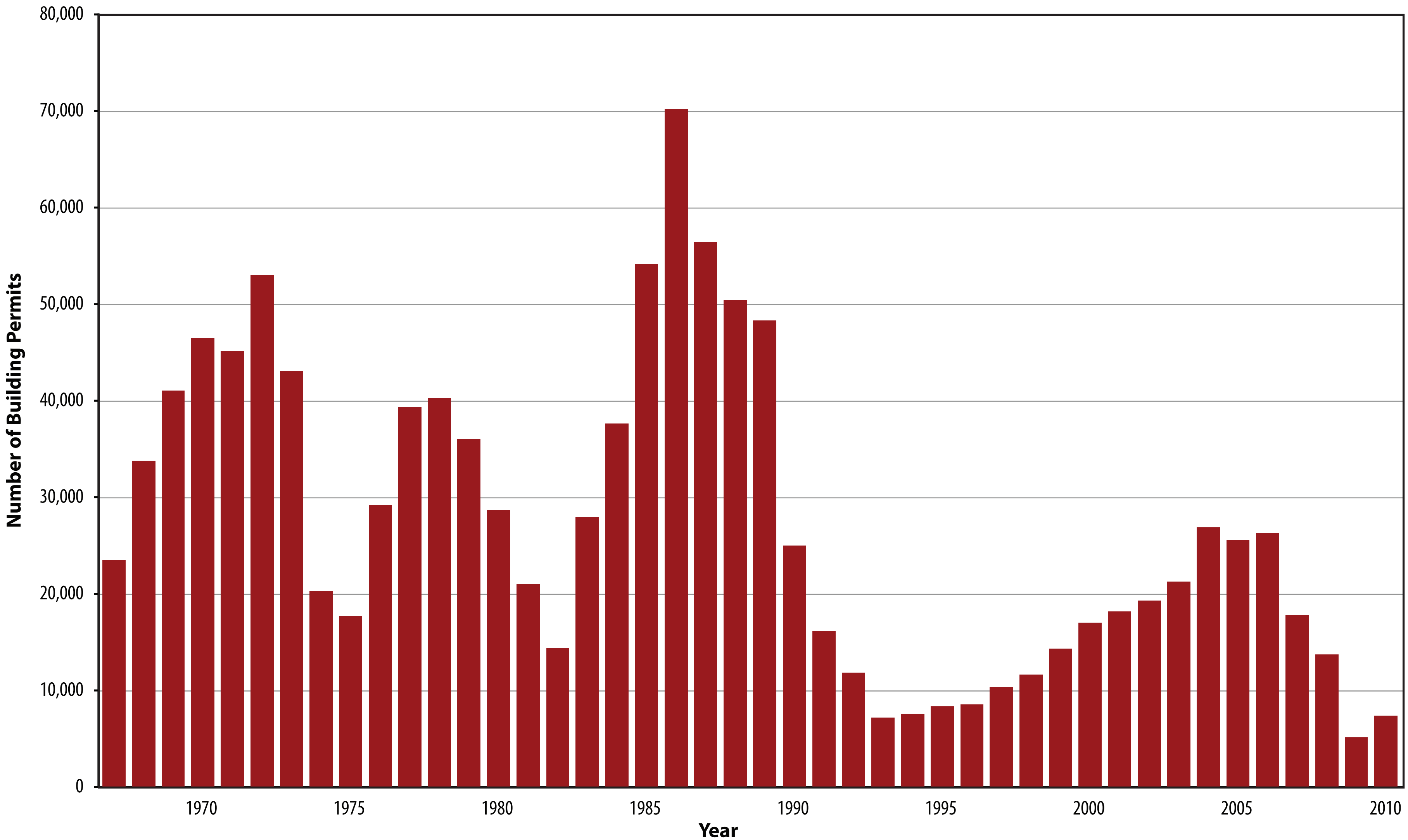
The San Pedro area has a mixed housing characteristic. The proportion of renters is high in the 90731 zip code area of San Pedro area (68%) while the 90732 zip code is low at approximately 27%. However, both zip code areas have relatively few apartment buildings containing 10 or more units. The median-year-built of the housing is 1960 in zip code 90731 and 1970 in zip code 90732 (see Table 7-14).

7.2.1.3.3 Housing Price

Between 1990 and 2007, the median home price (for existing homes) in Los Angeles County increased from $251,000 to $537,011, a rise of over 113%, at an average annual rate of 6.65% (Table 7-15). However, housing prices within the Southern California region have recently experienced new lows. Within Los Angeles County between 2008 and 2009, the change in annual home sales prices fell by 30.2%. Within the 2009-2010 year, home prices saw their first increase in three years with a 4.1% increase. As of 2010, the median home price for a home in Los Angeles County was estimated at $333,000 (Table 7-17).

Median prices in the other four counties of Southern California also increased between 1990 and 2007: 9.05% annually in Orange County; 8.81% in Ventura County; 10.9% in Riverside County; and 11.4% in San Bernardino County. This rate of increase in home prices, however, did not take place uniformly over the time period. Both regional economies and the national economy experience cycles of growth: positive, neutral, and negative. Over the 5-year period 1990–1995, each of the Southern California counties experienced negative changes in home values. The greatest decline occurred in Los Angeles County where median home values fell by 12.5% (2.5% annually). Over the 1995–2000 time period, prices increased approximately 4 to 5% annually. Between 2000 and 2006, the annual percentage growth exceeded 10% annually in all counties (except Los Angeles County, which grew slightly below 10% annually at 9.5%). The trends in prices of new homes mirrored closely those for existing homes (see Tables 7-15 and 7-16). However, median prices in the other four counties have also seen all-time lows in the mid-2000s with slight increases as of 2010. The greatest decline took place in San Bernardino County where median home values fell by 37.9% between 2008 and 2009.

Although 2010 census data is not available at this time, data from SCAG provided in Table 7-17 shows the median home price trends for Los Angeles County, Orange County, Riverside County, San Bernardino County, and Ventura County. The slump in home prices beginning in the middle of the decade to the present are reflective of the housing market crash experienced throughout the country. As shown, housing prices have generally risen starting in 2010.



Source: Construction Industry Research Board, 2010.

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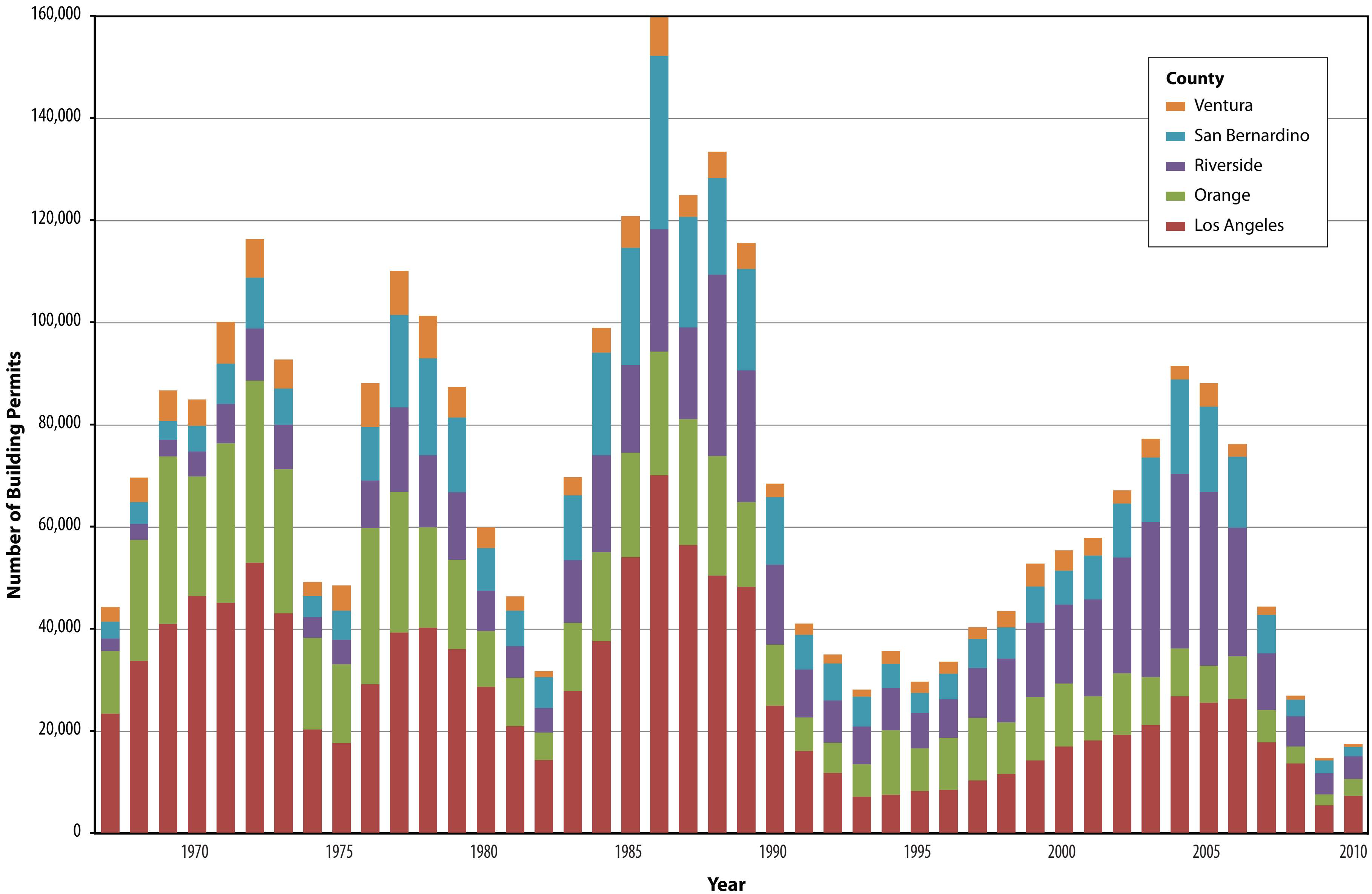
ICF INTERNATIONAL

