3.6 VESSEL TRANSPORTATION

3.6.1 Environmental Setting

3.6.1.1 Area of Influence

The vessel transportation analysis covers the waters serving Middle Harbor, POLB, and the San Pedro Bay. Given the proximity of the Project to POLA, the vessel transportation analysis covers the combined shipping, vessel transportation movement, vessel movement controls and safety features, and accident potential for both ports.

3.6.1.2 Setting

Commercial ship traffic generally approaches the POLB from the northwest, passing north of Catalina Island. Traffic from the south passes east of the island using established commercial shipping lanes. POLB/POLA navigational areas are protected by three breakwaters: the San Pedro Breakwater, Middle Breakwater, and Long Beach Breakwater. The openings between these breakwaters, known as Queens Gate and Angel's Gate, provide entry to the POLB and POLA, respectively (Figure 3.6-1).

Vessel Transportation Safety

Vessel traffic levels are highly regulated by the USCG Captain of the Port (COTP) and the Marine Exchange of Southern California via the Vessel Traffic Service (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 prior to transiting through the Port to the COTP and the VTS; the VTS monitors the positions of all inbound and outbound vessels within the Precautionary Area and the approach corridor traffic lanes (Figure 3.6-2). In the event of scheduling conflicts and/or vessel occupancy within the Port 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.

Several measures are in place 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, which are described below.

Marine Exchange of Southern California. The Marine Exchange is a non-profit organization affiliated with the L.A. Chamber of Commerce and designated to enhance navigation safety in the Precautionary Area and harbor area of the San Pedro Bay ports. The organization is supported by subscriptions from Port-related organizations that recognize the need for such an organization and use its services. The Marine Exchange monitors vessel traffic within the Precautionary Area. The service consists of a coordinating office, specific reporting 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 Port. The Marine Exchange also operates Physical Oceanographic Real Time System (PORTS) as a service to those making operational decisions based on oceanographic and meteorological conditions in the vicinity of the ports. The 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 Port area.

Vessel Transportation Service. The VTS is a service owned by the Marine Exchange and operated jointly by the Marine Exchange and the USCG under the over-sight of the Office of Spill Prevention and Response (OSPR) and the POLB/POLA Harbor Safety Committee. The VTS monitors traffic in the approach and departure lanes and inside the harbors. It uses 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 POLB and POLA is located at the entrance to the ports.

The system provides information on vessel traffic and ship locations so that vessels can avoid collisions, allisions, and groundings in the approaches to the Los Angeles/Long Beach Harbor. The VTS assists in the safe navigation of vessels approaching POLB and POLA in the Precautionary Area.

Traffic Separation Schemes (TSSs). A TSS is an internationally recognized vessel routing designation that 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 International Maritime Organization (IMO), which

is part of the United Nations. Figure 3.6-2 identifies the TSSs nearest the POLB and POLA.

Safety Fairways. Offshore waters in high traffic areas are designated as safety fairways. USACE is prohibited from issuing permits for surface structures (e.g., oil platforms) within safety fairways, which are frequently located between a port and the entry into a TSS, to ensure safer navigation. The safety fairways for POLB and POLA are located within the designated Precautionary Area.

Precautionary and Regulated Navigation Areas. A Precautionary Area is designated in congested areas near the POLB/POLA harbor 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 Los Angeles/Long Beach Harbor, RNA boundaries are within the designated Precautionary Area. CFR 33, Part 165, Subsection 165.1152, identifies portions of the Precautionary Area as RNA.

The Precautionary Area for POLB/POLA is defined by a line that extends south from Point Fermin for approximately seven nm, continues due east approximately seven nm, continues northeast for approximately three nm, and then heads back northwest (Figure 3.6-2). Ships are required to cruise at speeds of 12 knots or less upon entering the Precautionary Area. A minimum vessel separation of 0.25 nm is also required in the Precautionary Area. The Marine Exchange of Southern California monitors vessel traffic within the Precautionary Area.

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 those U.S. vessels enrolled as not having a federally licensed pilot onboard (some U.S.-flag vessels have a trained and licensed pilot onboard; those vessels are not required to take on a Port Pilot for navigating through the Port). Jacobsen Pilot Service (JPS) and Los Angeles Harbor Pilots provide pilotage to POLB and POLA, respectively. Port Pilots receive special training that is instituted by the pilot companies and overseen by the Harbor Safety Committee.

For POLB, pilots typically board the vessels at the Queens Gate entrance, and then pilot the vessels to their destinations. Pilots normally leave the vessels after docking, and re-board the vessels to pilot them back to sea or to other destinations within the Ports. The pilot service also manages the use of anchorages under an agreement with the USCG.

In instances where a local pilot is not used, masters must have a local federal pilot license and receive approval by the USCG COTP prior to entering or departing the Port.

In addition, the Port Tariffs require vessels greater than 300 gross tons to use a federally-licensed pilot whenever navigating inside the breakwater. The Port Tariffs also require that a vessel notify the affected pilot station(s) in the rare instances when a pilot is not needed before entering, leaving, shifting, or moving between the ports. By Port Tariffs rule, pilots stay on outbound vessels until clear of the breakwater entrance. In bad weather, pilots who cannot disembark safely outside the breakwaters may disembark inside, once they assure the vessel's safe transit.

Tug Escort/Assist. "Tug Escort" refers to the stationing of tugs in the proximity of a vessel as it transits into port 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. Most OGV are required to have tug assistance within the POLB/POLA harbors (Harbor Safety Committee 2006). However, some vessels have internal "tugs" (typically bow and stern thrusters) that allow the vessel to propel without engaging the main engines, and can accomplish maneuvers with the same precision as a tug-assisted vessel. These ships are not required to have external tug assistance.

Physical Oceanographic Real Time System. In partnership with NOAA, National Ocean Service (NOS), California OSPR, USGS, and some businesses operating in the ports, the Marine Exchange operates PORTS as a service to those making operational decisions based on oceanographic and meteorological conditions in the vicinity of the ports. 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 Port 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 POLB and POLA water levels, currents, salinity, and winds.

Figure 3.6-1. Location of Breakwaters, Entry Gates, and Anchorages within Long Beach Harbor

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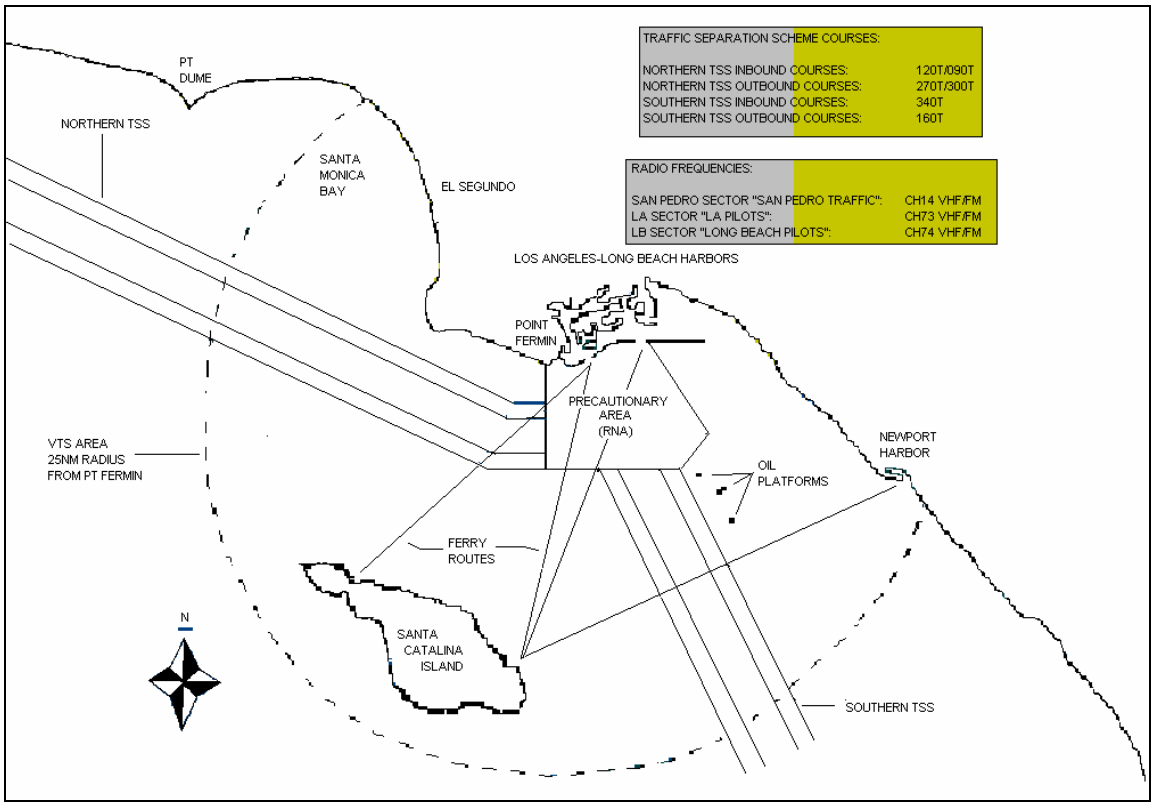


Figure 3.6-2. Vessel Navigation Safety Areas at Port of Long Beach and Port of Los Angeles

The instruments that collect the information are deployed at strategic locations within the ports 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.

Navigational Hazards

Port Pilots responsible for directing vessels through POLB and POLA navigational water can easily identify fixed navigational hazards. These hazards, including breakwaters protecting the outer harbor, anchorage areas, and various wharfs and land masses, are well-lighted and are readily identified by radar. Four bridges cross the navigation channels of both ports. All have restricted vertical clearances, and two have restricted horizontal clearances as well. Within the POLB, overhead power lines also restrict vertical clearance in the Cerritos Channel.

Two fixed bridges (Vincent Thomas and Gerald Desmond) and two drawbridges (Commodore Heim highway bridge and adjacent Ford Avenue railroad bridge) span the navigable channels of the ports. The latter two, crossing Cerritos Channel, are the only drawbridges within the Port's geographical area. The narrow channel-width combined with restrictions on passing under the drawbridges limit traffic through Cerritos Channel (with extremely rare exceptions) to pleasure vessels, tugs without tows, and tugs with tows alongside or pushing ahead. However, tugs with bunker barges frequently pass under the bridges. Small size tankers occasionally pass, given appropriate weather, vessel draft, trim, and maximum beam (Harbor Safety Committee 2006). Project-related vessels would generally be unaffected by bridge limitations within the Port.

Vessels waiting to enter the Port and moor at a berth can anchor at the anchorages outside and inside the breakwaters (Figure 3.6-1). Vessels do not require tug assistance to anchor outside the breakwater. Currently POLB has the following anchorages available inside the breakwater: 12 in the "Bravo" area; two in the "Charlie" area; nine in the "Delta" area; and five in the "Echo" area. JPS manages and monitors these anchorages for the POLB. For safety reasons, VTS will not assign an anchorage in the first row of sites closest to the breakwater to tankers or vessels exceeding 656 feet in length.

Vessels are required by law to report failures of navigational equipment, propulsion, steering, or other vital systems as soon as possible to the

USCG via the COTP office or the COTP representative at VTS. According to VTS, approximately one in 100 vessels calling at the Ports of Los Angeles or Long Beach experiences a mechanical failure during their inbound or outbound transit.

Although marine safety is thoroughly regulated and managed, various undesirable events can occur during marine navigation. These conditions include vessel accidents, "close quarters," and "near misses." Brief descriptions of these events are provided below. The most significant historical incidents in the POLB/POLA areas include a potentially disastrous collision between two loaded tankers in 1981, and close calls such as a 1982 occurrence involving two passenger ships, a freighter, and a tanker.

Vessel Accidents. Marine vessel accidents include vessel collisions (between two moving vessels), allisions (between a moving vessel and a stationary object, including another vessel), and vessel groundings. Table 3.6-1 shows the number of vessel allisions, collisions, and groundings (ACGs) in POLB and POLA between 1997 and 2005. Between 1992 and 1998, there were on average four ACG incidents per year (U.S. Naval Academy 1999). During this time, the level of commercial traffic transits has remained fairly constant. There are no reliable, comparable data available on the number of recreational boating incidents in the ports.

Each of the accidents referenced above was subject to a USCG marine casualty investigation, and the subsequent actions taken were targeted at preventing future occurrences.

Ships are typically involved in about 11 percent of all marine accidents, or only 7.7 percent of ACG incidents (U.S. Naval Academy 1999). The largest number of accidents involved tugboats and barges. Table 3.6-2 lists accident rates reported by various studies.

According to the USCG vessel accidents database, the POLB/POLA harbor area has one of the lowest accident rates among all U.S. ports, with an ACG frequency of 3.8×10^{-5} per transit

Table 3.6-1. Allisions, Collisions, and Groundings – POLB/POLA (1997-2005)

Year	ACG Incidents				Total
	Allisions	*Collisions*	*Groundings*	*Fires*	
1997	2	3	1	0	6
1998	3	2	1	0	6
1999	2	4	2	0	8
2000	1	2	3	0	6
2001	1	1	4	0	6
2002	0	5	6	0	11
2003	2	2	4	0	8
2004	2	4	6	0	12
2005	0	1	3	3	7

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 2006.

Table 3.6-2. Vessel Accident Rates

Study/ Source	Years, Range	Ships/Conditions Involved	Type of Accident	Probability per transit (%)
MIT	1981-95	All ships	All accidents	0.065–0.11
USCG	1992-98	All US ports, deep draft only	ACGs	0.20
USCG	1992-98	Ships only	At sea collisions	0.013
USCG	1992-98	Ships only	At sea groundings	0.010
USCG	1992-98	Ships only	At sea allisions	0.0082
USCG	1992-98	Ships only	Total All ACGs	0.031
FEMA	1980-1988	In harbors/bays	Collisions and groundings	0.10
FEMA	1980-1988	In harbors/bays	Collisions while moored	0.02
POLA/POLB	1997-2005	In POLA/POLB	Total All ACGs	0.046

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 casualties.
Source: MIT 1998; U.S. Naval Academy 1999; FEMA 1989; Harbor Safety Committee 2006.

(0.0038 percent chance per transit), as compared to the average of 2.54 x 10^{-4} per transit (0.025 percent chance per transit) for all U.S. ports. The calculated ACG frequency for the period 1997-2005 is somewhat higher at 4.6 x 10^{-4} per transit, although the 2005 ACG rate was substantially lower at 1.8 x 10^{-4} per transit.

Near Misses and Close Quarters. According to the POLB/POLA Harbor Safety Committee, a reportable "near miss" is:

> "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, grounding of the vessel, or damage to the environment."

The most practical and readily available near miss data are obtained from VTS reports. The VTS documents, reports, and takes action on "close quarters" situations.

VTS "close quarters" situations are described as vessels passing closer than 0.25 nm (500 yards). These incidents usually occur within the traffic Precautionary Area. No reliable data are available for close quarters incidents outside the VTS area. There were no close quarters situations in 2005.

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 six-year history of the number of close quarters situations is presented in Table 3.6-3. The Harbor Safety Committee states that "given the relatively steady amount of commercial transits over the past five years, a decreasing trend in close quarters incidents is discernable" (Harbor Safety Committee 2006).

Factors Affecting Vessel Traffic Safety

This section summarizes environmental conditions that could impact vessel safety in the POLB/POLA area. More detailed information can be found in the existing conditions description of other sections (e.g., detailed meteorological description can be found in the Air Quality section).