Figure 7-1
Housing Units Permitted in Los Angeles County (1967-2010)



Source: Construction Industry Research Board, 2010.

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Figure 7-2
Housing Units Permitted in 5-County Southern California Region (1967-2010)

Table 7-14. Housing Characteristics in 2000

			ZIP Code Area										
	Los Angeles County	*City of Los Angeles*	*90501 Torrance*	*90502 Torrance*	*90710 Harbor City*	*90731 San Pedro*	*90732 San Pedro*	*90744 Wilmington*	*90745 Carson*	*90802 Long Beach*	*90806 Long Beach*	*90810 Long Beach*	*90813 Long Beach*
Total Housing Units	3,270,909	1,337,668	14,367	5,801	8,603	22,522	9,501	14,600	15,145	20,442	15,528	9,518	17,745
Total occupied housing units	3,133,774	1,275,358	13,810	5,593	8,351	21,370	8,746	13,954	14,671	18,838	14,575	9,140	16,436
Percent owner-occupied	47.86	38.56	42.76	69.41	55.53	31.86	73.16	38.79	74.02	19.52	36.83	56.73	12.36
Percent renter-occupied	52.14	61.44	57.24	30.59	44.47	68.14	26.84	61.21	25.98	80.48	63.17	43.27	87.64
Vacancy rate (%)	4.38	4.89	4.03	3.72	3.02	5.39	8.63	4.63	3.23	8.51	6.54	4.14	7.96
Median number of rooms per unit	4.2	3.7	4.0	4.4	4.2	3.9	5.1	3.3	4.7	2.8	3.6	4.1	2.8
BY NUMBER OF UNITS IN STRUCTURE (%)													
Single detached units	48.72	39.23	47.52	52.58	43.15	34.95	52.80	43.25	63.61	4.33	36.86	64.69	16.53
Single attached units	7.39	6.56	8.25	14.46	6.88	8.85	16.82	9.01	12.12	2.21	9.12	6.79	6.16
2 units	2.74	3.20	2.74	0.53	1.69	5.70	0.43	3.35	1.33	2.74	5.84	2.51	6.62
3 or 4 units	6.05	6.45	8.52	2.69	5.31	20.88	5.17	8.95	2.03	7.86	12.91	5.65	16.69

	Los Angeles County	City of Los Angeles	ZIP Code Area										
			90501 Torrance	90502 Torrance	90710 Harbor City	90731 San Pedro	90732 San Pedro	90744 Wilmington	90745 Carson	90802 Long Beach	90806 Long Beach	90810 Long Beach	90813 Long Beach
5 to 9 units	8.23	9.44	10.72	7.17	7.22	11.39	8.22	10.72	2.26	12.68	17.48	5.64	17.34
10 to 19 units	8.05	10.36	7.73	1.45	11.51	7.65	2.94	8.16	1.67	26.21	8.48	3.43	22.27
20 to 49 units	8.85	12.83	7.99	4.90	5.14	5.40	5.64	7.26	2.95	20.48	5.40	3.53	8.43
50 or more units	8.25	11.25	3.79	8.77	6.46	4.76	5.44	6.42	4.23	22.86	3.62	4.50	5.71
Mobile home	1.63	0.61	2.74	7.45	12.41	0.16	2.54	1.99	9.75	0.07	0.24	3.18	0.26
Boat; RV; van; etc.	0.10	0.06	0.00	0.00	0.23	0.25	0.00	0.89	0.04	0.54	0.05	0.08	0.00
BY YEAR STRUCTURE BUILT (%)													
1999 to March 2000	0.69	0.54	0.81	0.14	2.71	0.46	0.16	0.76	1.28	0.17	0.41	0.43	0.60
1995 to 1998	2.01	1.90	2.18	2.93	5.95	1.30	2.95	1.67	1.80	0.92	1.42	0.89	2.09
1990 to 1994	4.15	3.72	5.46	4.21	2.58	4.40	3.20	3.41	3.88	6.12	1.89	1.18	4.87
1980 to 1989	12.33	11.09	9.68	17.95	12.48	12.21	19.76	12.49	11.86	11.45	11.30	4.41	14.16
1970 to 1979	15.58	15.02	12.92	23.36	29.44	15.16	24.71	15.49	16.08	12.49	11.50	14.30	15.50
1960 to 1969	17.83	17.53	22.15	19.70	24.31	17.18	14.74	18.43	30.21	16.91	12.93	15.58	19.12
1950 to 1959	22.27	20.49	23.26	24.41	12.00	16.05	19.06	21.99	24.56	14.81	18.23	24.30	14.36
1940 to 1949	12.25	12.99	12.06	3.90	6.89	13.04	6.69	11.80	7.09	10.10	21.32	28.48	10.53
1939 or earlier	12.90	16.71	11.48	3.41	3.64	20.20	8.74	13.96	3.24	27.03	21.01	10.42	18.77
Housing units: Median year structure	1961	1960	1961	1969	1971	1960	1970	1961	1965	1959	1954	1955	1963

	Los Angeles County	City of Los Angeles	ZIP Code Area										
			90501 Torrance	90502 Torrance	90710 Harbor City	90731 San Pedro	90732 San Pedro	90744 Wilmington	90745 Carson	90802 Long Beach	90806 Long Beach	90810 Long Beach	90813 Long Beach
built													
Median year householder moved into unit: Total	1995	1996	1996	1994	1995	1996	1993	1996	1992	1998	1996	1993	1997
Median year householder moved into unit: Owner occupied	1989	1988	1990	1990	1990	1988	1988	1985	1988	1996	1993	1986	1993
Median year householder moved into unit: Renter occupied	1997	1997	1997	1997	1997	1997	1997	1997	1997	1998	1997	1997	1998
Percent lacking complete plumbing facilities	1.11	1.45	1.11	0.55	1.28	0.90	0.23	1.90	0.65	1.58	1.59	1.22	1.89
Percent lacking complete kitchen facilities	1.75	2.41	1.77	0.88	1.00	1.92	0.95	2.60	0.72	2.87	1.78	1.65	2.62
Source: U.S. Census Bureau, Summary Files (SF)(a)1 and 3(b), 2000.													

1 **Table 7-15.** Home Price by County (Existing Homes) (1998–2008)

Year	*County*				
	Los Angeles	*Orange*	*Riverside*	*San Bernardino*	*Ventura*
1998	168,119	215,731	112,653	97,040	195,600
1999	179,556	228,611	122,473	104,299	209,005
2000	195,134	254,272	138,330	114,065	235,542
2001	216,630	286,680	159,949	130,182	258,594
2002	256,490	339,924	184,603	148,260	309,695
2003	313,469	407,729	230,903	179,316	370,850
2004	391,208	511,132	306,789	236,699	478,281
2005	471,015	583,411	373,549	316,697	556,920
2006	515,717	616,680	401,802	356,670	585,017
2007	537,011	616,424	380,375	345,442	559,687
2008	393,235	454,388	244,221	209,935	402,744
CHANGE (1998–2008)					
Percent	233.90	210.63	216.79	216.34	205.90
Average Annual Percent	23.39	21.06	21.68	21.63	20.59
Source: LAEDC 2009					

2

3 **Table 7-16.** Home Price by County (New Homes) (1990–2008)

Year	*County*				
	Los Angeles	*Orange*	*Riverside*	*San Bernardino*	*Ventura*
1998	235,950	298,481	170,380	168,044	293,543
1999	261,862	328,734	194,870	183,042	336,735
2000	283,039	393,883	225,728	205,042	354,752
2001	303,094	447,835	240,306	217,961	375,972
2002	325,262	495,872	261,350	236,718	437,222
2003	393,247	545,765	291,565	263,673	532,349
2004	449,728	649,253	355,761	291,129	651,229
2005	449,374	705,917	411,707	364,224	696,102
2006	447,286	694,797	439,692	395,707	662,290
2007	503,757	600,074	410,557	383,482	612,913

Year	County				
	Los Angeles	Orange	Riverside	San Bernardino	Ventura
2008	435,033	502,785	332,918	321,952	433,312
CHANGE (1998-2008)					
Percent	84.38	68.45	95.4	91.6	47.61
Average Annual Percent	8.4	6.8	9.5	9.2	4.7
Source: LAEDC 2009.					

Table 7-17. Overall Home Price by County (2000–2010) in Thousands

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Los Angeles County	228	247	292	347	430	511	558	602	459	320	333
Orange County	289	322	376	442	563	645	689	681	506	415	433
Riverside County	163	186	212	252	330	406	438	413	271	189	200
San Bernardino County	128	145	165	202	256	336	374	365	240	149	155
Ventura County	262	286	333	394	502	592	613	583	425	356	370
Source: SCAG 2011											

7.2.2 Environmental Quality

7.2.2.1 Introduction

Environmental quality and the effect of urban decay and blight on communities in the vicinity of the ports are important even at the national level. This relationship has been recognized by a number of national organizations (ULI 2002). Such concerns are shared by communities near the Port, residents, community groups, and other entities. "Environmental quality" refers to an aggregative set of factors that contribute to the overall condition of the natural, physical, and human environment. In the context of an urban setting, some key contributing factors include visual quality and aesthetics, land use compatibility and encroachment, socioeconomic conditions, real property values and attributes, air and water quality, hazardous materials and waste sites, and the adequacy of public facilities and services.

The information is gathered from a number of sources, including (a) discussions with LAHD environmental and planning and research staff, (b) site visits to the San Pedro community and other communities near the Port, (c) a review of selected Port-related and other documents containing information relevant to environmental quality and blight, (d) a review of City of Los Angeles plans and program information containing relevant data for the area, and (e) discussions with the City of Los Angeles City Planning and Los Angeles Redevelopment Agency staff. Based on the proposed Project's location, the study area for this evaluation focuses on the community of San Pedro. In certain cases, information for the nearby community of San Pedro is included to provide additional context.

7.2.2.2 Applicable Land Use Plans and Policies

Laws, programs, plans, and ordinances relevant to the evaluation of environmental quality for the study area are described below. These include the City of Los Angeles General Plan, and existing and proposed plans of the Port of Los Angeles.

7.2.2.2.1 General Plan of the City of Los Angeles

California state law (Government Code Section 65300) requires that each city prepare and adopt a comprehensive, long-term plan for its future development. This general plan must contain seven elements, including land use, circulation, housing, conservation, open space, noise, and safety. In addition to these, state law permits cities to include optional elements in their general plans, thereby providing local governments with the flexibility to address the specific needs and unique character of their jurisdictions. California state law also requires that the day-to-day decisions of a city follow logically from and be consistent with the general plan. More specifically, Government Code Sections 65860, 66473.5, and 65647.4 require that zoning ordinances, subdivision, and parcel map approvals be consistent with the general plan.

The General Plan of the City of Los Angeles is a comprehensive, long-range declaration of purposes, policies, and programs for the development of the City of Los Angeles. The Plan is a dynamic document consisting of 11 elements, which include 10 Citywide elements (Air Quality, Conservation, Historic Preservation and Cultural Resources, Housing, Infrastructure Systems, Noise, Open Space, Public Facilities and Services, Safety, and Transportation) and the Land Use Element, also known as the Community Plan, for each of the City's 35 Community Planning Areas, as well as plans for the Port of Los Angeles and Los Angeles International Airport.

7.2.2.2.2 Port of Los Angeles Plan (City of Los Angeles General Plan)

The Port of Los Angeles Plan (adopted in 1982 with subsequent amendments), part of the City of Los Angeles General Plan Land Use Element, is intended to serve as the official 20-year guide to the continued development and operation of the Port. It is intended to be consistent with the PMP, as described above.

The Plan designates the northern and western portions of the Port, including the West Basin, as Commercial/Industrial land uses, which are further classified as General/Bulk Cargo and Commercial/Industrial Uses/Non-Hazardous uses. General Cargo includes container, break-bulk, neo-bulk, and passenger facilities. Commercial uses include restaurants and tourist attractions, offices, retail facilities, and related uses. Industrial uses include light manufacturing/industrial activities, ocean-resource industries, and related uses.

The remainder of the Port to the southeast is similarly designated and classified, differentiated only by a Hazardous Uses classification (City of Los Angeles 1982). The Port of Los Angeles Plan contains several objectives and policies applicable to the West Basin. Section 3.8, "Land Use and Planning" discusses the Plan in detail.

7.2.2.2.3 Los Angeles Harbor Department's Role

Port History

The Port of Los Angeles was created in 1907 with the establishment of the Los Angeles Harbor Commission (see Section 3.4, "Cultural Resources," for additional detail). Port growth was relatively slow until after World War I. Growing exports of local oil and lumber, shipbuilding, fishing, and cannery activities resulted in the construction of numerous warehouses and sheds between 1917 and 1930. In 1917, an extensive railroad was established for transporting goods from the harbor throughout the U.S. Port growth continued during the Depression with new cargo and passenger terminal construction, in some cases replacing outdated wooden cargo structures. Passenger terminals were constructed at the Port during the Port's modernization related to containerized storage, between 1948 and 1953.

As economic commerce and technology have changed, the function of the Port has shifted from its earlier focus on fishing, shipbuilding, and cargo uses to one where the predominant use is container shipping. These changes have also affected offsite land uses, transportation, and employment. For example, different types of storage and transport are required to meet the particular needs of the new uses. Much of the container cargo currently shipped into the Port consists of finished goods from Asia that are transported to other parts of California and beyond. These types of goods do not require assembly (in the region) and may be transported to warehouses or distribution centers beyond the Port area. In contrast, imported oil (non-containerized) may be refined in nearby refineries before being transported elsewhere; local refineries have also supported oil production in the vicinity of the Port and other parts of California. As the volume of cargo moving through the Port has increased, the capacities of the highway and rail system have become strained and improvements have been required (e.g., the Alameda Corridor). Ancillary uses have also changed, including shipping suppliers, goods recyclers, and various light industrial uses. As a result, uses may have become outmoded or less economically viable, in some cases resulting in the need for economic revitalization and redevelopment.

Port of Los Angeles Strategic Plan, 2010/2011

The Port of Los Angeles Strategic Plan, updated in 2010, is a five-year plan used to improve the performance of the Port and to outline the Port's direction and priorities (LAHD 2010). The Strategic Plan has 11 objectives, each with initiatives/action items that respond to the plan's Mission, "To provide our customers with the world's most secure and advanced seaport facilities to stimulate the economy and attract business, while promoting a sustainable “grow green” philosophy and embracing evolving technology.”

Strategic Plan Objectives relevant to the proposed Project include the following:

- Strategic Objective 1: Implement development strategies to ensure the Port maintains and efficiently manages a diversity of cargo and land uses while maximizing land use compatibility and minimizing land use conflicts.
- Strategic Objective 2: Deliver cost-effective facilities and infrastructure in a timely manner consistent with the land use plan.
- Strategic Objective 3: Promote, develop, and provide a safe and efficient transportation system for the movement of goods and people in the Port vicinity and throughout the region, state, and nation in a cost-effective and environmentally sensitive and sustainable manner.
- Strategic Objective 5: Be the greenest port in the world.
- Strategic Objective 9: Strengthen relations with all internal and external stakeholders through education, advocacy, meaningful interaction and engaging events/initiatives that benefit the community.
- Strategic Objective 10: Realize the potential of the diversity of Los Angeles’ population by expanding opportunity; retain and develop more high-quality jobs with an emphasis on green technology.

Port of Los Angeles Sustainability Plan

The development of the Port of Los Angeles Sustainability Assessment and Plan Formulation (Sustainability Plan) is in response to the Mayoral initialized Executive Directive No. 10, Sustainable Practices in the City of Los Angeles, passed in June of 2007. “This directive sets forth his vision to transform Los Angeles into the most sustainable large city in the country and includes goals in the areas of energy and water, procurement, contracting, waste diversion, non-toxic product selection, air quality, training, and public outreach” (LAHD 2008).