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 seven to 10 days per month. Fog at the ports is mostly a land (radiation) type fog 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 three to eight days per month from August through April, and is generally at its worst in December (Harbor Safety Committee 2006).

Winds. Winds vary, particularly in fall and winter. They are strongest during this period, when the Santa Anas may blow. This offshore desert wind, though infrequent, may be violent. It occurs when a strong high–pressure system sits over the plateau region and generates a Northeasterly to Easterly flow over southern California. Aside from weather forecasts, one gets 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 gives a 10 to 30 minute warning. The Santa Ana may come at any time of day and can be reinforced by an early morning land breeze or weakened by an afternoon sea breeze.

Winter storms produce strong winds over San Pedro Bay, particularly from southwesterly through northwesterly. Winds of 17 knots or greater occur about one to two percent of the time from

Table 3.6-3. Number of VTS-recorded Close Quarters Incidents, 1998-2005

Year	No. of Close Quarters
1998	9
1999	5
2000	1
2001	2
2002	6
2003	4
2004	0
2005	0

Source: Harbor Safety Committee 2006.

November through May. Southwesterly through westerly winds begin to prevail in the spring and last into early fall.

Tides. The mean range of tide is 3.7 feet for the POLB and 3.8 feet for the POLA. The diurnal range is about 5.4 feet for both harbors and a range of nine feet may occur at maximum tide. The time of tide is about the same for both harbors (Harbor Safety Committee 2006).

Currents. The tidal currents follow the axis of the channels and rarely exceed one knot. The POLB/POLA Harbor area is subject to seiche and surge, with the most persistent and conspicuous oscillation having about a one-hour period. Near Reservation Point, the prominent hourly surge causes velocity variations as great as one 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 2006).

USACE ship navigation studies indicate that within the POLB channels, current magnitudes are essentially a negligible 1/3 knot or less. Maximum current velocity in the Angel's Gate area is less than one knot. These current magnitudes, determined during a simulation study, indicate depth-averaged values over three layers. According to JPS, the Long Beach Queens Gate has deeper water than Angel's Gate and more open waterways just inside the breakwater. The pilots have never experienced a current greater than one knot in this area (Harbor Safety Committee 2006).

Water Depths. USACE maintains the Federal Channels in the POLB and POLA. All 77 deep-water berths in POLB lie within three miles of the open sea, reached via a 76-foot deep Main Channel. The Main Channel lets tankers up to 310,000-ton class (current maximum draft 64 feet) discharge their cargos. Dredging outside the Long Beach breakwater Entrance Channel has also provided a 76-foot depth.

POLB will continue to dredge throughout the Harbor District to maintain berth and channel depths. Periodic maintenance dredging maintains design depth and eliminates minor hazards caused by soil deposition or vessel prop wash anomalies occurring on the bottom.

Vessel Traffic

Current Traffic Levels. The POLB currently experiences about 3,085 annual ship calls, which result in about 6,170 inward and outward ship movements per year. An additional 2,230 internal movements where vessels shift berth or location within the Port were recorded in 2004. Between eight and 39 ship movements per day can occur within the Port, with an average of 20 ship movements per day. The majority of ship movements to and from the berths are completed in two hours or less, and very few movements are greater than three hours in duration. The present level of ship movements has been sustained over the previous five years. The pilot service and tug assistance can routinely handle up to 25 ship movements per day and can handle peaks of 30 to 40 ship movements per day.

Future Traffic Levels. The demand for POLB containerized cargo capacity is expected to increase to between 5,200 and 7,600 ship calls in 2020. This would result in between 10,400 and 15,200 inward and outward ship movements in 2020, which would translate to one ship movement every 50 minutes (low estimate) or 35 minutes (high estimate). The ability of the POLB to handle increasing numbers of ships associated with various trades depends on the capacity of primary and secondary factors that can limit vessel traffic. Primary factors are those features of the Port that cannot be changed, or can be changed or modified only with very high capital expenditure, including the breakwater entrance, channel depth, channel geometry, and/or environmental conditions. Secondary factors are those features of the Port that can be changed or modified at modest capital or operational expenditure, including pilotage and towage services. Of the primary factors, the breakwater entrance is wide enough to accept two-way traffic and is unlikely to be a constraint on capacity. The water depth in the outer harbor is about 70 feet, and about 40 to 60 feet in the inner basins.

3.6.1.3 Regulatory Setting

Many laws and regulations are in place to regulate marine terminals, vessels calling at marine terminals, and emergency response/contingency planning. Responsibilities for enforcing or executing these laws and regulations fall to various international, federal, state, and local agencies, and are summarized below.

Federal Laws

A number of federal laws regulate marine terminals and vessels. These laws address, among other matters, design and construction standards, operational standards, and spill prevention and cleanup. Regulations to implement these laws are contained primarily in Titles 33 (Navigation and Navigable Waters), 40 (Protection of Environment), and 46 (Shipping) of the CFR. More detailed information on safety and safe navigation laws are summarized in Section 3.10, Hazards and Hazardous Materials.

United States Coast Guard

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 Corporation (NRC) for spill response. They are also the lead agency for offshore spill response. More detailed information on safety and safe navigation responsibilities of USCG are summarized in Section 3.10, Hazards and Hazardous Materials, and Section 3.8, Public Services/Health and Safety.

Department of Defense

DoD, through USACE, is responsible for reviewing all aspects of a project and/or spill response activities that could affect navigation. USACE has specialized equipment and personnel for maintaining navigation channels, removing navigation obstructions, and accomplishing structural repairs.

Since 1789, the federal government has authorized navigation channel improvement projects; the General Survey Act of 1824 established USACE's role as the agency responsible for the navigation system. Since then, ports have worked in partnership with USACE to maintain waterside access to port facilities.

Other Organizations and Programs

Marine Exchange of Southern California. As discussed previously, the Marine Exchange is a non-profit organization affiliated with the L.A. Chamber of Commerce. This voluntary service is designated to enhance navigation safety in the Precautionary Area and harbor area of the ports. The Marine Exchange monitors vessel traffic within the Precautionary Area. The Marine Exchange also operates PORTS as a service to those making operational decisions based on oceanographic and meteorological conditions in the vicinity of the ports.

Harbor Safety Committee. POLB and POLA have a Harbor Safety Committee (Committee) which is responsible for planning the safe navigation and operation of tankers, barges, and other vessels within San Pedro Bay and the approaches thereto. This Committee has been created under the authority of Government Code Section 8670.23(a), which requires the Administrator of the Office of Oil Spill Prevention and Response to create a Harbor Safety Committee for the Long Beach/Los Angeles/Harbor 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/or need for new or enhanced vessel traffic information systems to monitor and advise vessel traffic.

Harbor Safety Plan. The POLB and POLA HSP contains operating procedures for vessels operating in the Port vicinity. 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 non-regulatory "Standards of Care." The HSP provides specific rules for navigation of vessels in reduced visibility conditions, and establishes vessel speed limits (12 knots within the Precautionary Area or six knots within the harbor). These speed restrictions do not preclude the master or pilot from adjusting speeds to avoid or mitigate unsafe conditions.

Vessel Transportation Service. As described previously, VTS is a shipping service that monitors traffic in both approach and departure lanes, as well as internal movement within harbor areas. This system provides information on vessel traffic and ship locations so that vessels can avoid collisions, allisions, and groundings in the approaches to the Long Beach/Los Angeles Harbor. These services use radar, radio, and visual inputs to gather real time vessel traffic information and broadcast traffic advisories and summaries to assist mariners.

3.6.2 Impacts and Mitigation Measures

3.6.2.1 Significance Criteria

Pursuant to the POLB Environmental Protocol (POLB 2006) and consistent with CEQA Guidelines *Appendix G* Environmental Checklist, a

significant impact on marine vessel transportation would occur if the proposed Project would:

VT-1: Result in a change in vessel traffic patterns, including an increase in traffic volumes or a change in location that results in substantial incremental change in risks to vessel safety.

3.6.2.2 Methodology

The analysis considers the specific type and number of vessels that currently visit the POLB and pass by the Project area, and evaluates the number and characteristics of vessels that would be calling at the redeveloped facilities after Project implementation. Specific design features of the Project and the historical accident record for similar terminals at other ports are evaluated. Information regarding potential hazards during vessel approaches and departure is evaluated based on historical data, interviews with Port personnel, and information available from the Harbor Safety Committee and Port Pilots. In addition, available statistical data on accidents that involve marine vessels (Table 3.6-2) have been used to estimate potential Project-related increases in ACGs. The data, including standard deviations, are included to provide a perspective to the natural variability of ACGs at the Port.

3.6.2.3 Alternative 1 – 345-Acre Alternative (the Project)

Construction Impacts

Impact VT-1.1: Project construction-related marine traffic would not interfere with normal navigational activities within and near the POLB.

Proposed Project dredging, filling, and other in-water construction involving tugs and construction barges would occur over an approximately nine-year construction period. These activities would be strictly scheduled by the POLB to minimize potential conflicts with container vessel traffic. Construction operators contracted by the Port are required to have completed training in protocols specific to Long Beach Harbor and POLB marine navigation. Any support boat or barge used during these activities would generally be located in areas away from normal navigational activities and would not represent new navigational hazards.

Pursuant to standard existing safety precautions governing POLB navigation defined in Section 3.6.1, pilotage would be applied to all Project construction support boats or barges traveling through harbor waters. Therefore, the presence of these vessels within the Middle Harbor redevelopment area during the nine-year construction period would not substantially reduce the existing level of safety for vessel navigation in the POLB. The Project would also be subject to the USACE restrictions and requirements, and would be required to coordinate with the Marine Exchange, USCG, and Port Pilots. Additionally, all in-water construction activities would be transmitted over Channel 16, which is monitored by all vessels in the Port.

CEQA Impact Determination

As all in-water construction vessel traffic would be subject to established regulatory conditions ensuring safety of users in Long Beach Harbor waters, and activities would be scheduled to avoid existing marine container terminal traffic, impacts on vessel traffic would be less than significant under CEQA.

Mitigation Measures

As impacts on vessel transportation would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on vessel transportation would be less than significant.

NEPA Impact Determination

As all in-water construction vessel traffic would be subject to established regulatory conditions ensuring safety of users in Long Beach Harbor waters, and activities would be scheduled to avoid existing marine container terminal traffic, impacts on vessel traffic would be less than significant under NEPA.

Mitigation Measures

As impacts on vessel transportation would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on vessel transportation would be less than significant.

Operational Impacts

Impact VT-1.2: Project operations would not result in a substantial increase in vessel traffic or a change in patterns of vessel movements that would impair the level of safety for vessels navigating in the Middle Harbor area and/or the precautionary areas.

The Project would increase the total number of vessels calling at the Middle Harbor container terminal by 179 vessels per year (364 vessel calls per year versus the 2005 baseline average of 185 vessel calls per year), an approximately 3.4 percent increase over the current number of annual POLB vessel calls.

The available statistical data on accidents that involve marine vessels (Table 3.6-2) can be used to estimate potential Project-related increases in ACGs. Table 3.6-4 provides an overview of the expected number of ACGs that could occur during open ocean transit and within the POLB as a result of the proposed Project. The average number of ACGs within the POLB/POLA over the period 1997-2005 is 7.5, with a standard deviation of 2.6 that represents the inter-annual variability. The projected Project-related increase of 0.17 ACGs per year would be substantially less than the historical standard deviation of 2.6 ACGs per year. The total annual Project-related ACGs would increase the overall annual average accident rate by approximately 2.3 percent.

CEQA Impact Determination

As the estimated number of Project-related vessel accidents would increase the overall annual average accident rate within the POLB and POLA by only 2.3 percent, Project impacts on vessel transportation safety would be less than significant under CEQA.

Mitigation Measures

As impacts on vessel transportation would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on vessel transportation would be less than significant.

NEPA Impact Determination

As the estimated number of Project-related vessel accidents would increase the overall annual average rate within the POLB and POLA by only 2.3 percent, Project impacts on vessel transportation safety would be less than significant under NEPA.

Mitigation Measures

As impacts on vessel transportation would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on vessel transportation would be less than significant.

3.6.2.4 Alternative 2 – 315-Acre Alternative

Alternative 2 would add 24.7 net acres of newly created land to the existing 294-acre Project site by filling Slip 1 between Piers E and F (Berths E12-E14 and F1-F4). Under this alternative, the proposed East Basin would not be filled. This alternative would increase the total number of vessels calling at the Middle Harbor container terminal by 123 vessels per year (308 vessel calls per year versus the 2005 baseline average of 185 vessel calls per year), representing a 2.3 percent increase over the current number of vessels that call at the POLB annually. The estimated increase

Table 3.6-4. Probabilities of Potential Allisions, Collisions, and Groundings for the 345-Acre Alternative (Proposed Project)

Scenario	Probability Per Transit[1] (%)	Annual Project Probability[2] (%)
Open Ocean Transit		
Middle Harbor-Related Baseline Conditions (2005)	0.031	0.11
Middle Harbor Redevelopment Project-Related Vessels	0.031	0.23
POLB Baseline (2005)	0.031	3.29
POLB with Project	0.031	3.41
Within the POLB		
Middle Harbor-Related Baseline Conditions (2005)	0.046	0.17
Middle Harbor Redevelopment Project-Related Vessels	0.046	0.34
POLB Baseline (2005)	0.046	4.94
POLB with Project	0.046	5.10

Notes:
1. This probability is the percent chance of a vessel experiencing the listed event during a single transit.
2. This probability is the percent chance of the expected 179 additional Project-related vessels experiencing the listed event during a single year of transits.

Source: USCG 2003; FEMA 1989; Harbor Safety Committee 2006.

in ACGs at the combined POLB/POLA complex under this alternative would be 0.12 per year, representing a 4.4 percent contribution (Table 3.6-5).

CEQA Impact Determination

Under this alternative, impacts on vessel transportation would be similar in nature to, but slightly less than those described under **Impacts VT-1.1 and VT-1.2** for the Project. The extent of in-water construction activity causing impacts, and the number of operational vessel calls and potential accidents would be reduced with elimination of the East Basin fill. As with the Project, implementation of this alternative would result in less than significant impacts on vessel transportation under CEQA.

NEPA Impact Determination

Under this alternative, impacts on vessel transportation would be similar in nature to, but slightly less than those described under **Impacts VT-1.1 and VT-1.2** for the Project. The extent of in-water construction activity causing impacts, and the number of operational vessel calls and potential accidents would be reduced with elimination of the East Basin fill. As with the Project, implementation of this alternative would result in less than significant impacts on vessel transportation under NEPA.

3.6.2.5 Alternative 3 – Landside Improvements Alternative

Alternative 3 would redevelop existing terminal areas on Piers E and F and convert underutilized land north of the Gerald Desmond Bridge and Ocean Boulevard within the Project site to a container yard. No in-water activities, including dredging, filling Slip 1 and the East Basin, new wharf construction, wharf upgrades, or channel and berth deepening would occur. This alternative would increase the total number of vessels calling at the Middle Harbor container terminal by 231 vessels per year (416 vessel calls per year versus the 2005 baseline average of 185 vessel calls per year), representing a 2.6 percent increase over the current number of vessels that call at the POLB annually. The estimated increase in ACGs at the combined POLB/POLA complex under this alternative would be 0.39 per year, representing a 4.3 percent contribution (Table 3.6-6).

CEQA Impact Determination

As no in-water construction activities (i.e., dredging, filling, new wharf construction, wharf upgrades, and channel/berth deepening) would occur under this alternative, no impacts on vessel transportation during construction would occur. As described under **Impact VT-1.2**, the number of operational vessel calls and potential accidents would result in less than significant impacts on vessel transportation under CEQA.

NEPA Impact Determination

Alternative 3 is equivalent to the NEPA Baseline because it only includes construction and operational activities that would not require issuance of federal permits. As no federal action or permit would be required, there would be no significance determination under NEPA for this alternative. No impacts on vessel transportation would occur.

Table 3.6-5. Probabilities of Potential Allisions, Collisions, and Groundings for the 315-Acre Alternative

Scenario	Probability PerTransit[1] (%)	Annual Project Probability[2] (%)
Open Ocean Transit		
Middle Harbor-Related Baseline Conditions (2005)	0.031	0.11
Reduced 315-Acre Alternative	0.031	0.19
POLB Baseline (2005)	0.031	3.29
POLB with 315-Acre Alternative	0.031	3.37
Within the POLB		
Middle Harbor-Related Baseline Conditions (2005)	0.046	0.17
315-Acre Alternative	0.046	0.29
POLB Baseline (2005)	0.046	4.94
POLB with 315-Acre Alternative	0.046	5.05

Notes:
1. This probability is the percent chance of a vessel experiencing the listed event during a single transit.
2. This probability is the percent chance of the expected 123 additional alternative-related vessels experiencing the listed event during a single year of transits.

Source: USCG 2003; FEMA 1989; Harbor Safety Committee 2006.

Table 3.6-6. Probabilities of Potential Allisions, Collisions, and Groundings for the Landside Improvements Alternative

Scenario	Probability Per Transit[1] (%)	Annual Project Probability[2] (%)
Open Ocean Transit		
Middle Harbor-Related Baseline Conditions (2005)	0.031	0.11
Landside Improvements Alternative	0.031	0.26
POLB Baseline (2005)	0.031	3.29
POLB with Landside Improvements Alternative	0.031	3.45
Within the POLB		
Middle Harbor-Related Baseline Conditions (2005)	0.046	0.17
Landside Improvements Alternative	0.046	0.39
POLB Baseline (2005)	0.046	4.94
POLB with Landside Improvements Alternative	0.046	5.17

Notes:
1. This probability is the percent chance of a vessel experiencing the listed event during a single transit.
2. This probability is the percent chance of the expected 231 additional alternative-related vessels experiencing the listed event during a single year of transits.

Source: USCG 2003; FEMA 1989; Harbor Safety Committee 2006.

3.6.2.6 Alternative 4 – No Project Alternative

The No Project Alternative would not include construction of upland site improvements, including rail improvements and construction of the Pier E Substation, or in-water activities (i.e., dredging, filling of Slip 1 and the East Basin, and/or new wharf construction). Under this alternative, cargo ships that currently berth and load/unload at the terminal would continue to do so to accommodate forecasted increases in cargo. The No Project Alternative would increase the total number of vessels calling at the Middle Harbor container terminal by 127 vessels per year (312 vessel calls per year versus the 2005 baseline average of 185 vessel calls per year), representing a 2.3 percent increase over the current number of vessels that call at the POLB annually. The estimated increase in ACGs at the combined POLB/POLA complex under this alternative would be 0.12 per year, representing a 4.4 percent contribution (Table 3.6-7).

CEQA Impact Determination

Under this alternative no construction and, consequently, no construction-related impacts on vessel transportation would occur under CEQA. This alternative would result in impacts that would be similar to, but slightly less than those described under **Impact VT-1.2** for the Project. As with the Project, implementation of this alternative would result in less than significant impacts on vessel transportation under CEQA.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area. Therefore, there would be no construction-related impacts on vessel transportation under NEPA. The number of operational vessel calls at the existing berths would increase over time but would be less than the NEPA Baseline. Therefore, impacts on vessel transportation associated with terminal operations would not occur under NEPA.

Table 3.6-7. Probabilities of Potential Allisions, Collisions, and Groundings for the No Project Alternative

Scenario	Probability Per Transit[1] (%)	Annual Project Probability[2] (%)
Open Ocean Transit		
Middle Harbor-Related Baseline Conditions (2005)	0.031	0.11
No Project Alternative	0.031	0.19
POLB Baseline (2005)	0.031	3.29
POLB with No Project Alternative	0.031	3.37
Within the POLB		
Middle Harbor-Related Baseline Conditions (2005)	0.046	0.17
No Project Alternative	0.046	0.29
POLB Baseline (2005)	0.046	4.94
POLB with No Project Alternative	0.046	5.05

Notes:
1. This probability is the percent chance of a vessel experiencing the listed event during a single transit.
2. This probability is the percent chance of the expected 127 additional alternative-related vessels experiencing the listed event during a single year of transits.

Source: USCG 2003; FEMA 1989; Harbor Safety Committee 2006.

3.6.3 Cumulative Impacts

Both the POLB and POLA have proposed or planned for numerous projects that would result in a substantial growth in port calls and TEUs. Table 3.6-8 provides the estimated increase in TEUs and port calls associated with projected growth at both ports, as well as the expected number of vessel calls. As shown in Table 3.6-9, projected growth at the ports has the potential to result in a substantial increase in ACGs. Assuming accident rates remain unchanged, the threefold increase in port shipping would result in an equivalent increase in the number of ACGs. This is considered a potentially significant cumulative impact on vessel transportation. However, the proposed Project's contribution to this cumulative impact would be approximately one percent of the increase in TEUs, port calls, and potential ACGs within the POLB/POLA complex. As this is a relatively small fraction of potential cumulative ACGs that would occur throughout the POLB and POLA and due to the low annual average accident rate, the Project's contribution to potential cumulative impacts to vessel transportation would be less than significant. Existing standard vessel safety measures applied to all POLB calls would further reduce the adverse nature of the Project's contribution.

3.6.4 Mitigation Monitoring Program

As no mitigation measures are required to address impacts on vessel transportation, no mitigation monitoring program is required.

Table 3.6-8. Projected POLB and POLA TEU and Port Call Growth by 2030

Scenario	POLB	POLA	Total
TEUs			
Baseline (2005)	6,709,818	7,484,624	14,194,442
Future with Project	20,314,000	21,925,000	42,239,000
Future with 315-Acre Alternative	19,864,000	21,925,000	41,789,000
Future with Landside Improvements Alternative	19,904,000	21,925,000	41,829,000
Future with No Project Alternative	19,594,000	21,925,000	41,519,000
Port Calls			
Baseline (2005)	5,313	5,927	11,240
Future with Project	16,085	17,361	33,446
Future with 315-Acre Alternative	15,729	17,361	33,090
Future with Landside Improvements Alternative	15,760	17,361	33,121
Future with No Project Alternative	15,515	17,361	32,876

Source: POLA 2007; POLB 2007.

Table 3.6-9. Probabilities of Potential Allisions, Collisions, and Groundings

Scenario	Probability Per Transit [1] (percent)	Annual Project Probability [2] (percent)
Open Ocean Transit		
Proposed Project Increase	0.031	0.23
POLA/POLB Baseline (2005)	0.031	6.97
Future with Project	0.031	20.74
Future with 315-Acre Alternative	0.031	20.52
Future with Landside Improvements Alternative	0.031	20.54
Future with No Project Alternative	0.031	20.38
Within the POLB/POLA		
Proposed Project Increase	0.046	0.34
POLB/POLA Baseline (2005)	0.046	10.44
Future with Project	0.046	31.08
Future with 315-Acre Alternative	0.046	30.74
Future with Landside Improvements Alternative	0.046	30.77
Future with No Project Alternative	0.046	30.55

Notes:
1. This probability is the percent chance of a vessel experiencing the listed event during a single transit.
2. This probability is the percent chance of the expected 127 additional alternative-related vessels experiencing the listed event during a single year of transits.

Source: USCG 2003; FEMA 1989; Harbor Safety Committee 2006.

3.7 LAND USE

3.7.1 Environmental Setting

3.7.1.1 Area of Influence

The area of influence for evaluating potential impacts on land use includes the proposed Project site and extends to adjacent properties that would be assessed in terms of their compatibility with the intensification of Port industrial uses onsite.

3.7.1.2 Setting

The POLB is located within the southernmost portion of the City of Long Beach. LBHD administers the Port, which is comprised of 3,200 acres of land and water. The Port includes diverse land uses, including containerized and bulk cargo terminals; light manufacturing and industry; recreational destinations; and commercial operations including sport fishing concessions, marinas, hotels, retail shops, and a public boat launch. Major Port activities include commercial shipping and transfer of containerized cargo, petroleum/petrochemical liquid-bulk cargo, non-petroleum liquid-bulk cargo (such as vegetable oils), dry-bulk cargo (such as petroleum coke), and neo-bulk cargo (such as autos, steel, and lumber); recreation; and tourism. There are approximately 80 commercial berths within the Port. Ancillary industrial uses including oil production, ship yards, and harbor maintenance facilities are also located throughout the POLB.

Onsite Land Uses

The Project area is located primarily within the Middle Harbor portion of the POLB (Figure 1.5-2).

The Pier D and Pier E portions of the Project site are currently operated by CUT as a break-bulk/container terminal with a combined area of approximately 170 acres and a total wharf length of 6,200 feet. Berths D28-31 and D34 occupy the southern portion of Pier D and support a general break-bulk facility while Berths E24-E26 support container terminal operations on Pier E. Baker Commodities (tallow and vegetable oil importer) is located on Pier D and encompasses approximately one acre with a total berth length of 700 feet (Berth D30). Blackledge Diving is located along Pier E Avenue and provides diving services (e.g., piling inspection and cathodic protection). Backlands are used for storage and handling of containerized cargo. The Pier F portion of the Project site is operated by LBCT. The Pier F terminal consists of a total area of approximately 100 acres with a total wharf length of 2,490 feet (Berths F6 through F10) and has an existing 10,000 track-feet on-dock rail facility. The POLB Maintenance Yard located at 1400 W. Broadway encompasses approximately 10.3 acres and includes 20 buildings and sheds used for offices, maintenance/repairs, and materials/equipment storage.

Surrounding Land Uses

Surrounding land uses within the Project vicinity are shown in Figure 3.7-1. The Project site vicinity includes additional containerized cargo and dry- and liquid-bulk goods terminals and various industrial/commercial uses. Two break-bulk facilities located at Berths D32-D33 and D46 are operated by Cemex USA and G-P Gypsum Corp, respectively, and are not within the Project area (Figure 1.5-2). Surrounding areas to the north on Pier D include the Catalyst Terminal (newsprint importer) at Piers D50-D54; G-P Gypsum Corp. (bulk gypsum); and L.G. Everist, Inc. that leases area to various small businesses. These marine construction and small businesses include Connolly-Pacific marine construction at Berths D38-D40 and aggregate operation at Berths D42-D44; Gambol Industries (yacht construction) at Berth 41 (north); MTC Maintenance and Repair Facility at Berth D41 (south); and Sause Bros. Ocean Towing, Inc. (ocean towing/tugboat operations). Lands to the north outside the Harbor District include commercial and light industrial uses.

Commercial and industrial uses to the east along Pico Avenue include Loren Scale Company (public truck scale), Memorial Maritime Clinic (occupational and maritime health services), Port Petroleum, Inc. (gasoline fueling station/truck scales), and Quick Stop Commercial Oil and Lube Service (heavy-duty truck services). In addition, surrounding areas to the east on Pier H provide several commercial and recreational opportunities (hotels, restaurants, and public viewing areas). Surrounding areas to the east outside the Harbor District include a variety of commercial, residential, municipal, and recreational land uses.

General liquid and bulk cargo uses adjacent to and south of the Project site on Pier F include: Chemoil Marine Terminal (petroleum products/bunker fuel supplier) at Berths 209 and F211; Cooper/T. Smith Stevedoring, Inc. (general breakbulk/steel importer); Jacobsen Pilot Service, Inc. (Port pilot services); Koch Carbon, LLC (petroleum coke, bulk sulfur, and bulk organic compost importer) at

Berth F211; Mitsubishi Cement Corporation (bulk cement importer) at Berth F208; Morton Salt (bulk salt importer); and SSA Marine-Crescent Terminals, Inc. (steel, machinery, and automobiles) at Berth F206. Surrounding land uses on Pier G south of the Project site include: B.P. Wilmington Calciner Calcined Coke Barn (calcined petroleum coke exporter) at Berths G214-215 and Green Coke Barn (green coke exporter) at Berths G212-G213; International Transportation Service, Inc. (container terminal) at Berths G226-236; Metropolitan Stevedore Co. (petroleum coke exporter) at Berths G212-G215; Oxbow Carbon & Mineral LLC facilities (green coke exporter), including the Oxbow East Coke Barn and Oxbow North (Pad #14) Coke Barn along Pier G Avenue, and the Oxbow West Coke Barn at Berths G212; and SULEX, Inc. (bulk sulfur exporter) and Valero Coke Barn (green coke exporter) along Pier G Avenue.

Surrounding land uses to the west include: BP Pipelines North America, Inc. (crude oil importer) at Berth T121; NRG Energy (Long Beach Generating Station); Pacific Coast Recycling, LLC (scrap metal exporter) at Berth T118; Total Terminal International, LLC (container terminal) at Berths T130-T140; and Weyerhaeuser Co. (lumber importer) at Berths T115-T116 and T122.

3.7.1.3 Regulatory Setting

Land use and development within the Project area are governed by several federal, state, and local plans and policies, as described below.

Coastal Zone Management Act

In 1972, Congress passed the CZMA to "preserve, protect, develop, and where possible, to restore or enhance, the resources of the nation's coastal zone for this and succeeding generations" and to "encourage and assist the states to exercise effectively their responsibilities in the coastal zone through the development and implementation of management programs to achieve wise use of the land and water resources of the coastal zone" [16 USC 1452, Section 303(1) and (2)].