In June 2008, the Port of Los Angeles published the Sustainability Assessment and Plan Formulation, which surveyed and evaluated existing Port sustainability efforts. The 2011 Sustainability Report highlights major sustainability initiatives undertaken since 2008. The Sustainability Report uses a Material Issues Scorecard, which rates the Port’s progress on addressing the material issues most important to the Port and its stakeholders for achieving sustainable operations. These eleven material issues include:

- health risk reduction
- air quality
- energy & climate change
- water quality

- stakeholder relationships
- land use
- habitat protection
- open space & urban greening
- local economic development
- environmental justice
- green growth

Of these eleven material issues, the Port is acknowledged as an industry leader on policies and plans addressing health risk reduction, air quality, habitat protection, open space and urban greening, and green growth.

Green Building Policy

In 2007, the Board of Harbor Commissioners adopted a Green Building Policy, requires LEED certification and standards for new and existing building construction and/or renovation.

The LEED Green Building Rating System is voluntary, consensus-based, and market-driven, and is based on existing, proven technology that evaluates environmental performance in five categories:

- sustainable site planning
- improving energy efficiency
- conserving materials and resources
- embracing indoor environmental quality
- safeguarding water

Points are earned for goals accomplished in each category, and the certification level for a building is acquired by the total amount of points. There are four LEED certification levels: Certified (23–32 points), Silver (33–38 points), Gold (39–51 points), and Platinum (52–69 points).

Specifically, the City of Los Angeles adopted the policy that all new City buildings of 7,500 square feet or more should be designed, whenever possible, to meet the LEED Certified level. LAHD has taken this policy further, and under the jurisdiction of the Harbor Department, all construction must meet the following NC:

- new construction (e.g., office buildings) 7,500 square feet or greater, without compromising functionality, will be designed to a minimum level of LEED NC Gold;
- new construction (e.g., marine utilitarian buildings such as equipment maintenance), without compromising functionality, will be designed to a minimum level of LEED NC Silver;

- existing buildings of 7,500 square feet or greater will be inventoried as evaluated for their applicability to the LEED Existing Building Standards. Priority for certification will be determined by building operation and maintenance procedures;
- all other buildings will be designed or constructed to meet the highest achievable LEED standard to the extent feasible for the building's purpose; and
- in addition, all Port buildings will include solar power to the maximum extent feasible, as well as incorporation of the best available technology for energy and water efficiency.

The Port Police Building, which opened in 2011, is certified LEED NC Gold and was the first building constructed under the policy.

Port of Los Angeles Master Plan

Intended as a guide for development within the Port, the Port Master Plan (PMP) was certified in 1979 and was most recently amended in August 2011. The PMP was approved by the Board of Harbor Commissioners and certified by the California Coastal Commission. The PMP preceded the Port Plan, and divides the Port into nine individual planning areas. The PMP identifies ten major land uses that are allowed within the Port:

1. general cargo—includes container, unit, breakbulk, neo-bulk, and passenger facilities;
2. liquid bulk—comprised of crude oil, petroleum products, petrochemical products, and chemicals and allied products;
3. other liquid bulk—molasses, animal oils, fats, vegetable oils;
4. dry bulk—metallic ores, nonmetallic minerals, coal, chemicals, primary metal products, etc.;
5. commercial fishing—includes docks, fish canneries, fish waste treatment facilities, fish markets, and commercial fishing berthing areas;
6. recreational—water-oriented parks, marinas and related facilities, small craft launching ramps, museums, youth camping and water oriented facilities, public beaches, and public fishing piers;
7. industrial—shipbuilding/yard/repair facilities, light manufacturing/industrial activities, and ocean resource–oriented industries;
8. institutional—uses that pertain to lands either owned or leased by institutional activities of federal, state, and city governments;
9. commercial—restaurants, tourist attractions, office facilities, and retail facilities; and
10. other—vacant land, proposed acquisitions, rights-of-way for rail, utilities, roads, and areas not designated for specific short-term use.

The proposed project site is located in PA 2 (West Bank). The long-term goal for the area is to relocate hazardous and potentially incompatible cargo operations to Terminal Island and its proposed southern extension. PA 2 includes all the land use classifications mentioned above with the exception of Other Liquid Bulk.

Port Environmental Programs and Initiatives

LAHD has introduced a number of measures designed to reduce the adverse impacts of Port operations and improve environmental quality in nearby communities. This section provides a brief overview of LAHD's Environmental Management Policy, as well as the consistency between that policy and the San Pedro Waterfront Master Plan and Wilmington Waterfront Development Program.

On August 27, 2003, the Board of Harbor Commissioners approved development of an Environmental Management Policy for the Port. The purpose of the policy is to provide an introspective, organized approach to environmental management, further incorporate environmental considerations into day-to-day Port operations, and achieve continual environmental improvement. Numerous initiatives and programs under the Environmental Management Policy relate to impacts of Port operations on environmental quality in nearby communities. They include:

- programs to improve the efficiency of cargo handling, reduce cargo storage time, and increase the use of electric cranes and electric and alternative fuel vehicles;
- on-dock rail systems;
- the grade-separated Alameda Corridor, reducing truck traffic during daytime peak periods; and
- the sharing of technologies with other ports to continue improving pollution-control technologies.

One recently approved plan under the policy, the CAAP, specifically aims to reduce public health risk from Port operations in nearby communities. The CAAP was initially approved November 20, 2006, updated in October 2010, and includes the following measures to implement over the next five years:

- continue to implement the Clean Trucks Programs at each port, with full implementation of trucks meeting the 2007 USEPA on-road standard by January 2012;
- achieve 90% or greater vessel speed reduction (VSR) participation to 40nm;
- continue implementation of shore-power infrastructure to meet the ports' lease schedules and to support CARB's requirement of 50% compliant calls for regulated vessels by 2014;
- implement use of marine fuel for ocean-going vessels (OGVs) with reduced sulfur content of 0.1% in 2012 through CARB's regulation;
- North America and Canada Emission Control Area;

- encourage demonstration and deployment of OGV control technologies for existing vessels calling at the San Pedro Bay ports;
- encourage vessels meeting the cleanest new engine standards to preferentially call at the ports of Long Beach and Los Angeles;
- continue aggressive implementation of the Technology Advancement Program to demonstrate, verify and commercialize new, cleaner engine technologies; and
- evaluate progress toward achieving the San Pedro Bay Standards in 2012, and update as needed.

The Port's "Clean Trucks Program," a component of the Clean Air Action Plan, is intended to address major sources of air emissions at the Ports of Los Angeles and Long Beach. The primary objectives of the plan are to accomplish the following:

- rapidly advance the improvement of air quality at the Port;
- establish performance criteria for providers of drayage[2] services that promote the Port's business objectives;
- ensure sufficient supply of drayage services and drivers that promote the Port's business objectives;
- enhance Port security and safety; and
- reduce negative impacts that port drayage inflicts on the local community.

San Pedro Waterfront Master Plan

The San Pedro Waterfront Master Plan area includes 400 acres of Port property along an 8-mile stretch of waterfront from the Vincent Thomas Bridge to the Federal Breakwater in San Pedro. Designed to bring the community closer to the waterfront, it includes new harbor cuts, redevelopment of commercial uses, deindustrialization of the waterfront area, cultural and educational opportunities, a continuous waterfront promenade, and significant open space comprising public parks and plazas. Extensive waterfront development will continue in phases over the next decade.

7.3 Project Effects Related to Socioeconomics and Environmental Quality

7.3.1 Impact Methodology

CEQA is only concerned with the disclosure and mitigation of significant physical environmental effects related to the construction and operation of a proposed project. However, LAHD is committed to disclosing the greater impacts a project may have on the community, including effects related to socioeconomics and environmental quality. Consequently, an impact discussion on socioeconomics is provided below.

[2] Drayage refers to the short transport of goods.

The initial step in estimating socioeconomic effects associated with implementation of a project is to characterize aspects of the construction and operational phases of that project.

The primary catalyst for changes to socioeconomic resources is a change in economic activity (that is, industrial output [value of goods and services], employment, and income). Changes in employment in an area have the potential to affect population, housing, and environmental quality. This is especially the case when the additional job opportunities created through implementation of a project (during the construction and operation phases) cannot be satisfied by the local workforce. Such a situation can trigger a movement of workers to the area to fill the supply of new jobs. Such an influx may be temporary, as in the case of short-lived construction activity, or permanent, as in the case where workers move to an area to fill long-term jobs. The movement of workers (and sometimes their accompanying family members) into an area depends mainly on the number of job opportunities made available by the project and the number and skill mix of workers available in the local labor force.