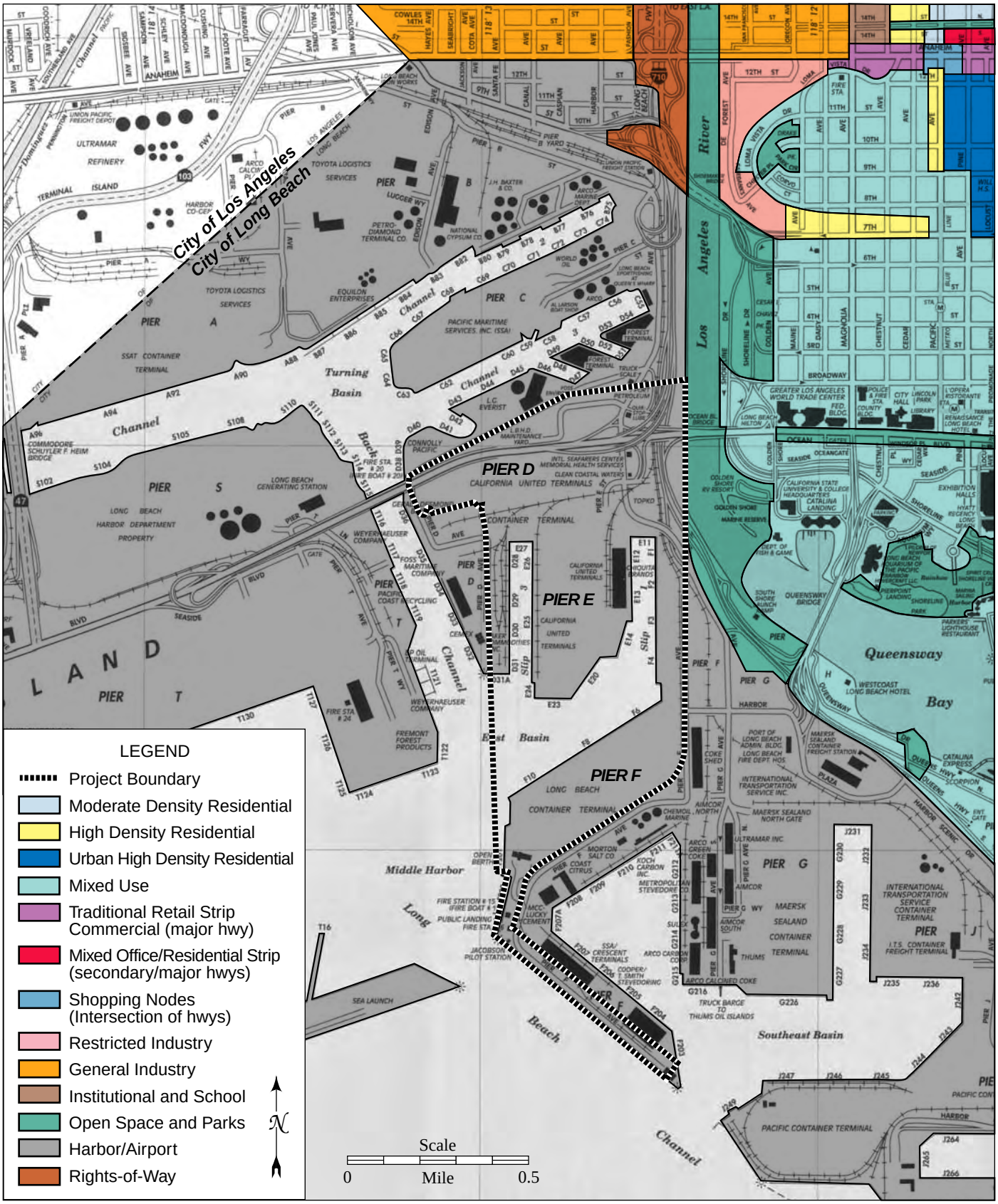
Section 307(c)(3)(A) of the CZMA states that "any applicant for a required federal license or permit to conduct an activity, in or outside the coastal zone, affecting any land or water use or natural resource of the coastal zone of that state shall provide a certification that the proposed activity complies with the enforceable policies of the state's approved program and that such activity would be conducted in a manner consistent with the program." In order to participate in the coastal zone management program, a state is required to prepare a program management plan for approval by the National Oceanic and Atmospheric Administration, Office of Coast and Ocean Resource Management (OCORM). Once the OCORM has approved a plan and its enforceable program policies, a state program gains "federal consistency" jurisdiction. This means that any deferral action (e.g., a project requiring federally issued licenses or permits) that occurs within a state's coastal zone must be found to be consistent with state coastal policies before the federal action can occur.

The proposed Project is subject to a federal Coastal Zone Consistency Review because it would involve activities within the Coastal Zone of California, which extends from three miles at sea to an inland boundary that extends from a few blocks in urban areas to several miles in less developed areas. The Project site is located within the South Coast Area, which includes coastal areas in Los Angeles County. California has a federally approved Coastal Management Program, which includes the CCA. The program was approved by the OCORM in 1977 and established the CCC as the coastal management and regulatory agency responsible for governing coastal resources. The CCC is responsible for conducting federal consistency reviews for projects in California's coastal zone.

California Coastal Act

In 1976, the CCA was enacted to establish policies and guidelines that provide direction for the conservation and development of the California coastline. The CCA established the CCC and created a state and local government partnership to ensure that public concerns regarding coastal development are addressed.

The CCA established the CCC as the coastal management and regulatory agency over the Coastal Zone (Public Resources Code 30103), within which the Port is included. The CCC is responsible for assisting in the preparation, review and certification of Local Coastal Programs/Local Coastal Plans (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, although the CCC retains jurisdiction over the immediate shoreline. The PMP acts as the LCP for the POLB.



Source: City of Long Beach 2007c

Figure 3.7-1. Land Use Designations

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The CCA recognizes the Port, 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, would be based on consideration of alternative locations and designs to minimize any adverse environmental impacts. CCA regulations require environmental protection while expressing a preference for port-dependent projects. The CCA requires that a coastal development permit be obtained from the CCC for any 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 CCC. If a port desires to conduct or permit developments that are not included in the approved PMP, the port must apply to the CCC for an amendment to the master plan.

Under the CCA, existing ports are encouraged to modernize and construct as necessary to minimize or eliminate the need for the creation of new ports. Water areas may be diked, filled, or dredged when consistent with a certified PMP, and only for the following purposes:

- Construction, deepening, widening, lengthening, or maintenance of ship channel approaches, ship channels, turning basins, berthing areas, and facilities required for the safety and accommodation of commerce and vessels to be served by the port facilities; and
- New or expanded facilities or waterfront, land for port-related facilities.

Chapter 8 of the CCA contains policies applicable to the portions of California ports within the coastal zone. Chapter 8, Article 3, of the CCA stipulates that ports shall prepare and adopt master plans containing provisions within that chapter (California PRC §30710-30721). Port master plans are then certified by the CCC, and development projects authorized or approved pursuant to an adopted and certified master plan are deemed to be in conformity with the coastal zone management program.

Chapter 3 of the CCA identified the six coastal resources planning and management policies that are used to evaluate a proposed project's consistency with the CCA. The following CCA policies and regulations address coastal zone conservation and development decisions:

- Providing for maximum public access to California's coast;
- Protecting water-oriented recreational activities;
- Maintaining, enhancing, and restoring California's marine environment;
- Protecting sensitive habitats and agricultural uses;
- Minimizing environmental and aesthetic impacts of new development; and
- Locating coastal-dependent industrial facilities within existing sites whenever possible.

Port of Long Beach Master Plan

The PMP (1999 plus subsequent amendments) provides for the short- and long-term development, expansion, and alteration of the Port. The PMP has been certified by the CCC and is, therefore, consistent with the CZMA and CCA. Due to the dynamic nature of world commerce, the PMP has been written to encompass broad Port goals and specific projects, while recognizing and planning for change in cargo transport and requirements, throughput demand, available technology and equipment, and available lands for primary Port terminal development. The PMP sets forth environmental goals and recommendations for protection, maintenance, enhancement, and restoration of the "overall quality of both the man-made and the natural coastal environment." The Port goals, objectives, policies, and statement of permitted uses guide future development within each of the Port's Harbor Planning Districts. A finding of consistency with the PMP is required prior to any development within the Harbor District. The Harbor Development Permit is the primary vehicle for evaluating Port projects and determining PMP compliance.

The majority of the Project site is located within Harbor Planning District 5 (Middle Harbor District), which is characterized by primary Port facilities, oil production, and ancillary Port infrastructure (Figure 3.7-2). Development plans for this Planning Area include Port-related industrial and commercial development, general cargo waterfront development, containerized cargo handling facility improvements, consolidated marine terminals and oil well facilities, and provisions for on-dock rail facilities. The PMP contains the following goals and objectives that

govern development projects within the Middle Harbor District (POLB 1999):

Goal 1: Expand Primary Port Facilities.

Goal 2: Consolidate and Abandon Oil Wells Whenever Possible.

Objectives:

- Maximize cargo throughput on Pier E;
- Construct "minor" landfills if the need for more land arises;
- Eliminate and/or consolidate oil well facilities; and
- Provide on-dock rail facilities consistent with the Port's Master Road and Railway Transportation Improvement Plan.

The portion of the Project site located on Pier D north of Ocean Boulevard is within Harbor Planning District 2 (Northeast Harbor District) (Figure 3.7-2). This area supports primary Port facilities, hazardous cargo facilities, ancillary Port facilities, oil production, and navigations. The PMP characterizes this area as the oldest part of the harbor and identifies goals for improving efficiency in cargo movement and providing better allocation of available primary Port facilities. Preferred long-range plans include container terminal redevelopment and rail infrastructure improvements, including construction of an on-dock railyard, and intermodal container transfer railyard. The following PMP goals and objectives are intended to guide future development within the Northeast Harbor District (POLB 1999):

Goal 1: Acquire Private Property and Increase Primary Port Use.

Objectives:

- Relocate existing coastal-dependent uses to other sites in the harbor;
- Intensify ancillary and port-related facilities;
- Relocate petroleum terminals to less congested areas allowing for the redevelopment of land for other primary port uses; and
- Reduce non-coastal dependent activities throughout this district.

The Pier F tail track is located within Harbor Planning District 8 (Southeast Harbor District), which is characterized by primary Port facilities, oil production, and ancillary Port infrastructure (Figure 3.7-2). Development plans for this Planning Area include landfilling for containerized cargo handling facilities, railroad extensions, and transportation improvements. The PMP contains the following goals and objectives that govern development projects within the Southeast Harbor District (POLB 1999):

Goal 1: Modernize and Maximize Use of Existing and Future Facilities.

Objectives:

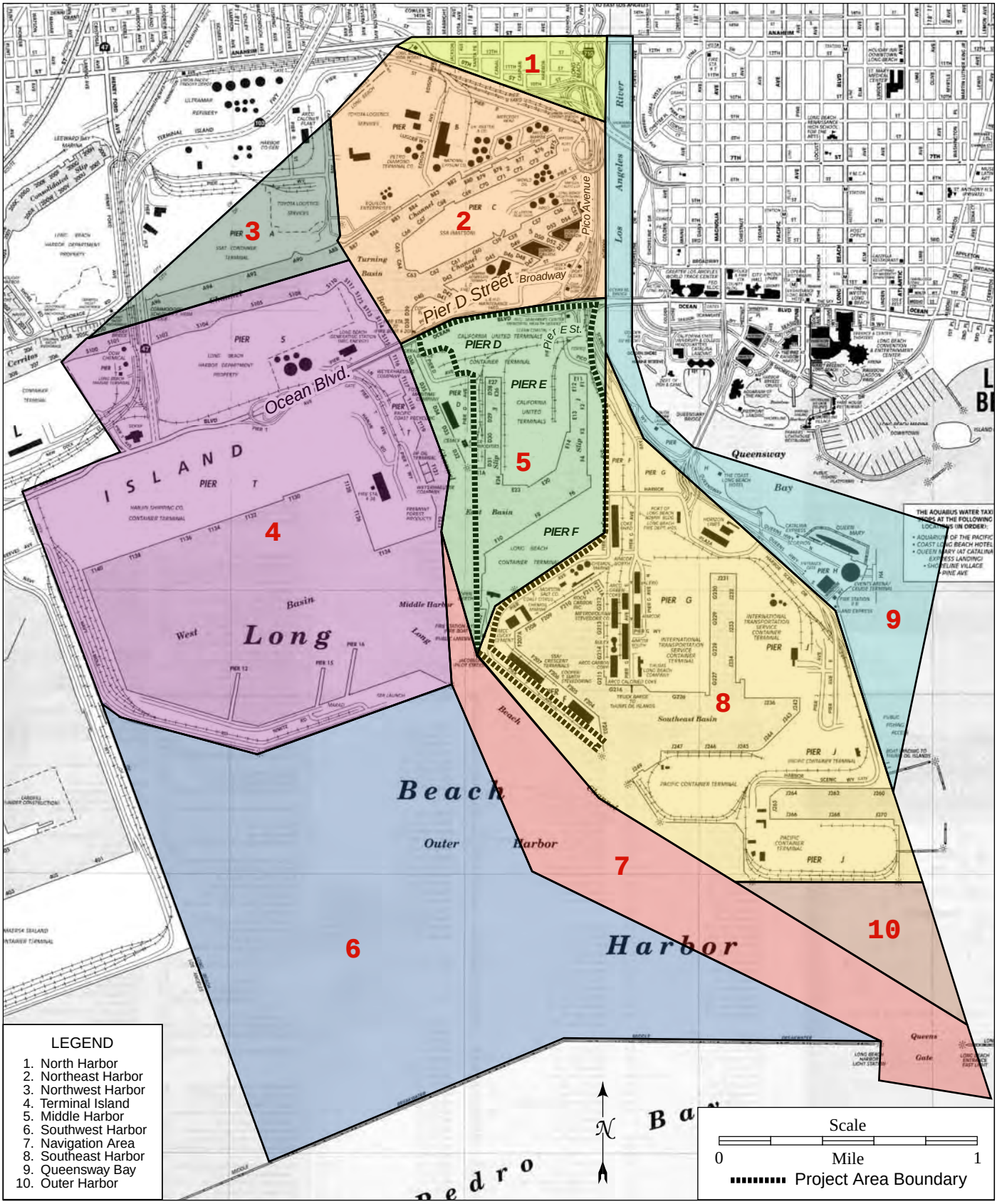
- Increase cargo handling efficiencies;
- Provide alternative parking for Port personnel working outside the Harbor district; and
- Modernize fire fighting facilities.

City of Long Beach General Plan

The City of Long Beach General Plan is a comprehensive, long-term plan for the protection of the City's resources and for physical development of the City. The City of Long Beach General Plan contains goals, objectives, policies, and programs that support the City's objectives to develop in a particular manner and to attain the vision announced in the plan. The General Plan was developed pursuant to Section 65300 *et seq*. of the California Government Code, requiring all planning jurisdictions to prepare and adopt a comprehensive, long-term, general plan for the physical development of the City, consisting of a statement of development policies and guidelines setting forth objectives, principles, standards and plan proposals (City of Long Beach 1980). The City's General Plan includes the following Citywide Elements: Land Use; Transportation; Housing; Conservation; Noise; Open Space; Public Safety; Local Coastal Program; Air Quality; Scenic Routes; and Seismic Safety.

As stipulated in the City of Long Beach General Plan, the PMP is intended to serve as the official guide to the continued development and operation of the Port and is consistent with the City's General Plan land use designations. The Long Beach Harbor District is designated as Land Use District 12 in the City of Long Beach General Plan.

Land Use District 12 is designated for Port-related industrial uses, including general containerized and bulk cargo (e.g., container, break-bulk, neo-bulk, and passenger facilities), industrial and



Source: Port of Long Beach 2006; AAA Map

Figure 3.7-2. Long Beach Harbor Planning Districts

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liquid-bulk land uses, light manufacturing/industrial activities, ocean-resource industries, and commercial uses (e.g., restaurants and tourist attractions, offices, retail facilities). The Long Beach Harbor District is designated as IP (Port-Related Industrial) under the LBMC section 21.33 *et seq*.

3.7.2 Impacts and Mitigation Measures

3.7.2.1 Significance Criteria

The following criteria are based on the POLB Environmental Protocol (POLB 2006) and the CEQA Guidelines *Appendix G* Environmental Checklist. The project would have a significant impact on land use if it would:

LU-1: Conflict with any goals, objectives, and/or policies of applicable land use plans; or

LU-2: Introduce land uses or activities incompatible with existing or adjacent land uses.

3.7.2.2 Methodology

This analysis evaluates consistency or compliance of the proposed Project with adopted plans and policies governing land use and development at the POLB, including the PMP, City of Long Beach General Plan and Planning and Zoning Code, and other applicable plans.

The land use analysis also evaluates the potential for the proposed Project to introduce incompatible land uses relative to existing surrounding land uses or activities. This analysis includes an evaluation of the extent to which offsite land uses would be potentially affected by Project-related physical interruption or disruption, or the extent to which other Project-related environmental impacts would also constitute land use impacts.

3.7.2.3 Alternative 1 – 345-Acre Alternative (the Project)

Construction Impacts

Impact LU-1.1: Project construction would be consistent with the adopted goals, objectives, and/or policies of applicable land use plans.

As proposed construction activities would occur within the California Coastal Zone (South Coast Area), the Project would be subject to a federal Coastal Zone Consistency Review for compliance with the CZMA. Additionally, the Project would be reviewed by the CCC for consistency with the CCA, ensuring compliance with the CZMA. Proposed in-water construction activities would be consistent with the CCA provisions that stipulate water areas may be diked, filled, or dredged when consistent with a certified PMP for the following purposes: 1) construction, deepening, widening, lengthening, or maintenance of ship channel approaches, ship channels, turning basins, berthing areas, and facilities required for the safety and accommodation of commerce and vessels to be served by the Port facilities; and 2) construction of new or expanded facilities or waterfront land for Port-related facilities.

The proposed Project is located within City of Long Beach General Plan LUD Number 12 that includes existing freeways, Long Beach Harbor, and Long Beach Airport. As stipulated in the General Plan, water and land uses within the harbor area are regulated by the Long Beach Harbor Specific Plan (i.e., PMP, as amended). Project construction activities would be consistent with the land use goals/objectives identified in the PMP. Proposed construction activities would be consistent with the overall goals stipulated in the PMP and the long-range planning goals for the Northeast Harbor District to construct an on-dock railyard at the CUT and build an intermodal container transfer railyard at the LBCT. The Project is also consistent with the PMP goals for the Southeast Harbor District to modernize and maximize the use of existing facilities and increase cargo handling efficiencies. Additionally, the Project is consistent with the Middle Harbor District goals associated with expanding primary Port facilities on Middle Harbor, constructing minor landfills to accommodate terminal operations, and providing on-dock rail facilities. The landfills (i.e., Slip 1 and East Basin) proposed for additional container terminal/storage areas were previously approved by the CCC (March 2001) in PMP Amendment #16. In addition, since the PMP serves as the LCP for the CCC, the proposed Project would also be consistent with the CCA and the CZMA.

CEQA Impact Determination

As discussed above, Project construction activities would be consistent with the land use goals/objectives identified in the PMP and the industrial short-term and long-range preferred uses delineated in the PMP for Harbor Planning Districts 2, 5, and 8.

The Project would be consistent with those objectives encouraging the development of waterfront-dependent activities and aggregation of major functional and compatible land and water uses identified in the CCA and CZMA. Since Project construction would be consistent with the adopted environmental goals and policies contained in the PMP/CCA and CZMA, the proposed Project would result in less than significant impacts on land use under CEQA.

Mitigation Measures

As impacts on land use would be less than significant, no mitigation is required.

Significance of Impact after Mitigation

Impacts on land use would be less than significant.

NEPA Impact Determination

The proposed Project would result in dredging, filling of Slip 1 and the East Basin, and new wharf construction, which would not be part of the NEPA Baseline. These improvements would occur within the PMP, Harbor Planning Districts 2, 5, and 8, and would be consistent with the adopted environmental goals and policies identified in the PMP/CCA and CZMA. Therefore, impacts on land use would be less than significant impact under NEPA.

Mitigation Measures

As impacts on land use would be less than significant, no mitigation is required.

Significance of Impact after Mitigation

Impacts on land use would be less than significant.

Impact LU-2.1: Proposed construction activities would be consistent with surrounding Port-related industrial land uses.

The Project is located within Harbor Planning Districts 2, 5, and 8, which are designated for Commercial/Industrial uses in the PMP; short-term and long-term land use designations for the POLB area, including the Project site, are identified and regulated by the PMP. Proposed construction activities would be consistent with the permitted Port-related industrial land use designations.

Project construction activities would develop and convert a portion of Slip 1 and the East Basin to backlands (i.e., container storage area). However, this area is designated for general cargo uses in the PMP. Furthermore, the landfills proposed (i.e., Slip 1 and the East Basin) for additional container terminal/storage areas were previously approved by the CCC (March 2001) in PMP Amendment #16.

CEQA Impact Determination

As discussed above, Project construction activities would be consistent with surrounding Port-industrial land uses. Therefore, the proposed Project would result in less than significant impacts on land use under CEQA.

Mitigation Measures

As impacts on land use would be less than significant, no mitigation is required.

Significance of Impact after Mitigation

Impacts on land use would be less than significant.

NEPA Impact Determination

Construction of the proposed Project would result in dredging, filling of Slip 1 and the East Basin, new wharf construction, and seismic wharf upgrades, which would not be part of the NEPA Baseline. These in-water activities would be consistent with surrounding Port-industrial land uses. Therefore, impacts on land use would be less than significant under NEPA.

Mitigation Measures

As impacts on land use would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on land use would be less than significant.

Operational Impacts

Impact LU-1.2: Project operations would be consistent with the adopted goals, objectives, and/or policies of the PMP.

Proposed Middle Harbor container terminal operations would be consistent with the overall goals stipulated in the PMP and the long-range planning goals for the Middle Harbor, Northeast Harbor, and Southeast Harbor Planning Districts (**Impact LU-1.1**). Project operations would also be consistent with the policies stipulated in the CCA that encourage existing ports to modernize and construct as necessary to minimize and/or eliminate the need for the creation of new ports.

CEQA Impact Determination

As discussed above, proposed Middle Harbor terminal activities would be consistent with the environmental goals and policies identified in the PMP and the CCA. Therefore, impacts on land use would be less than significant under CEQA.

Mitigation Measures

As impacts on land use would be less than significant, no mitigation is required.

Significance of Impact after Mitigation

Impacts on land use would be less than significant.

NEPA Impact Determination

Proposed operations within the in-water Project area associated with increased throughput activities would be consistent with environmental goals and policies identified in the PMP and the CCA/CZMA. Accordingly, impacts on land use under NEPA would be less than significant.

Mitigation Measures

As impacts on land use would be less than significant, no mitigation is required.

Significance of Impact after Mitigation

Impacts on land use would be less than significant.

Impact LU-2.2: Proposed Middle Harbor container terminal activities would be consistent with surrounding Port-related industrial land uses.

Proposed Middle Harbor container terminal activities would be consistent with the surrounding PMP land use designations for Harbor Planning Districts 2, 5, and 8, which are characterized by primary Port facilities, oil production, and ancillary Port infrastructure. As the proposed Project is consistent with the permitted Port-related industrial land uses identified in the PMP, which serves as the LCP for the CCC, the proposed Project would also be consistent with land use provisions identified in the CCA/CZMA.

CEQA Impact Determination

As discussed above, proposed Middle Harbor terminal activities would be consistent with the permitted Port-related industrial land uses identified in the PMP and the CCA/CZMA. Therefore, impacts on land use would be less than significant under CEQA.

Mitigation Measures

As impacts on land use would be less than significant, no mitigation is required.

Significance of Impact after Mitigation

Impacts on land use would be less than significant.

NEPA Impact Determination

Proposed operations associated with increased throughput activities would be consistent with the permitted Port-related industrial land use designations stipulated in the PMP and the CCA/ CZMA. Accordingly, impacts on land use under NEPA would be less than significant.

Mitigation Measures

As impacts on land use would be less than significant, no mitigation is required.

Significance of Impact after Mitigation

Impacts on land use would be less than significant.

3.7.2.4 Alternative 2 – 315-Acre Alternative

Alternative 2 would add 24.7 net acres of newly created land to the existing 294-acre Project site by filling Slip 1 between Piers E and F (Berths E12-E14 and F1-F4). Under this alternative, the proposed East Basin would not be filled.

CEQA Impact Determination

Under this alternative, impacts on land use would be similar to those described under **Impact LU-1.1 through Impact LU-2.2** for the Project. As with the Project, implementation of this alternative would result in less than significant impacts on land use under CEQA.

NEPA Impact Determination

Under this alternative, impacts on land use would be similar in nature to those described under **Impact LU-1.1 through Impact LU-2.2** for the Project because elimination of the East Basin fill would have no discernable impact on land use. As with the Project, implementation of this alternative would result in less than significant impacts on land use under NEPA.

3.7.2.5 Alternative 3 – Landside Improvements Alternative

Alternative 3 would redevelop existing terminal areas on Piers E and F and convert underutilized land north of the Gerald Desmond Bridge and Ocean Boulevard within the Project site to a container yard. No in-water activities, including dredging, filling Slip 1 and the East Basin, new wharf construction, wharf upgrades, or channel and berth deepening would occur.

CEQA Impact Determination

As no in-water construction activities would occur under this alternative, impacts on land use would be similar to, but less than those described under **Impacts LU-1.1 and LU-2.1** for the Project. Operations would be reduced under this alternative, reducing impacts on land use (**Impacts LU-1.2 and LU-2.2**) compared to the Project. As with the Project, implementation of this alternative would result in less than significant impacts on land use under CEQA.

NEPA Impact Determination

Alternative 3 is equivalent to the NEPA Baseline because it only includes construction and operational activities that would not require issuance of federal permits. As no federal action or permit would be required, there would be no significance determination under NEPA for this alternative. No impacts on land use would occur.

3.7.2.6 Alternative 4 – No Project Alternative

The No Project Alternative would not include construction of upland site improvements, including rail improvements and construction of the Pier E Substation, or in-water activities (i.e., dredging, filling of Slip 1 and the East Basin, and/or new wharf construction). However, forecasted increases in cargo would still occur under this alternative. Operational impacts associated with the following activities would occur: cargo ships that currently berth and load/unload at the terminal would continue to do so; terminal equipment would continue to handle cargo containers; and trucks would continue to transport containers to outlying distribution facilities.

CEQA Impact Determination

Under this alternative, no construction and, consequently, no construction-related impacts would occur. Operations associated with increased throughput under this alternative would, however, result in reduced impacts on land use (**Impacts LU-1.2 and LU-2.2**) compared to CEQA Baseline. The No Project Alternative would result in less than significant impacts on land use under CEQA.

NEPA Impact Determination

Under this alternative, no in-water construction, and consequently, no construction-related impacts would occur. Operations associated with increased throughput would result in less than significant impacts on land use under NEPA.

3.7.3 Cumulative Impacts

Cumulative impacts on land use may result from buildout resulting from past, present and probable future development within the Project vicinity. As illustrated in Table 2.1-1, the probable future projects contributing to cumulative impacts on land use are located within the POLB and POLA. However, due to the permitted Port-related industrial land uses and land use plans and policies governing development of these areas, the cumulative impact of related projects throughout the POLB and POLA on land use would be less than significant under NEPA and CEQA.

The proposed Project would result in less than significant impacts on land use under NEPA and CEQA. Therefore, the proposed Project's contribution to cumulative impacts on land use would also be less than significant under NEPA and CEQA.

3.7.4 Mitigation Monitoring Program

As no mitigation measures are required to address impacts on land use, no mitigation monitoring program is required.

3.8 PUBLIC SERVICES/HEALTH AND SAFETY

3.8.1 Environmental Setting

3.8.1.1 Area of Influence

The area of influence regarding compliance with existing emergency response and security measures would include the entire POLB/POLA complex.

3.8.1.2 Setting

Harbor Patrol

The POLB Security Division is responsible for organizing all security coverage for the Port to ensure a safe and secure environment for all staff, tenants, customers, and the public. The Security Division coordinates with federal, state, and local agencies to develop and implement plans to counter all threats, including terrorism and natural disasters. The Security Division directs the activities of the Harbor Patrol, a cadre of trained, armed, public officers who are responsible for security and public safety on the property owned by the Port and any public roadways within these boundaries. The Harbor Patrol provides 24-hour service to Port property through radio-directed patrol cars. Emergency response time is approximately three to five minutes.

POLB Police Department

The Long Beach Police Department (LBPD) provides police services to the Port through a Memorandum of Understanding (MOU). Prior to August 2002, these services were provided solely from the West and South Patrol Divisions located at 1835 Santa Fe Avenue and 400 West Broadway, respectively. Subsequent to that time, additional police services were contracted for, including the establishment of a dedicated Port Security Unit that is located within the Harbor District. The LBPD Port Security Unit provides both on-the-water and landside police services to the Port, Port tenants, and visitors. Officers respond to calls for service, conduct investigations, file reports, issue citations, and make arrests as necessary. LBPD also focuses on emergency response relating to tactical incidents and Port evacuations. In addition to the usual police duties, the Port Security Unit provides these enhanced capabilities to the Port:

- Patrolling all land and water areas within the Harbor District;
- Monitoring all vessel and vehicle traffic;
- Approaching suspicious individuals, vehicles, and vessels to ascertain and verify identity when appropriate;
- Facilitate the efficient movement of legitimate vessel and vehicular traffic;
- Share information with POLB Security Division staff (unless law enforcement sensitive), and coordinate Police and POLB resources to handle situations; and
- Set, as a standard of service, an average response time to Priority 1 calls for service to five minutes or less by land and 15 minutes by water.

In the event additional police resources are required, units from both West and South Divisions are available upon request from either POLB Security Division or the Port Security Unit. Other specialized Police units that regularly respond to Port calls for service include the Air Support (helicopter) Unit, Commercial Enforcement units, and Mental Evaluation Team (MET).

POLB Fire Department

The Public Safety Element identifies the Project site and the surrounding area as a “critical” fire hazard area. The “critical” classification is based upon categories established by the LBFD that include, among others, hazardous industry and storage warehouses/areas (i.e., tanks farms and lumber yards).

The LBFD provides fire protection services throughout Long Beach and supports the following fire protection/emergency response services: 23 fire stations; 20 engine companies; three squads (Squirts); four truck companies; eight paramedic units; 10 paramedic assessment companies; one dedicated Urban Search & Rescue Unit (USAR); one dedicated foam apparatus; three airport crash units at the Long Beach Airport; two harbor (89 feet) fireboats; two Marina Lifeguard/Fire Rescue boats; four marina safety response vehicles; swift water rescue team, dive team, and USAR team; and 502 uniformed personnel, including six Fireboat Operators, 237 Firefighters, and 27 Marine Safety Officers (City of Long Beach 2006).

The LBFD maintains 24 fire stations in addition to its headquarters and beach operations. Fire

prevention, fire protection, and emergency medical services within the Port are the responsibility of the LBFD. The Port has an MOU with LBFD to provide a full range of fire and emergency services within the Harbor District.

Four stations, including two land-based stations and two fireboat stations, are located within the Port. These stations are part of the LBFD's District 1, serving the southwest part of the City; 52 personnel are employed in District 1. The land-based facilities include Station No. 6 located at 330 Windsor Way on Pier H and Station No. 24 located at 611 Pier T Avenue (Station No. 24 is scheduled to move into permanent facilities at 111 Pier S Avenue). Stations Nos. 6 and 24 include engine companies, paramedics, and urban search-and-rescue units. The fireboat stations include Fireboat Station No. 15 located at Pier F, Berth F202 (on the southwest corner of the Project site) and Fire Boat Station No. 20, located at 1980 Pier D Street (on the northwest corner of the Project site). Fireboat Stations Nos. 15 and 20 operate engine companies, fireboats, and apparatus storage facilities. However, the existing facilities at Stations 15 and 20 are antiquated and inadequate to support current operations.