7.3.1.1 Region of Influence

The Port of Los Angeles is a national asset. Many of the direct and secondary economic impacts associated with its operation, however, are concentrated in a region of influence (ROI) comprising five of the counties in Southern California. The large majority of people working at the Port reside in Los Angeles and Orange Counties. The ROI is defined as the following five counties: Los Angeles, Orange, Riverside, San Bernardino, and Ventura (San Diego and Imperial counties are excluded from the region).

7.3.1.2 Economic Measures of Project Effects

In describing the economic effects that implementation of a project could have on the regional economy, a number of measures can be used such as net changes in regional employment, output, wages, tax revenue, and value added. Attention is focused here on employment, income, and tax revenues.

7.3.2 Proposed Project Effects

The proposed Project would be carried out in two phases. The improvements comprising the first phase are projected to occur mainly between 2012 and 2016, while those comprising the second phase would take place between 2013 and 2024. The construction activities of the proposed Project would result in direct proposed project expenditures of approximately $421million over a 12-year period, during which time purchases of construction labor, materials, supplies, services, and equipment would be made by the applicant and LAHD.

These expenditures, in turn, would produce a ripple effect that includes “indirect” activity associated with purchases by firms that supply goods and services to the construction industry, as well as “induced” activity resulting from expenditures by workers employed by the various firms involved in the economic activity (e.g., benefits to the retail sector from increased purchases by households). For simplicity, these indirect and induced effects are referred to collectively as "indirect effects."

7.3.2.1 Effects on Employment

The proposed Project would generate 2,233 direct construction jobs (based on 8.1 construction jobs/million dollars of construction cost; estimate from the U.S. Bureau of Economic Analysis). Construction of the proposed Project is expected to take place over the next 12 years, through 2024. The number of construction workers employed and working on site would vary over the course of the construction period. The direct construction jobs would also further result in 1,883 secondary jobs (based on 0.84 jobs for every construction job, given by U.S. Bureau of Economic Analysis). These secondary increases in employment are related to purchases from materials supply firms and their suppliers and household expenditures by workers, referred to, when combined, as "indirect employment."

Impacts on regional employment associated with construction activity can be assessed by comparing existing regional employment and the effects of the proposed Project. The County has a large pool of construction labor (104,800 people were employed in the construction industry in 2010; see Table 7-6) from which to draw. Much of the indirect workforce would also likely come from within the Los Angeles Basin. The proposed Project, therefore, is not anticipated to result in either in-migration or relocation of construction employees to satisfy the need for increased temporary, construction-related employment.

Long-term operation of the proposed Project would not result in a marked increase in jobs following final buildout in 2024. Researchers, university faculty, and government employees, the primary intended users of the proposed Marine Research Institute, are currently performing the same job duties in other locations within the region (i.e., SCMI at Berth 260 and other universities within Southern California). The proposed Project would provide centralized laboratory and research facilities to foster greater synergies amongst the users of the facilities at City Dock No. 1. The proposed project facilities could potentially serve as a catalyst for specialized researchers to locate to the South Bay region, but any increase would be negligible. As with the short-term construction employees discussed above, no significant influx of employees into the local communities would occur.

7.3.2.2 Effects on Local Business, Income, and Tax Revenues

Existing businesses near Berth 71 include Mike's Marine Fueling Station, and the municipal fish market, which would remain open during proposed project construction and operation. The proposed Project would result in the redevelopment of the City Dock No. 1 site and would attract marine science and research jobs to the area (most of which are currently working in other locations). The proposed Project would result in the adaptive reuse of transit sheds at Berths 57–60, wharf retrofits, a waterfront café, the establishment of a marine science park, and development of a new building for NOAA operations within Berths 70 and 71. Also, existing facilities at Berth 260 would be relocated to the proposed project site. Because the proposed Project would introduce employment and visitor-serving activities within the site, proposed project impacts are expected to be beneficial on local businesses. While the Crescent Warehouse would be relocated from its existing location on site, its operations would be consolidated with existing operations in Long Beach. Therefore, industry and jobs in the area as a whole would not be adversely affected.

The proposed Project would lead to increased tax revenues for the Port and the City of Los Angeles by expanding the tax base of the area through the introduction of the adaptive reuse of the transit sheds, the waterfront café, and the marine science park. The construction of new public open spaces in the form of plazas, and landscape and hardscape areas, would make the San Pedro community more attractive to visitors. While it is difficult to quantify the economic benefit that the new facilities would bring until final lease negotiations have taken place, the Port expects that there would be an overall beneficial impact on local business revenue.

7.3.2.3 Effects on Population

The proposed Project does not include the development of new housing or infrastructure that would directly induce population growth. However, the proposed commercial establishments could indirectly lead to an increase in daytime area population related to employees and visitors. Additionally, improvements such as the public plazas, viewing platform, waterfront café, and wharf maintenance activities may result in the San Pedro area being more attractive to prospective residents and businesses. However, no major shifts in residential population are expected as a direct result of the proposed Project.

Construction of the proposed Project is expected to take place over the next 12 years, through 2024, and would generate 2,233 construction jobs (based on the 8.1 construction jobs/million dollars of construction cost, U.S. Bureau of Economic Analysis). The number of construction workers employed and working on site would vary over the course of the construction period. Because construction workers commute to a job site that often changes many times throughout the course of the year, they are not likely to relocate their households to any significant degree as a consequence of opportunities for construction work. In addition, many workers are highly specialized and move among job sites as dictated by the need for their skills. Also, because of the highly specialized nature of most construction projects, workers are likely to be employed on the job site only for as long as their skills are needed to complete a particular phase of the construction process.

As discussed above, long-term operation of the proposed Project would not result in a marked increase in jobs following final buildout as most users of the facility are currently employed in other locations within the region. The potential small increase in jobs, though beneficial, is nonetheless negligible compared to the workforce of 8 million, and the population of 18 million, in the five-county region (see Tables 7-1 and 7-4). The proposed Project would therefore not be associated with substantial population growth and would not result in population displacement. Thus, as per Chapter 8, “Growth-Inducing Impacts,” only negligible impacts on population are anticipated.

7.3.2.4 Effects on Housing

The proposed Project would not displace any housing and does not propose construction of housing. Because of the large unemployed construction workforce in the region the need for 2,233 construction workers during the construction period is expected to be filled by existing labor pool in the region. Therefore, it is anticipated that the proposed Project would not result in significant population in-migration and relocation. Thus, the proposed Project would result in negligible changes in demand for additional housing.

7.3.2.5 Effects on Property Value Trends

A reduction in residential property value is not expected due to the proposed Project given the addition of public amenities like the waterfront promenade and increased open space acreage, aesthetic improvements, and transportation improvements. While proximity of the Port may historically have led to lower residential property values in the communities nearest the Port compared to more affluent communities in southern Los Angeles County, such as Redondo Beach and Rancho Palos Verdes, residential property values in communities near the Port have grown in recent years and do not exhibit depreciated or stagnant numbers. However, the recent housing market slump has led to decreased property values throughout California, a trend mirrored in the study area and the nearby communities. It is not anticipated that the proposed Project would change residential property trends in the areas immediately adjacent to the Port; however, as part of the larger San Pedro Waterfront project and other deindustrialization efforts west of the Main Channel, property values are expected to increase over time. Median home prices increased at high rates in a number of communities in the South Bay area of Los Angeles County from 1998 to 2008. Home prices increased in all communities regardless of price levels at the beginning of the period. Those communities with the highest growth rates were often communities with the lowest home prices.

The proposed Project would increase the number of direct, indirect, and induced jobs and income in the region, and result in other economic benefits. While the economic impacts are beneficial, the increase in jobs attributable to the proposed Project would be relatively small compared to current and projected future employment in the larger economic region. Thus, the proposed Project would also not likely contribute substantially to demand for housing, but would provide a public benefit potentially resulting in a positive effect on property values.

8.0

GROWTH-INDUCING IMPACTS

8.0 GROWTH-INDUCING IMPACTS

8.1 Introduction

An EIR is required to discuss the ways in which a proposed project could foster economic or population growth, either directly or indirectly, in the surrounding environment. This includes ways in which the proposed project would remove obstacles to growth or trigger the construction of new community services facilities that could cause significant environmental effects (State CEQA Guidelines, Section 15126.2).