The remaining three stations serving the Project site are located outside the Port, within the City of Long Beach. Two of the stations located outside the Port (Nos. 1 and 3) are part of District 1. The remaining station (No. 13) is located in District 3, serving the northwest part of the City; District 3 is staffed with 42 personnel.

United States Coast Guard

The USCG is a military, multi-mission, maritime service within the Department of Homeland Security and one of the nation's five armed services. Its core roles are to protect the public, the environment, and U.S. economic and security interests in any maritime region in which those interests may be at risk, including international waters and America's coasts, ports, and inland waterways. The USCG determines emergency response time based on the distance that the USCG must travel to reach a given facility. An increase in vessel calls does not necessarily correlate to an increase in response times (personal communication, Peter Gooding 2007).

The USCG has a three-tiered system of Maritime Security (MARSEC) levels consistent with the Department of Homeland Security's Homeland Security Advisory System (HSAS). MARSEC Levels are designed to provide a means to easily communicate pre-planned scalable responses to increased threat levels. The Commandant of the USCG sets MARSEC levels commensurate with the HSAS. Because of the unique nature of the maritime industry, the HSAS threat conditions and MARSEC levels will align closely, though they will not directly correlate.

MARSEC levels are set to reflect the prevailing threat environment to the marine elements of the national transportation system, including ports, vessels, facilities, and critical assets and infrastructure located on or adjacent to waters subject to the jurisdiction of the U.S.

MARSEC Level 1 means the level for which minimum appropriate security measures shall be maintained at all times. MARSEC 1 generally applies when a HSAS Threat Condition of Green, Blue, or Yellow is set.

MARSEC Level 2 means the level for which appropriate additional protective security measures shall be maintained for a period of time as a result of heightened risk of a transportation security incident. MARSEC 2 generally corresponds to HSAS Threat Conditions Orange.

MARSEC Level 3 means the level for which further specific protective security measures shall be maintained for a limited period of time when a transportation security incident is probable, imminent, or has occurred, although it may not be possible to identify the specific target. MARSEC 3 generally corresponds to HSAS Threat Condition Red.

Within the Port area, the primary responsibility of the USCG is to ensure the safety of vessel traffic in the channels of the Port and in coastal waters. The Los Angeles-Long Beach Sector located on Terminal Island would provide USCG support to the Port area and the proposed Project. The USCG, in cooperation with the Marine Exchange, also operates the VTS. This voluntary service is intended to enhance vessel safety in the main approaches to the Port (Section 3.6, Vessel Transportation).

In 2002, the USCG COTPs of Los Angeles and Long Beach implemented the Pacific Area "Security Guideline for Waterfront Facilities" (Coast Guard Pacific Area Instruction 1611). This guideline is used by the USCG COTPs along the pacific coast to ensure that waterfront facilities are taking actions to implement adequate security

measures. The guidelines address the following requirements for waterfront facilities: identification procedures; access controls; internal security; lighting; security alarms/video surveillance/ communication systems; and development of a security plan. A separate section of the guidelines applies to vessel security measures.

Security Command and Control Center

The SCCC is located on approximately 1.8 acres within the POLB on the southwest corner of Pier F. This facility provides a centralized location that facilitates security monitoring operations for the various agencies responsible for security at the POLB and POLA. The SCCC is the primary location for POLB and the secondary location for POLA closed circuit television surveillance camera monitoring systems. The SCCC facility provides waterfront access for LBPD Security Water Patrol boats at Dock 32; land based emergency response services do not originate from the SCCC facility.

The SCCC facility provides office and conference rooms, space for information technology, equipment storage, and other support needs. Additionally, the building includes a rooftop helistop that results in approximately five helicopter trips per month. The SCCC operates 24 hours a day, seven days a week and is enclosed by security fencing. The building is not open to the general public without scheduled access.

Terminal Operators

The Port is a landlord Port that develops and builds marine terminals that are leased to private companies. These terminal operators provide their own facilities management, and security must comply with the Maritime Transportation Security Act (MTSA) of 2002. The Port takes a leadership role in the development of strategies to mitigate security risks in the port complex and works with Port partners to plan and coordinate implementation of security measures to enhance overall Port security.

The focus of security efforts has been to provide basic safety measures such as fences, lights, camera systems, and security-process improvements. Most of the security-related improvements have been the responsibility of individual terminal operators, which culminated in the federally imposed deadline of July 1, 2004 for compliance with the requirements of the MTSA and the International Ship and Port Facility Security (ISPS) Code. Both of these initiatives required changes in the manner in which the maritime industry conducts business.

Emergency Operations Plan

The POLB Emergency Operations Plan (EOP) addresses the planned response to emergency situations such as natural disasters, national security incidents, power outages, and other large-scale disasters that require emergency response. The Port would use a Standardized Emergency Management System/National Incident Management System (SEMS/NIMS) emergency response approach to address potential threats or events (California Office of Emergency Services 2007; FEMA 2007).

According to SEMS, special districts such as the Port are primarily responsible for restoration of services provided under normal conditions. In addition, the EOP contains provisions for the safety of people at Port facilities and on Port property, warnings for POLB facilities and operations, and assisting emergency response agencies throughout the Port. In emergencies, the goal of POLB response activities would be to stabilize the emergency so as to protect the public and employees, the environment, and property of the Port.

The Port's primary responsibility is to provide overall security for the Port complex. The Port will commit available resources to save lives, minimize injury to the public and employees, protect the environment, and minimize damage to property. POLB emergency response will be guided by the following:

- The POLB will use SEMS/NIMS in emergency response operations;
- The Director of Security will coordinate the Port's disaster response;
- POLB is a department of the City of Long Beach, and this plan will be fully integrated with the City of Long Beach's Emergency Operations Plan;
- The Port and City response agencies will commit their resources to a reasonable degree before requesting mutual aid assistance and will make its resources available to other agencies and citizens to respond to disasters affecting this area; and
- The POLB is in the Los Angeles County Operational Area and will function as such.

POLB Harbor Patrol is often the first on scene, and calls in resources to respond in an emergency. The LBPD and LBFD provide emergency services to the Port. The focus of this plan is to stabilize emergency situations so that POLB resources can be focused on business continuity and resumption.

This plan does not address normal, day-to-day emergencies or standard operating procedures. It assumes that each element of the emergency response organization is responsible for assuring the preparation and maintenance of standard operating procedures.

The POLB emergency deployment scheme is a three level approach. It is designed to meet SEMS, NIMS, and MARSEC types of deployments. These levels identify the commitment of the POLB to respond with the proper tools and personnel to assist the City's first responders in a manner that meets both federal and state regulations.

Level 1 Incident

A Level 1 incident is a typical, day-to-day situation that requires quick action by first responders, but which is unlikely to escalate or impact Port businesses or require activation of the EOP. The response will be documented by the SCCC, but no other action is required under this plan. An example of this level would be a traffic collision that requires Harbor Patrol assistance. The on-scene POLB responders would be the only POLB responders; the Harbor Patrol Management department operations center (DOC) would not be activated. Standard documentation of activities is required.

Level 2 Emergency Situation

A Level 2 emergency situation is one that, while not currently defined as a large-scale incident requiring full activation of the POLB emergency response team and DOC, could escalate to a major emergency or disaster. Level 2 emergency situations are assessed by the Harbor Patrol Supervisor and first responder agencies that become aware of the situation. In this type of emergency:

- The Director of Security at the Port will be notified and advised of the situation and circumstances:
  - He/she will establish a schedule of periodic updates from on-scene personnel; and
  - He/she will make other notifications as necessary using the established notification system.
- Ongoing assessment and resolution of the incident will be documented and communicated to the response team on a regular and scheduled time frame.
- To prepare for a potentially escalating incident, the Incident Commander and Harbor Patrol management can consider whether to take proactive steps:
  - Implement POLB Harbor Patrol MARSEC Level Increase Response Guidelines;
  - Activate the DOC; and
  - Initiate mobilization of key emergency team members.

An example of this type of incident would be an oil spill that appears to be currently contained, but if it is not, may cause areas of the Port to close and result in significant economic impact.

Level 3 Major Emergency

A Level 3 major emergency is any emergency that poses a threat to public health, the employees of the Port, the environment, or that could significantly damage Port property or economically impact the Port and the Port's tenants. The declaration of an emergency must be issued by the official designated by LBMC 2.69, stating that the existence or threatened existence of a local emergency exists, or by order of the Long Beach Board of Commissioners.

For a Level 3 major emergency response, all available resources will be deployed. Harbor Patrol Management will activate the DOC and the business continuity center. The DOC will be used to receive updates on the situation, gather information for federal and state reports, ensure compliance with SEMS/NIMS guidelines, and provide additional emergency management capabilities. The business continuity center will be activated immediately to facilitate the continuation of Port business during an emergency.

Maritime Transportation Security Act

The MTSA and its international equivalent, the ISPS Code (adopted by IMO), require port authorities, facility operators, and vessel owners to meet minimum security standards. Submission and implementation of Facility Security Plans

(FSPs) and Vessel Security Plans (VSPs) is required to comply with these initiatives. The USCG is responsible for ensuring that U.S. port and facility operators comply with the MTSA and ISPS. Due to the parallel nature of the MTSA and ISPS requirements, compliance with the MTSA is tantamount to compliance with the ISPS (SAIC 2004).

The MTSA sets minimum security standards for vessels and facilities. It requires owners and operators of facilities to designate and train company, vessel, and facility security officers; develop security plans for facilities and vessels based on security assessments and surveys; implement security measures specific to the operations of each facility; and comply with Maritime Security Levels. The requirements for submission of the security plans became effective on December 31, 2003. Operational compliance was required by July 1, 2004.

On the international level, several other new Port security initiatives have been implemented to provide increased cooperation, greater use of technology, and additional Port security facility enhancements. Two primary programs in these areas are the Container Security Initiative and Operation Safe Commerce. The Container Security Initiative, an existing Department of Homeland Security program, incorporates side-by-side teamwork with foreign port authorities to identify, target, and search high-risk cargo. This program is being expanded to strategic locations beyond the initial 20 major ports to include areas of the Middle East such as Dubai, as well as Turkey and Malaysia. Within the Port, the preliminary design and assessment of a Joint Agency Container Inspection Facility is underway; this facility would be used by U.S. Customs and Border Protection and would increase the level of screening for containers entering the Port.

Operation Safe Commerce, a pilot program in coordination with the Department of Transportation (DOT), brings together private business, ports, and federal, state, and local representatives to analyze current security procedures for cargo entering the country. The objective of the program is to promote research and development for emerging technology to monitor the movement and ensure the security and integrity of containers through the supply chain. The major container port complexes of Seattle/Tacoma, Los Angeles/Long Beach, and New York/New Jersey are participating in the pilot program.

As part of the process to improve security at the Port, the Port and the POLA are jointly preparing a Five-Year Security Infrastructure Plan to guide the development of the security infrastructure within the POLB/POLA Complex over the next five years (SAIC 2004). This plan describes the recent efforts of port security and outlines initiatives to enhance security in the future.

The Middle Harbor facility would be subject to the requirements of the MTSA; implementation of this initiative is also well underway in the overall Port Complex. All facilities have completed and submitted the required plans for review. Most facilities have received final approval from the USCG. Basic security equipment, processes, and procedures have been implemented. A network of Facility Security Officers has been established and facility improvements continue, particularly in the area of surveillance and access control systems. Facilities in the Port Complex have also achieved basic compliance with the ISPS requirements with little disruption to commerce (SAIC 2004).

As part of developing the Five-Year Security Infrastructure Plan for the Port Complex, a survey was conducted of each terminal operator at the two ports. The survey results reflected that the Port Complex has made major improvements in security. Significant efforts have occurred to enhance perimeter security and water and shore side surveillance. The government and the ports have embraced process improvements, and coordination between agencies, as well as between agencies and industry, has flourished. The principal focus at the port level was initially on the tactical application of security measures to enhance the security of the Port Complex. Moving forward, the focus would need to include not only the continued tactical application of measures to enhance security, but also the long-term strategy to ensure that security continually improves.

Terminal Security

Physical Security

The landside perimeter of the terminal has an eight-foot-tall chain link fence topped with barbed wire.

The facility has six vehicle gates, one of which is used to admit pedestrians. There is a main entrance for trucks, visitors, and pedestrians. There is a container truck entrance gate on Pico Avenue, and a container truck exit gate on Pier D Street. Three other vehicle gates are locked and essentially part of the perimeter fence.

There is lighting on 100-foot high poles throughout the terminal. Lighting is good throughout the terminal; one can see the entire facility at night.

Intrusion Detection System

The terminal has guard patrols throughout the facility and around the perimeter, 24 hours a day, seven days a week. Cell phones and two-way radios are used to communicate information.

Access Control

The terminal operator uses driver's licenses and other identification cards for visitors, vendors, crew members, truckers, and transient workers. There is a centrally controlled electronic lock system for perimeter doors and corridors.

Surveillance Systems

There is a system of fixed, low-light cameras in the surveillance system, several of which are security cameras for exiting container trucks; these cameras capture color images of the truck's identification, photo of driver, container number, and chassis number.

The cameras record digital video images that are stored; an operator monitors this system. This closed captioned TV system is on an uninterrupted power supply with is a battery backup and generator.

Communication Systems

The terminal operator's communications system consists of two-way radios, cell-phones, landline phones, and internet access.

3.8.1.3 Regulatory Setting

Each public services agency charged with protecting the public (i.e., LBFD, LBPD, 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.

3.8.2 Impacts and Mitigation Measures

3.8.2.1 Significance Criteria

Criteria for determining the significance of impacts related to public services/health and safety are based on the POLB Environmental Protocol (POLB 2006). A significant public services/health and safety impact would occur if the Project would:

PHS-1: Burden existing LBPD staff levels or facilities such that the LBPD would not be able to maintain an adequate level of service without additional facilities, the construction of which could cause significant environmental effects;

PHS-2: Require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain acceptable emergency response times;

PHS-3: Burden existing USCG staff levels and facilities such that the USCG would not be able to maintain an adequate level of service without the construction of additional facilities, the construction of which could cause significant environmental effects;

PHS-4: Substantially diminish the level of public protection services provided by the SCCC; or

PHS-5: Result in inconsistency with an existing emergency response plan or evacuation plan.

3.8.2.2 Methodology

The Project was evaluated to determine if existing fire protection, emergency response, police protection services, and USCG services were adequately available to serve the Project. In addition, the Project security systems were analyzed to ensure compliance with MTSA security standards.

The assessment of impacts is based on implementation of an environmental control that would be included as part of contract specifications for the Middle Harbor Project. Specifically, the Port would require that all construction contractors implement and adhere to the following requirement throughout the duration of construction activities (Section 1.7.3):

Traffic Management Plan. The Port would prepare a Traffic Management Plan that requires construction contractors to coordinate with emergency service providers during construction of all roadway modifications to establish alternative response routes. The Plan would be developed with input from all emergency response providers and would be submitted to the City of Long Beach for review and approval.

3.8.2.3 Alternative 1 – 345-Acre Alternative (the Project)

Construction Impacts

Impact PHS-1.1: Project construction activities would not sufficiently burden existing staff levels and facilities whereby the LBPD would not be able to maintain an adequate level of service.

Proposed construction activities that require roadway modifications, including the Mainline Track Realignment at Ocean Boulevard/Harbor Scenic Drive, installation of above-ground subtransmission power line to support the Pier E Substation, and construction of the Pier F storage track and tail track/loop road, would result in the temporary interruption and/or delays for law enforcement response. Furthermore, additional demands on police personnel for traffic control services would be required during proposed roadway improvements.

Standard security measures would remain in place throughout the duration of Project construction, as required by MTSA. Security measures implemented during construction would include the use of fencing, lighting, intrusion detection systems, site access control, surveillance systems, and communication systems. The security measures described in Section 3.8.1.2 would minimize the burden on LBPD staff levels and facilities.

CEQA Impact Determination

Standard MTSA security measures would remain in place throughout the duration of Project construction, including the use of fencing, lighting, intrusion detection systems, site access control, surveillance systems, and communication systems. Implementation of these security measures would minimize the burden on LBPD staff levels and facilities during proposed container terminal construction activities.

During proposed Project construction, activities requiring roadway modifications, including the Mainline Track Realignment at Ocean Boulevard/Harbor Scenic Drive, installation of above-ground subtransmission power line to support the Pier E Substation, and construction of the Pier F storage track and tail track/loop road, would result in the temporary interruption and/or delays for law enforcement. Since the construction activities requiring roadway modifications would be conducted in accordance with the proposed Traffic Management Plan, as described in Section 1.7.3, and subject to review and approval by the LBPD, the proposed Project would not impede law enforcement services in the Project area. Therefore, these activities would not result in the potential to reduce LBPD response times, and temporary impacts on LBPD service levels during Project construction would be less than significant under CEQA.

Mitigation Measures

As impacts on public services would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on public services would be less than significant.

NEPA Impact Determination

Proposed in-water construction activities would contribute to increased movement of TEUs compared to the NEPA Baseline conditions. However, as the proposed Project includes provisions for MTSA security features (i.e., terminal security personnel, gated entrances, perimeter fencing, terminal and backlands lighting, and camera systems), the minimal increase in calls to the LBPD would not substantially impact existing levels of service during proposed Project construction. Therefore, impacts would be less than significant under NEPA.

Mitigation Measures

As impacts on public services would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on public services would be less than significant.

Impact PHS-2.1: Project construction activities would require upgrades to existing antiquated fire protection facilities to maintain acceptable emergency response times.

Development of the proposed Project would not substantially increase the occurrence or risk of fire or other emergencies. It would, however, require the removal and relocation of fire hydrants and water supply trunk lines and distribution mains in the Project area. This would have the potential to temporarily interrupt fire water supplies in the Project area. However, utility relocations frequently occur during POLB terminal developments; these

activities are typically conducted with minimal, if any, disruptions in service. Prior to Project construction, removal and relocation of fire hydrants and water supply trunk lines and distribution mains would be subject to review and approval by the LBFD and/or jurisdictional agencies to ensure that adequate fire flow water supplies within the Project vicinity would be provided. The LBFD would be notified in advance and afforded the opportunity to review and comment on Project features affecting fire suppression infrastructure. In addition, the Project would be designed and constructed according to all applicable state and local codes and ordinances to ensure adequate fire protection. The LBFD would conduct a fire-life-safety review during the design review process to assess the required fire flow for the Project. However, as the existing antiquated facilities at Stations 15 and 20 affect LBFD's ability to provide acceptable emergency response times, Project construction activities would further exacerbate inadequate fire service response times.

Proposed roadway modifications would restrict and/or temporarily remove access to roadways in the Project vicinity. These roadway modifications would include realignment of Harbor Scenic Drive, construction of mainline track under Ocean Boulevard, modification to Pier F Avenue, and construction of a loop road around the track on Pier F. The proposed Pier F loop road would provide an alternate vehicular emergency access route. However, proposed construction activities requiring roadway modifications would potentially result in the temporary interruption and/or delays for fire emergency response services.

CEQA Impact Determination

The removal and relocation of fire hydrants, water supply trunk lines, and distribution mains would be subject to review and approval by the LBFD to ensure that adequate fire flow water supplies are available during construction activities.

During proposed Project construction, activities requiring roadway modifications, including the mainline track realignment at Ocean Boulevard/Harbor Scenic Drive, installation of above-ground subtransmission power line to support the Pier E Substation, and construction of the Pier F storage track and tail track/loop road, would result in the temporary interruption and/or delays for emergency fire response services. As previously discussed, the Port would prepare a Traffic Management Plan (Section 1.7.3) as part of the proposed Project. This plan would ensure advanced coordination with LBFD to establish alternative fire and emergency response access routes, ensuring continuous access to surrounding areas. Although construction activities requiring roadway modifications would not substantially burden LBFD, proposed construction activities would further exacerbate existing inadequate emergency response times. Therefore, impacts on fire services would be potentially significant under CEQA.

Mitigation Measures

Implementation of the following mitigation measure would minimize impacts on LBFD emergency response times during proposed construction activities.

PHS-2.1: The Port shall enter into a mitigation agreement to upgrade existing facilities at Stations 15 and 20. The Port shall submit proof to the City of Long Beach that an agreement has been executed prior to commencement of construction activities.

Significance of Impacts after Mitigation

Implementation of **Mitigation Measure PHS-2.1** would ensure upgrades to existing LBFD facilities that would be required to ensure acceptable LBFD emergency response times. Accordingly, construction activities would not substantially burden the LBFD, and adequate emergency response services would occur during construction. Therefore, impacts would be less than significant under CEQA.

NEPA Impact Determination

The proposed Project would include in-water construction activities (i.e., dredging, filling of Slip 1 and the East Basin, new wharf/dike construction, and upgrades to existing wharves) that would not be part of the NEPA Baseline. However, these activities would not require removal and/or relocation of fire hydrants and utilities in the Project area, or generate additional demands on existing LBFD emergency response times. Therefore, impacts would be less than significant under NEPA.

Mitigation Measures

As impacts on public services would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on public services would be less than significant.

Impact PHS-3.1: Project construction would not substantially increase demands on USCG staff levels and facilities.

Proposed Project dredging, filling, and other in-water redevelopment improvements that involve tugs and construction barges would occur over an approximately nine-year construction period (Section 3.6.2.3). These activities would be strictly scheduled by the POLB to minimize potential conflicts with container vessel traffic. Any support boat or barge used during these activities would generally be located at existing berth areas, and would not represent a new navigational hazard.

Standard existing safety precautions governing POLB navigation would be applied to all Project construction support boats or barges traveling through harbor waters. Developing Slip 1 and filling the East Basin between existing Piers E and F for additional container yard and wharf area, and extending the new wharf south into the existing Pier F terminal would require in-water support construction equipment. Marine construction equipment would be closely coordinated by POLB officials to ensure that schedules and routes of existing container terminal traffic would be avoided.

The USCG determines response times based on the distance that is required to travel to various Port facilities. Proposed development would not affect USCG response times as Project construction activities would occur within the same operating distance of other facilities within the jurisdiction of Sector Los Angeles and Long Beach. Therefore, response times would not increase due to the proposed Project (personal communication, Peter Gooding 2007).

CEQA Impact Determination

The implementation of standard existing safety precautions governing POLB navigation on all support vessels in the Project area would not reduce the existing level of safety for vessel navigation. Proposed Project construction activities would be located within the same operating distance of other facilities served by the USCG and, therefore, would not increase emergency response times. Accordingly, a substantial increased demand on the USCG's service levels would not occur. In-water construction impacts on public services would be less than significant under CEQA.

Mitigation Measures

As impacts on public services would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on public services would be less than significant.

NEPA Impact Determination

The implementation of standard existing safety precautions governing POLB navigation on all support vessels in the Project area would not reduce the existing level of safety for vessel navigation. Proposed Project construction activities would be located within the same operating distance of other facilities served by the USCG and, therefore, would not increase emergency response times. Therefore, no substantial increased demand on the USCG's service levels would occur. In-water construction impacts on public services would be less than significant under NEPA.

Mitigation Measures

As impacts on public services would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on public services would be less than significant.

Impact PHS-4.1: Project construction would not result in a substantially diminished level of public protection services provided by the SCCC.

Standard MTSA security measures would be implemented during container terminal construction, including use of fencing, lighting, intrusion detection systems, site access control, surveillance systems, and communication systems. Implementation of standard MTSA security measures would minimize the potential for events that would require SCCC's emergency response coordination services. Terminal construction activities would not substantially increase the demand on the SCCC facility or prevent the facility from performing daily operations.

Proposed Project construction activities requiring roadway modifications including the Mainline Track

Realignment at Ocean Boulevard/Harbor Scenic Drive, installation of above-ground subtransmission power line to support the Pier E Substation, and construction of the Pier F storage track and tail track/loop road would result in the temporary interruption and/or delays for emergency law enforcement and fire emergency response services. These activities would potentially impact SCCC emergency coordination operations during Project construction.

CEQA Impact Determination

Standard security measures would be implemented during container terminal construction that would reduce the likelihood of an event occurring that would require SCCC services. However, implementation of the proposed Traffic Management Plan (Section 1.7.3) would ensure advanced coordination with LBPD and LBFD to establish alternative response routes, ensuring continuous access to surrounding areas. Accordingly, construction activities requiring roadway modifications would not substantially burden SCCC emergency coordination services. Therefore, impacts would be less than significant under CEQA.

Mitigation Measures

As impacts on public services would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on public services would be less than significant.

NEPA Impact Determination

Standard MTSA security measures would be implemented during in-water construction activities that would reduce the likelihood of an event occurring that would require SCCC services. Therefore, impacts on the SCCC during Project construction would be less than significant under NEPA.

Mitigation Measures

As impacts on the SCCC would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on the SCCC would be less than significant.

Impact PHS-5.1: Construction activities would not substantially interfere with an existing emergency response or evacuation plan, capable of increasing risk of injury or death.

Emergency response and evacuation planning is the responsibility of the LBPD, LBFD, LACFD, Port Harbor Patrol, and USCG. Phase 1 and 2 construction activities would be subject to emergency response and evacuation systems implemented by the LBFD. During construction activities, the LBFD would require that adequate vehicular access to the Project area be provided and maintained. Prior to commencement of construction activities, all plans would be reviewed by the LBFD to ensure adequate access is maintained throughout Phase 1 and 2 construction.

CEQA Impact Determination

Project contractors would be required to adhere to all LBFD emergency response and evacuation regulations, ensuring compliance with existing emergency response plans. Therefore, impacts on emergency response or emergency evacuation plans during Phase 1 and 2 construction activities would be less than significant under CEQA.

Mitigation Measures

As impacts on emergency response or emergency evacuation plans would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on emergency response or emergency evacuation plans would be less than significant.

NEPA Impact Determination

Project contractors would be required to adhere to all LBFD emergency response and evacuation regulations during in-water construction activities, ensuring compliance with existing emergency response plans. Therefore, impacts on emergency response or emergency evacuation plans during Phase 1 and 2 construction activities would be less than significant under NEPA.

Mitigation Measures

As impacts on emergency response or emergency evacuation plans would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on emergency response or emergency evacuation plans would be less than significant.

Operational Impacts

Impact PHS-1.2: Project operations would not sufficiently burden existing staff levels and facilities such that the LBPD would not be able to maintain an adequate level of service.

Proposed operations would result in increased vessel traffic in the Project area; however, the corresponding increase in demands for law enforcement would be infrequent because the Project includes existing basic security equipment, including surveillance and access control systems that enhance perimeter security and water and shore side surveillance.

Although Project operations would result in a minimal increase in demands on the LBPD, provisions for security features including terminal security personnel, gated entrances, perimeter fencing, terminal and backlands lighting, camera systems, and additional security features mandated by the MTSA would reduce the demand for law enforcement.

CEQA Impact Determination

Although container terminal operations would result in a minimal increase in calls to the LBPD, provisions for security features including terminal security personnel, gated entrances, perimeter fencing, terminal and backlands lighting, camera systems, and additional security feature mandated by the MTSA would reduce the demand for law enforcement. Accordingly, the proposed Project would not increase the demand for additional law enforcement officers and/or facilities such that the LBPD would not be able to maintain an adequate level of service without additional facilities. Therefore, impacts would be less than significant under CEQA.

Mitigation Measures

As impacts on public services would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on public services would be less than significant.

NEPA Impact Determination

The proposed Project would not result in substantial operational demands on law enforcement compared to existing or projected levels of service. The Project would not increase the demand for additional law enforcement officers and/or facilities such that the LBPD would not be able to maintain an adequate level of service without additional facilities. Therefore, impacts would be less than significant under NEPA.

Mitigation Measures

As impacts on public services would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on public services would be less than significant.

Impact PHS-2.2: Project operations would require upgrades to existing antiquated fire protection facilities to maintain acceptable emergency response times.

Proposed Project fire infrastructure would be designed in accordance with applicable City of Long Beach Fire Codes and state codes. As fire protection features (e.g., fire hydrants and water supply trunk lines) would be incorporated into the design process of the proposed terminal, Project operations would not substantially increase the demand for fire protection services. Furthermore, construction of the Pier F tail track would result in a loop road that extends around the track on Pier F. This roadway would provide an alternate vehicular emergency access route, therefore improving fire and emergency access during Project operations. However, as the existing antiquated facilities at Stations 15 and 20 affect LBFD's ability to provide acceptable emergency response times, Project operations would further exacerbate inadequate fire service response times.

LBFD would be notified in advance and afforded the opportunity to review and comment on proposed Project design plans to ensure adequate provisions for emergency circulation throughout Middle Harbor, including roadway width, turning radii, and staging areas for emergency equipment.

CEQA Impact Determination

New infrastructure would be developed consistent with City of Long Beach Fire Codes and state codes. Although the proposed Project would not result in substantial operational demands on fire protection services, Middle Harbor container terminal operations would further exacerbate inadequate emergency response times in the Project area. Therefore, impacts would be potentially significant under CEQA.

Mitigation Measures

Mitigation Measure PHS-2.1 would apply to this impact.

Significance of Impacts after Mitigation

Implementation of **Mitigation Measure PHS-2.1** would ensure upgrades to existing LBFD facilities that would be required to ensure acceptable LBFD emergency response times. Accordingly, Middle Harbor container terminal activities would not substantially burden the LBFD, and adequate emergency response services would occur during Project operations. Therefore, impacts would be less than significant under CEQA.

NEPA Impact Determination

Proposed operations would not affect emergency response times as site access to wharves/berths would be reviewed by the LBFD. As the proposed Project would not increase the demand for fire services to levels that would require a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service, impacts would be less than significant under NEPA.

Mitigation Measures

As impacts on public services would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on public services would be less than significant.

Impact PHS-3.2: Project operations would not substantially increase demands on USCG staff levels and facilities such that the adequate service levels would not be maintained.

The proposed Project would increase marine vessel calls at the POLB Middle Harbor by 179 ship visits per year (364 vessel calls versus the CEQA Baseline of 185 in 2005). This represents approximately a 3.4 percent increase over the current number of vessels that call at the POLB annually. This increase in ship visits would potentially increase the demand for USCG services; however, scheduling and safe navigation of this nominal increase in vessels through the POLB would ensure that the additional demand on USCG would be substantially reduced. While the introduction of larger ship sizes would potentially affect vessel maneuverability, the risk of accidents is largely based on the number of vessels in the POLB. The number of new vessel calls at the Project site would be minimized by the use of ships with greater capacity, such that USCG service levels responding to marine accidents (Section 3.6, Vessel Transportation) would not be substantially increased.