To address this issue, potential growth-inducing effects are examined through the following considerations:

- removal of obstacles to growth, e.g., through the construction or extension of major infrastructure facilities that do not presently exist in the proposed project area or through changes in existing regulations pertaining to land development;
- facilitation of economic effects that could result in other activities that would significantly affect the environment;
- setting a precedent that could encourage and facilitate other activities that could significantly affect the environment; and/or
- expansion requirements for one or more public utilities to maintain desired levels of service as a result of the proposed Project.

Per the *L.A. CEQA Thresholds Guide*, "The potential to induce substantial growth may be indicated by the introduction of a project in an undeveloped area or the extension of major infrastructure. Major infrastructure systems include: major roads, highways, or bridges; major utility or service lines; major drainage improvements; or grading which would make accessible a previously inaccessible area" (Los Angeles 2006). In addition, a project would directly induce growth if it would directly foster population growth or the construction of new housing in the surrounding environment (e.g., if it would remove an obstacle to growth by expanding existing infrastructure).

It should be noted that growth-inducing effects are not to be construed as necessarily beneficial, detrimental, or of little significance to the environment. This issue is presented to provide additional information on ways in which this proposed Project could contribute to significant changes in the environment, beyond the direct consequences of developing the land use concept examined in the preceding sections of this Draft EIR. The analysis below focuses on whether the proposed Project would directly or indirectly stimulate growth in the surrounding area.

8.2 Growth-Inducing Impact Analysis

8.2.1 Removal of Obstacles to Growth

The proposed Project does not include the development of new housing or population-generating uses or infrastructure which would directly induce population growth. Furthermore, the proposed Project is located in an urban area that has experienced significant development over the past century. The proposed Project does not involve any land use plan amendments that would result in significantly more intensive development or uses that currently exist. On the contrary, the proposed Project is intended to de-industrialize a portion of the San Pedro Waterfront to allow for less-intensive uses that are more compatible with the surrounding community.

The proposed Project involves the adaptive reuse of existing warehouse buildings within the Port for the proposed marine research center. The proposed Project would consolidate existing research organizations and personnel that are currently performing similar work in other scattered locations throughout the region. The proposed Project facilities could potentially serve as a catalyst for specialized researchers to locate to the South Bay region, but any increase would be negligible. It would not result in a major employment center or require the relocation of a substantial number of people from outside the region. Therefore, the proposed Project would not directly trigger new residential development in the proposed project area.

The proposed Project would include infrastructure and transportation improvements such as the extension of the waterfront promenade, improvements to Signal Street that enhance pedestrian mobility and waterfront access, and the potential upgrade to the sewer pump station. However, these improvements would be limited to the proposed project site and are intended to accommodate the development of the proposed Project (through Phase II). These improvements would not accommodate any further expansion of the proposed uses, nor other enhancements to the proposed project area. Therefore, the proposed Project would not remove obstacles to growth and would not contribute to an indirect growth-inducing effect.

8.2.2 Facilitation of Economic Effects or Setting Precedent Resulting in Environmental Impacts

The proposed Project may facilitate economic development in the surrounding area. The proposed office, research, and recreational development, as well as construction activities required to develop the proposed Project would accommodate local employment and business opportunities.

As discussed in Chapter 7, "Socioeconomics and Environmental Quality," the proposed Project is expected to generate 2,233 direct construction jobs through buildout in 2024. The number of construction workers employed and working on site would vary over the course of the construction period. These construction jobs are also estimated to result in approximately 1,883 secondary jobs related to purchases from materials supply firms and their suppliers.

Long-term operation of the proposed Project would not result in a marked increase in jobs, as the proposed users are currently performing the same job duties in other locations within the region, and would consolidate those activities at the proposed facilities. The proposed project facilities could potentially serve as a catalyst for specialized researchers to locate to the South Bay region. However, any increase would be negligible, and no significant influx of employees into the local communities would occur.

Given the highly integrated nature of the southern California economy and the prevalence of cross-county and inter-community commuting by workers between their places of work and places of residence, it is unlikely that a substantial number of workers would change their places of residence in response to the proposed Project's employment opportunities. In the absence of changes in the places of residence by persons likely to pursue these new job opportunities, distributional effects to population and a corresponding increase in housing demand are not likely to occur.

The proposed Project is expected to facilitate investment and interest into the Port as a place of business and leisure. The proposed Project would introduce employment and visitor-serving activities within the site, thereby resulting in some secondary economic improvements for businesses in the local community that may serve these patrons. The introduction of new public open spaces in the form of plazas, and landscape and hardscape areas, would make the San Pedro community more attractive to visitors. However, any secondary growth that may occur in the area as a result of the proposed Project has already been planned as part of the San Pedro Waterfront (SPW) Project. The implementation of the SPW Project is a 30-year buildout, and the proposed Project is not expected to generate additional economic or physical growth beyond that projected as part of the SPW project.

8.2.3 Expansion of Public Utilities

As discussed in Section 3.12, "Utilities," implementation of the proposed Project would generate increased demand for water, natural gas, and electricity. However, the proposed Project would not require upgrades or new construction of major water, natural gas, or power infrastructure. Therefore, existing infrastructure and supplies related to water, natural gas, and electricity are adequate to serve the proposed Project.

The proposed Project would result in increases in wastewater discharges. As discussed in Sections 3.12, "Utilities," it is possible that the existing sewer pump station would be inadequate to accommodate operational wastewater from the proposed project site during continuous peak loads. Therefore, the proposed Project would potentially need to upgrade the existing pump to provide more capacity to accommodate the proposed project. As described in Section 3.12, "Utilities," the upgrade would be a minor action that would only serve the proposed Project to provide adequate capacity for the projected wastewater flows. The wastewater would be conveyed to, and treated by, the TIWRP. The TIWRP currently operates at 57% capacity and therefore would not require an expansion to accommodate the proposed Project. Thus, the sewer pump station upgrade would not result in growth-inducing effects above and beyond those identified for the proposed Project.

8.3 Summary of Growth-Inducing Impacts

The proposed Project would foster economic growth but would not directly induce population growth or the construction of new housing in the Port's region of influence (Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties). The proposed Project would include new office and research facilities as well as supporting infrastructure and recreational uses that would improve local economic conditions and public accessibility. However, this would not stimulate a significant growth in population or economic growth that would cause indirect environmental impacts. Finally, the proposed Project would potentially include an upgrade to the existing sewer pump station, which would not require additional wastewater treatment capacity or remove other obstacles to growth. Overall, the proposed Project would not result in growth-inducing effects.

9.0

SIGNIFICANT IRREVERSIBLE IMPACTS

9.0 SIGNIFICANT IRREVERSIBLE IMPACTS

9.1 Introduction

Pursuant to Section 15126.2(c) of the CEQA Guidelines, an EIR must consider any significant irreversible environmental changes that would be caused by the proposed Project should it be implemented. Section 15126.2(c) states:

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as a highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

9.2 Analysis of Irreversible Changes

The proposed Project would require the use of nonrenewable resources, such as fossil fuels and nonrenewable construction materials. Construction activities would require oil, gasoline, and diesel fuel for construction equipment. Additionally, construction materials for buildings and structures would consist of lumber, steel, aggregate sand and gravel materials for cement, and other natural resources. Operation of facilities under the proposed Project would result in an irreversible commitment of nonrenewable energy resources, including fossil fuels and natural gas. However, use of these resources is common for construction activities on similar scale projects throughout southern California, and the proposed Project would not require anything above the ordinary that would substantially deplete existing supplies. Additionally, as described in Section 3.12, “Utilities,” LAHD’s Construction and Maintenance Division recycles and reuses asphalt and concrete demolition debris by crushing and stockpiling the crushed material to use on other Port projects.

Fossil fuels and energy would be consumed during construction and operation activities. Fossil fuels in the form of diesel oil and gasoline would be used for construction equipment and vehicles. During operations, diesel oil and gasoline would be used by personal vehicles and research vessels. Electrical energy and natural gas would also be consumed during construction and operation. These energy resources would be irretrievable and their loss irreversible.

Non-recoverable materials and energy would be used during construction and operational activities, but the amounts needed would be accommodated by existing supplies. The increased use of materials and energy would mean it would be unavailable for other uses.

Construction activities that result in physical changes to the environment have the most potential to result in irreversible changes. As discussed in various sections of Chapter 3, "Environmental Analysis," none of the proposed project elements would result in irreversible environmental damage. As described in Section 3.4, "Cultural Resources," the proposed Project would result in significant impacts on the historic Municipal Warehouse No. 1 and the eligible Municipal Pier No. 1 historic district. The impacts would not result from direct physical changes to the structures themselves, but rather as indirect effects from the introduction of a five-story 100,000-square-foot building for the wave tank facility. Impacts occur because the building would be incompatible with the historic setting and affect the integrity of the existing historic building and district. However, the effect could be reversed should the wave tank not be constructed or should it be removed at some future date. The proposed Project would not have a significant impact on sensitive biological species or communities (Section 3.3, "Biological Resources") or result in significant water quality impacts (Section 3.13, "Water Quality, Sediments, and Oceanography"). The proposed Project would also not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the current or direction of water flow as no dredge or fill activities would occur (Section 3.13, "Water Quality, Sediments, and Oceanography"). As discussed in Section 3.7, "Hazards and Hazardous Materials," construction and demolition for the proposed Project could potentially result in the release of hazardous materials or subject construction workers to risk from Mike's fueling station. Construction-related spills of hazardous materials would be subject to regulatory control and cleanup, and would include the implementation of BMPs and Mitigation Measure MM RISK-1 to minimize the potential for an accidental release of petroleum products and/or hazardous materials or explosions during construction. Moreover, potential release of asbestos-containing materials and lead-based paint would be avoided through the required implementation of local and state regulations, including South Coast Air Quality Management District Rule 1403.

Impacts associated with operation of the proposed Project would occur as described in various sections of Chapter 3, "Environmental Analysis." However, such impacts would cease to exist or change in some fashion should the proposed Project, or portions thereof, cease to operate, change operations, or otherwise be redeveloped and reused. For example, impacts related to aesthetics would change should the area be demolished and/or redeveloped in the future; impacts on geology are related to existing hazards that would be reduced or eliminated should the area become unoccupied in the future; impacts related to hazards and hazardous materials would generally be improved by the proposed Project; impacts related to air quality, GHG, and noise would be reduced or eliminated should institutional and commercial activities be reduced or eliminated; and similarly, traffic impacts would be eliminated or reduced with operational changes or physical improvements that may occur in the future.

Thus, the proposed Project would only result in irreversible changes due to the use of energy resources and fossil fuels during construction and operation. However, the use of energy and fossil fuels for the proposed Project would not be uncommon to other types of institutional or commercial uses, and would, therefore, not result in significant irreversible impacts on the environment.

10.0

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10.0 REFERENCES

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11.0

LIST OF PREPARERS

11.0 LIST OF PREPARERS AND CONTRIBUTORS

11.1 Los Angeles Harbor Department

Director of Environmental Management	Christopher Cannon
Marine Environmental Supervisor, CEQA	Lisa Ochsner
Project Manager, CEQA	Kevin Grant
Project Engineer	Chris Grossi
Harbor Engineer	Dina Aryan-Zahlan
Director of Planning and Research	David Mathewson
Harbor Planning & Economic Analyst	Michael Cham
Environmental Specialist III	Katherine Prickett
Marine Environmental Supervisor, Site Restoration	Ken Ragland
Environmental Specialist III	Andrew Jirik
Assistant Supervisor, Air Quality	Lisa Wonder
Director of Homeland Security	George Cummings
Emergency Preparedness Coordinator	David Malin
Director of Goods Movement	Kerry Cartwright
Historic Resources	Dennis Hagner
Real Estate	Rica Viola
Special Assistant to the Executive Director	Barb Garrett

City Attorney	Justin Houterman

11.2 ICF International

11.2.1 Project Management Team

Project Director(s)	Chad Beckstrom, AICP
Project Manager	Charles Richmond, AICP
Project Coordinator and General EIR Preparation	Tanya Jones

11.2.2 Technical Team

Aesthetics	Mayra Medel Peter Langenfeld
Cultural Resources (Archaeology and Paleontology)	Mark Robinson, MA, RPA
Environmental Justice	Charles Richmond
Groundwater and Soils	Aaron Brownwood
Hazards and Hazardous Materials	Aaron Brownwood
Land Use and Planning	Tanya Jones
Noise	Peter Hardie Mike Greene
Public Services and Recreation	Aaron Brownwood
Socioeconomics and Environmental Quality	Aaron Brownwood
Transportation and Circulation—Ground and Marine	Aaron Brownwood
Utilities	Tanya Jones

11.2.3 Production Team

Lead Editor/Document Manager	Ken Cherry
Editing Support	Elizabeth Irvin, Lisa Randall
Publications Specialist	Jenelle Mountain-Castro
GIS/Graphics	Soraya Swiontek Brittany Buscombe
Reprographics	C2 Reprographics Ultimate Image Printing

11.3 Additional Contributors

11.3.1 Fehr & Peers

Transportation and Circulation (Ground)	Netai Basu Anjum Bawa

11.3.2 Wilson Geosciences

Geology and Soils	Ken Wilson

11.3.3 Thomas Johnson Environmental Consultant

Biological Resources	Tom Johnson
Water Quality, Sediments, and Oceanography	Tom Johnson

11.3.4 iLanco Environmental

Air Quality and Greenhouse Gas Emissions	Lora Granovsky

11.3.4 ESA

Cultural Resources (Historical Structures)	Brad Brewster

12.0

ACRONYMS

12.0 ACRONYMS

[Q]M2	Qualified Light Industrial
[Q]M3	Qualified Heavy Industrial
°	degrees
°F	degrees Fahrenheit
µg/l	micrograms per liter
$\mu g/m^3$	micrograms per cubic meter
µm	microns
1,1,1-TCA	1,1,1-trichloroethane
29 CFR	29 of the Code of Federal Regulations
AB	Assembly Bill
ACGs	allisions, collisions, and groundings
ACMs	asbestos-containing materials
ADT	average daily traffic
af	artificial fill
AMP	alternative maritime power
AMSEC	Area Maritime Security Evacuation Committee
AMSL	above mean sea level
AOR	area-of-responsibility
APE	Area of Potential Effects
AQMP	air quality management plan
ASTs	above-ground storage tanks
ATCM	Air Toxic Control Measure
ATCS	Adaptive Traffic Control System
ATSAC	Automated Traffic Surveillance and Control
AVR	average vehicle ridership
BAAQMD	Bay Area Air Quality District
BACT	Best Available Control Technology

Basin Plan	Water Quality Control Plan for the Los Angeles River Basin (Region 4)
BFI	Browning Ferris Industries
bgs	below ground surface
bhp	boiler horsepower
BMPs	Best Management Practices
BOS	Bureau of Sanitation
CAAP	San Pedro Bay Ports Clean Air Action Plan
CAAP Update	2010 San Pedro Bay Ports Clean Air Action Plan
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
Cal/OSHA	California Division of Occupational Safety and Health
Cal-ARP	California Accidental Release Prevention Program
CalEEMod	California Emission Estimator Model
CalEPA	California Environmental Protection Agency
CAP	Climate Action Plan
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CCC	California Coastal Commission
CCR	California Code of Regulations
CCT	California Coastal Trail
CDFG	California Department of Fish and Game
CDMG	California Division of Mines and Geology
CDP	Coastal Development Permit
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH_4	methane
CHC	Cultural Heritage Commission
CHL	California Historic Landmarks
CIP	Capital Improvement Program

CISAC	California Invasive Species Advisory Committee
City	City of Los Angeles
CLE	Contingency Level Earthquake
CM	control measure
CMA	Critical Movement Analysis
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society's
CO	carbon monoxide
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalent
Coastal Act	California Coastal Act of 1976
committee	Harbor Safety Committee
COTP	USCG Captain of the Port
CP	Community Plan
CPAs	Community Planning Areas
CPUC	California Public Utilities Commission
CRA	Community Redevelopment Agency
Crescent	Crescent Warehouse Company, Ltd.
CRHR	California Register of Historical Resources
CSLC	California State Lands Commission
CTP	Clean Truck Program
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
CWC	California Water Code
dB	Decibel
dBA	A-Weighted Sound Level
DDT	dichloro-diphenyl-trichloroethane
DECS	Diesel Emission Control Strategy
DO	Dissolved oxygen
DOCs	emulsified fuel and diesel oxidation catalysts
DoD	Department of Defense
DPM	diesel particulate matter
DPR	California Department of Parks and Recreation

DTSC	California Department of Toxic Substance Control
DWT	deadweight tonnage
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EJ	Environmental Justice
EMS	environmental management system
EMT	emergency medical technician
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
EPD	Emergency Preparedness Department
ERNS	Emergency Response Notification System
ESA	Endangered Species Act
F	Fahrenheit
FCI	Federal Correctional Institution
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FMP	fishery management plans
fps	feet per second
FTA	Federal Transit Administration
g	gravity
g/bhp-hr	gram/brake horsepower-hour
Gas Company	Southern California Gas Company
GCASP	general construction activities stormwater permit
GHGs	greenhouse gases
GIASP	general industrial activities stormwater permit
gpd	gallons per day
gpm	gallons per minute
gsf	gross square feet
GWP	global warming potential
HABS	Historic American Building Survey
HABS/HAER	Historic American Building Survey/Historic American Engineering Record
HFCs	hydrofluorocarbons
HHMD	Health Hazardous Materials Division

HHW	higher high water
HI	hazard index
HLW	higher low water
HMA	Preliminary Hazardous Materials Assessment, San Pedro Waterfront Project
HMI	Hazardous Materials Inventory
hp	horsepower
HPOZs	Historic Preservation Overlay Zones
HRA	health risk assessment
HRI	California Historic Resources Inventory
HSP	Harbor Safety Plan
HSWA	Hazardous and Solid Waste Act
Hz	Hertz
I-110	Interstate 110
ICF	ICF International
ICS	Incident Command System
ICTF	intermodal container transfer facility
ILWU	International Longshore and Warehouse Union
IMO	International Maritime Organization
IP	Intergovernmental Panel on Climate Change
IPCC	Intergovernmental Panel on Climate Change
IRP	Integrated Resources Plan
IRWMP	Integrated Regional Water Management Plan
IS	Initial Study
ISCC	Invasive Species Council of California
ISPS	International Ship and Port Facility Security
IWG	Interagency Working Group
kBtu	British thermal units
kHZ	kilohertz
kV	kilovolt
kW	kilowatt
kWh	kilowatt hours
LA/LB Harbors	Los Angeles and Long Beach Harbors
LACDPW	Los Angeles County Department of Public Works
LACFD	Los Angeles County Fire Department

LACSD	Los Angeles County Sanitation District
LADOT	City of Los Angeles Department of Transportation
LADPR	City of Los Angeles Department of Parks and Recreation
LADWP	City of Los Angeles Department of Water and Power
LAF	Sound level with 'A' Frequency weighting and Fast Time weighting
LAFD	City of Los Angeles Fire Department
LAHC	Los Angeles Harbor Commission
LAHD	Los Angeles Harbor Department
LALB	Los Angeles/Long Beach Harbors
LAMC	Los Angeles Municipal Code
LAPD	Los Angeles Police Department
LAX	Los Angeles International Airport
LBP	lead-based paint
LCFS	Low Carbon Fuel Standard
L_{dn}	Day/Night Noise Level
LEED	Leadership in Energy & Environmental Design
LEPC	Local Emergency Planning Committee
L_{eq}	Equivalent Noise Level
LHW	lower high water
LID	Low Impact Development
LLW	lower low water
LNG	Liquefied Natural Gas
LOS	level of service
LST	localized significance thresholds
M	magnitude
m	meters
m/s	meters per second
MATES II	Multiple Air Toxics Exposure Study II
MAX	Municipal Area Express
MBTA	Migratory Bird Treaty Act
mby	million barrels per year
Metro	Los Angeles County Metropolitan Transportation Authority
Metropolitan	Metropolitan Water District of Southern California
mg/l	milligrams per liter
mgd	gallons per day

MICR	maximum individual cancer risk
Mike’s	Mike’s Fueling Station
MLLW	mean lower low water
MMcf/day	million cubic feet per day
mmHG	millimeter of mercury
MMPA	Marine Mammal Protection Act of 1972
MOTEMS	Marine Oil Terminal Engineering and Maintenance Standards
MOU	Memoranda of Understanding
MPAs	Marine Protected Areas
MRZ	Mineral Resource Zone
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MSDS	Material Safety Data Sheets
MSL	mean sea level
MTSA	Maritime Transportation Security Act
mty	metric tons per year
MW	megawatts
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NC	New Construction
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
ng/l	nanograms per liter
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NIMS	National Incident Management System
NIOSH	National Institute for Occupational Safety and Health
NMFS	National Marine Fisheries Service
NMHC	nonmethane hydrocarbon
NNI	No Net Increase
NO_2	nitrogen dioxide
NOAA	National Oceanographic and Atmospheric Association
NOI/NOP	notice of intent/notice of preparation
NOP	Notice of Preparation
NOS	National Ocean Service
NO_X	nitrogen oxide

NPDES	National Pollutant Discharge Elimination System
NRC	National Response Center
NRHP	National Register of Historic Places
NWS	National Weather Service
O_3	ozone
ODCs	Ozone Depleting Compounds
OEHHA	Office of Environmental Health Hazard Assessment
OLE	Operational Level Earthquake
OPR	Office of Planning and Research
OSH Act	Occupational Safety and Health Act of 1970
OSHA	Occupational Safety and Health Administration
OSPR	California Office of Spill Prevention and Response
PA 2	Planning Area 2
PAH	polycyclic aromatic hydrocarbon
PAs	planning areas
PCAC	Port Community Advisory Committee
PERP	Portable Equipment Registration Program
PFCs	perfluorocarbons
pH	Hydrogen ion concentration
PHI	California Points of Historical Interests
PL	Public Law
PM	particulate matter
PM10	particulate matter less than 10 µm in diameter
PM2.5	particulate matter less than 2.5 µm in diameter
PMP	Port Master Plan
PMPA	Port Master Plan Amendments
Port	Port of Los Angeles
Port Construction Guidelines	Los Angeles Harbor Department Sustainable Construction Guidelines for Reducing Air Emissions
Port Plan	Port of Los Angeles Plan
PORTS	Physical Oceanographic Real Time System
ppb	parts per billion
ppm	parts per million
ppmv	parts per million by volume

ppt	part per thousand
PPV	Peak Particle Velocity
PRC	Public Resources Code
proposed Project	City Dock No. 1 Marine Research Center Project
PSD	Prevention of Significant Deterioration
PV	photovoltaic
RCNM	Roadway Construction Noise Model
RCP	Draft 2008 Regional Comprehensive Plan
RCPG	Regional Comprehensive Plan and Guide
RCRA	Resource Conservation and Recovery Act of 1976
RHA	Rivers and Harbors Appropriation Act of 1899
RMP	Risk Management Plan
RMS	root mean square
RNA	regulated navigation area
ROI	region of influence
RP	revocable permit
RRP	Release Response Plan
RTP	Regional Transportation Plan
RW	Right-of-Way
RWQCB	Regional Water Quality Control Board, Los Angeles Region
SAR	Service Advisory Request
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCAB	South Coast Air Basin
SCAG	Southern California Association of Government
SCAQMD	South Coast Air Quality Management District
SCGC	Southern California Gas Company
SCMI	Southern California Marine Institute
SEAs	Significant ecological areas
SEMS	Standardized Emergency Management System
SER	Significant Emissions Rate
SERC	State Emergency Response Commission
SERRF	Southeast Resource Recovery Facility
SF_6	sulfur hexafluoride
SIP	State Implementation Plan
SLC	State Lands Commission

SO_2	sulfur dioxide
SO_X	sulfur oxides
SP Slip	Southern Pacific Slip
SPCC	Spill Prevention, Control, and Countermeasure
SPW	San Pedro Waterfront
SPWP	San Pedro Waterfront Plan
SQMP	stormwater quality management program
SQOs	sediment quality objectives
SR	State Route
SRRE	Source Reduction and Recycling Element
SSA	Stevedoring Services of America
State CEQA Guidelines	Guidelines for Implementation of the California Environmental Quality Act of 1970
SUSMP	Standard Urban Stormwater Mitigation Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TBT	tributyltin
TCR	The Climate Registry
TEUs	twenty-foot equivalent units
the Secretary's Standards	Secretary of the Interior's Standards for Rehabilitation
TITP	Terminal Island Treatment Plant
TIWRP	Terminal Island Water Reclamation Plant
TMDL	Total Maximum Daily Load
TNM®	Traffic Noise Model
TSS	traffic separation scheme
UBC	Uniform Building Code
UFPs	ultrafine particles
UNOLS	University-National Oceanographic Laboratory System
USACE	U.S. Army Corps of Engineers
USC	U.S. Government Code
USCG	U.S. Coast Guard
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank

UWMP	Urban Water Management Plan
V/C	vehicle to capacity
VDEC	Verified Diesel Emissions Controls
VHF-FM	very high frequency-frequency modulation
VOC	volatile organic compounds
vpd	vehicles per day
VSRP	Vessel Speed Reduction Program
VTS	Vessel Traffic Service
WATCH	Work Area Traffic Control Handbook
WCATWC	West Coast and Alaskan Tsunami Warning Center
WDRs	Waste Discharge Requirements
WPD	Watershed Protection Division
WQCMP	Water Quality Compliance Master Plan
WRAP	Water Resources Action Plan
ZIMAS	Zoning Information and Map Access System