The USCG determines response times based on the distance that is required to travel to the various Port facilities. As proposed development would be located within the same operating distance of other facilities within the jurisdiction of USCG Sector Los Angeles and Long Beach, response times would not increase due to the proposed Project. Although the proposed Project would result in an increase in annual vessel calls (Table 1.6-1), this would not diminish the resources or response times provided by the USCG (personal communication, Peter Gooding 2007).

CEQA Impact Determination

The proposed Project would be located within the same operating distance of other facilities served by the USCG and, therefore, would not increase emergency response times. Additionally, the increase of 179 vessel calls per year at maximum capacity over CEQA Baseline levels would not reduce available USCG resources or increase response times. Therefore, impacts on USCG service levels would be less than significant under CEQA.

Mitigation Measures

As impacts on public services would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on public services would be less than significant.

NEPA Impact Determination

The proposed Project would be located within the same operating distance of other facilities served by the USCG and, therefore, would not increase emergency response times. Additionally, the proposed Project would decrease the number of vessel calls by 52 per year at maximum capacity compared to the NEPA Baseline. As operational activities would occur within existing USCG service areas and the annual vessel calls would decrease compared to NEPA Baseline levels, impacts on USCG service levels would be less than significant under NEPA.

Mitigation Measures

As impacts on public services would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on public services would be less than significant.

Impact PHS-4.2: Project operations would not result in a substantially diminished level of public protection services provided by the SCCC.

The proposed terminal would include standard MTSA security measures, including use of fencing, lighting, intrusion detection systems, site access control, surveillance systems, and communication systems. Implementation of standard MTSA security measures would minimize the potential for events that would require SCCC's emergency response coordination services.

The proposed Pier F tail track would result in the permanent relocation of the existing access to the SCCC facility. Project operations would result in a three-minute increase in travel time required to access the SCCC facility (personal communication, James Vernon 2007). However, land based emergency response services do not originate from the SCCC facility; waterfront access to LBPD Security Water Patrol boats at Dock 32 would remain accessible during Project operations.

CEQA Impact Determination

Standard security measures would be implemented during Project operation that would reduce the likelihood of an event occurring that would require SCCC services. As land based emergency response does not originate from the SCCC facility, the permanent relocation of site access would not affect SCCC emergency coordination services; all waterside access would be maintained during Project operations. Therefore, impacts on the SCCC during Project operations would be less than significant under CEQA.

Mitigation Measures

As impacts on the SCCC would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on the SCCC would be less than significant.

NEPA Impact Determination

Standard security measures would be implemented during Project operations that prevent events requiring SCCC services. Therefore, impacts on the SCCC during Project operations would be less than significant under NEPA.

Mitigation Measures

As impacts on the SCCC would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on the SCCC would be less than significant.

Impact PHS-5.2: Project operations would not substantially interfere with any existing emergency response plans or emergency evacuation plans.

The Project would consolidate the Middle Harbor area into a single terminal and optimize terminal operations by increasing backland capacity, constructing new wharves and upgrading existing wharves to accommodate modern container terminal ships, constructing an on-dock intermodal railyard, and implementing transportation infrastructure improvements. The Middle Harbor container terminal would continue to operate as a container terminal; therefore, proposed terminal operations would not interfere with any existing contingency plans. Proposed transportation system improvements (i.e., a proposed loop road and alternative vehicular emergency access route associated with the mainline track realignment) would reduce vehicular traffic delays, improving emergency response in the Project area. In addition, existing oil spill contingency and emergency response plans for the Project site would be revised to incorporate proposed facility and operation changes. Because existing management plans are commonly revised to incorporate terminal operation changes, conflicts with existing contingency and emergency response plans are not anticipated.

All Middle Harbor container terminal facilities personnel, including dock laborers and equipment operators, would be trained in emergency response and evacuation procedures. The Project site would be secured, with access allowed only to authorized personnel. The LBPD and LBFD would be able to provide adequate emergency response services to the Project site. Additionally, Project operations would also be subject to emergency response and evacuation systems implemented by

the LBFD, which would review all plans to ensure that adequate access in the Project vicinity is maintained. All Project contractors would be required to adhere to plan requirements.

CEQA Impact Determination

Because the terminal would continue to be operated as a container terminal, proposed road improvements would provide additional emergency access, and Project operations would be subject to emergency response and evacuation systems implemented by the LBFD, Project operations would not interfere with any emergency response or emergency evacuation plans. Therefore, impacts on emergency response or emergency evacuation plans would be less than significant under CEQA.

Mitigation Measures

As impacts on emergency response or emergency evacuation plans would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on emergency response or emergency evacuation plans would be less than significant.

NEPA Impact Determination

Because the terminal would continue to be operated as a container terminal and Project operations would be subject to emergency response and evacuation systems implemented by the LBFD, proposed Project operations would not interfere with any existing emergency response or emergency evacuation plans. Therefore, impacts on emergency response or emergency evacuation plans would be less than significant under NEPA.

Mitigation Measures

As impacts on emergency response or emergency evacuation plans would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on emergency response or emergency evacuation plans would be less than significant.

3.8.2.4 Alternative 2 – 315-Acre Alternative

Alternative 2 would add 24.7 net acres of newly created land to the existing 294-acre Project site by filling Slip 1 between Piers E and F (Berths E12-E14 and F1-F4). Under this alternative, the proposed East Basin would not be filled. Middle Harbor container terminal operations under this alternative could handle approximately 2,870,000 TEUs per year when operating at maximum throughput capacity.

CEQA Impact Determination

Impacts on public services/health and safety would be similar in nature to, but slightly less than those described under **Impacts PHS-1.1 through PHS-5.2** for the Project because the East Basin would not be filled. Similar to the Project, implementation of **Mitigation Measure PHS-2.1** would ensure upgrades to existing LBFD facilities that would be required to ensure acceptable LBFD emergency response times. The extent of construction activity and extent of new structures and infrastructure would be reduced with the elimination of the fill of the East Basin. Similar to the proposed Project, construction and operation of Alternative 2 would include standard security measures that are consistent with the standards set by the MTSA. The USCG, LBPD, and LBFD would be able to adequately respond to any security issues that could arise during Project construction or operations. Therefore, impacts of Alternative 2 to public services/health and safety would be less than significant under CEQA.

NEPA Impact Determination

Impacts on public services and public health and safety would be similar in nature to, but slightly less than those described under **Impacts PHS-1.1 through PHS-5.2** for the Project because the East Basin would not be filled. Similar to the proposed Project, construction and operation of Alternative 2 would include standard security measures that are consistent with the standards set by the MTSA. The USCG, LBPD, and LBFD would be able to adequately respond to any security issues that could arise during Alternative 2 construction or operations. Therefore, impacts of Alternative 2 on public services/ health and safety would be less than significant under NEPA.

3.8.2.5 Alternative 3 – Landside Improvements Alternative

Alternative 3 would redevelop existing terminal areas on Piers E and F and convert underutilized land north of the Gerald Desmond Bridge and Ocean Boulevard within the Project site to a

container yard. No in-water activities, including dredging, filling Slip 1 and the East Basin, new wharf construction, wharf upgrades, or channel and berth deepening would occur.

CEQA Impact Determination

Impacts on public services/health and safety would be similar in nature to, but slightly less than those described under **Impacts PHS-1.1 through PHS-5.2** for the Project because no in-water activities, wharf upgrades, or channel deepening would occur. Similar to the Project, implementation of **Mitigation Measure PHS-2.1** would ensure upgrades to existing LBFD facilities that would be required to ensure acceptable LBFD emergency response times. The extent of construction activities and new structures and infrastructure would be reduced with the elimination of these elements. Similar to the proposed Project, construction and operation of Alternative 3 would include standard security measures that are consistent with the standards set by the MTSA. The USCG, LBPD, and LBFD would be able to adequately respond to any security issues that could arise during Alternative 3 construction or operations. Therefore, impacts of Alternative 3 on public services/health and safety would be less than significant under CEQA.

NEPA Impact Determination

Alternative 3 is equivalent to the NEPA Baseline because it only includes construction and operational activities that would not require issuance of federal permits. As no federal action or permit would be required, there would be no significance determination under NEPA for this alternative. No impacts on public services/health and safety would occur.

3.8.2.6 Alternative 4 – No Project Alternative

The No Project Alternative would not include construction of upland site improvements, including rail improvements and construction of the Pier E Substation, or in-water activities (i.e., dredging, filling of Slip 1 and the East Basin, and/or new wharf construction). However, forecasted increases in cargo would still occur under this alternative. Operational impacts associated with following activities would occur: cargo ships that currently berth and load/unload at the terminal would continue to do so; terminal equipment would continue to handle cargo containers; and trucks would continue to transport containers to outlying distribution facilities.

CEQA Impact Determination

Under this alternative, no construction (i.e., dredging, filling, new wharf construction, and infrastructure improvements) or operation activities would occur. Annual vessel calls would increase by 127 calls per year at maximum capacity under the No Project Alternative as compared to the CEQA Baseline; however this would not significantly affect response times for the USCG, LBPD, and LBFD. Therefore, the No Project Alternative would result in less than significant impacts on public services/ health and safety under CEQA.

NEPA Impact Determination

Under this alternative, no in-water construction activities and, consequently, no construction-related impacts would occur. At maximum capacity, the No Project Alternative would result in 312 annual vessel calls, or 104 fewer than the NEPA Baseline. Therefore, the No Project Alternative would result in no construction or operational impacts on public services/health and safety under NEPA.

3.8.3 Cumulative Impacts

The proposed Project along with other related projects proposed in the POLB and POLA would result in an increase in the maximum throughput of containers. These terminals would allow operators to handle projected increases in containerized cargo. Related projects within the Project area are predominantly berth and terminal expansion or traffic circulation improvements undertaken by the POLB and POLA. Several of the related projects would induce growth and use additional police, fire, and USCG services that could result in cumulatively significant impacts to public services/health and safety. However, related cumulative projects would comply with MTSA standards and implement standard security measures that would minimize impacts on public services/health and safety.

The proposed Project would not burden the USCG, LBPD, LBFD, or SCCC such that they would not be able to maintain an adequate level of service. Furthermore, the Project would implement standard security measures and comply with MTSA standards. Therefore, the Project's cumulative contribution would not be cumulatively significant under NEPA and CEQA.

3.8.4 Mitigation Monitoring Program

Implementation of **Mitigation Measure PHS-2.1** would be required to reduce impacts on existing inadequate LBFD emergency response times in the Project area. Upgrades to existing facilities at Stations 15 and 20 would ensure adequate emergency response services would occur during Project construction and operations. This mitigation measure and monitoring requirements are summarized in Table 3.8-1.

Table 3.8-1. Mitigation Monitoring Program

Mitigation Measure	Responsible Party	Timing/Frequency
PHS-2.1: The Port shall enter into a mitigation agreement to upgrade existing facilities at Stations 15 and 20. The Port shall submit proof to the City of Long Beach that an agreement has been executed prior to commencement of construction activities.	POLB / USACE	Prior to commencement of construction activities.

3.9 NOISE

3.9.1 Environmental Setting

3.9.1.1 Area of Influence

The Project site is located within the Harbor District's heavy industrial use area, surrounded by other Port industrial uses and is not located directly adjacent to noise-sensitive receptors, such as residential areas or schools. For the purposes of noise and vibration impact analysis, the area of influence includes sensitive receptors closest to the Project site as well as those that might potentially be affected by indirect effects from the Project, such as noise associated with truck transport of Project-related freight.

3.9.1.2 Setting

Noise Characteristics

Noise can be defined as unwanted sound that is usually objectionable because it is disturbing or annoying. The objectionable nature of sound can be caused by its pitch or 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 to the height of an ocean wave. Technical acoustical terms commonly used in this section are defined in Table 3.9-1.

Sound Level and Frequency

Several noise measurement scales are used to describe noise. The decibel (dB) 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, such that an increase of 10 decibels represents a 10-fold increase in acoustic energy, while 20 decibels is 100 times more intense, and 30 decibels is 1,000 times more intense. 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. Since dBs 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 three 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 three dB increase to the sound level.

Frequency relates to the number of pressure oscillations per second, or Hertz (Hz). The range of sound frequencies that can be heard by healthy human ears is from about 20 Hz at the low end of the frequency spectrum to 20,000 Hz at the high end.

Table 3.9-1. Definitions of Acoustical Terms

Term	Definition
Decibel (dB)	A dB is 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 sound in 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 one Pascal is the pressure resulting from a force of one Newton exerted over an area of one 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 (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz 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 $L_{eq[h]}$.
Ambient Noise Level	The ambient noise level is the composite of noise from all sources near and far, and represents the normal or existing level of environmental noise at a given location.

There are several methods for characterizing sound. The most common is the A-weighted sound level (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 caused by noise sources such as traffic and construction activity. Table 3.9-2 shows typical A-weighted noise levels that occur in various indoor and outdoor environments.

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 the *equivalent noise level* or *Leq*. A common averaging period is hourly, but Leq can describe any series of noise events of arbitrary duration. The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within approximately plus or minus one dBA.

Human Response to Noise

Studies have shown that under controlled conditions in an acoustics laboratory, a healthy human ear is able to discern changes in sound levels of one dBA. It is widely accepted that sound pressure level changes of three dBA are considered just noticeable to most people, while a change of five dBA is readily perceptible. Therefore, a level of three dBA is generally accepted as the appropriate threshold level at which the normal healthy human ear would perceive a change in noise level (FHWA 2006). An increase in sound pressure level of 10 dBA is perceived as being twice as loud; a decrease of 10 dBA is perceived as being half as loud.

Table 3.9-2. Typical Noise Levels in the Environment

Common Outdoor Noise Source	Noise Level (dBA)	Common Indoor Noise Source
	120	
Jet fly-over at 1,000 feet		
	110	Rock concert
Pile driver at 50 feet	100	
		Night club with live music
	90	
Large truck passby at 50 feet		
	80	Noisy restaurant
Gas lawn mower at 50 feet		
	70	Vacuum cleaner at 10 feet
Commercial/Urban area daytime		Normal speech at 3 feet
	60	
Suburban daytime		Active office environment
	50	
Urban area nighttime		Quiet office environment
	40	
Suburban nighttime		
Quiet rural areas	30	Library
		Quiet bedroom at night
Wilderness area	20	
	10	Quiet recording studio
Threshold of human hearing	0	Threshold of human hearing

Geometric Spreading

Sound from a single source (i.e., a "point" source) radiates uniformly outward in a spherical pattern as it travels away from the source. The sound level attenuates (or drops off) at a rate of six 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 that results from a point source. The change in sound level from a line source is three 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 300 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 lot 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.

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 an effect.

Shielding

A large object or barrier, whether natural or man-made, in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver location. The amount of attenuation provided by this shielding depends on the size of the object and the frequency content of the noise source. Natural terrain and man-made buildings and walls can often serve as effective noise barriers.

Health Effects

A number of studies have linked increases in noise with health effects, including hearing impairment, sleep disturbance, cardiovascular effects, psychophysiological effects, and potential impacts to fetal development (Babisch 2006). 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 (chronic exposure). Acute exposure to sounds of at 120 dB can cause mechanical damage to hair cells of the cochlea (the auditory portion of the inner ear) and hearing impairment (Babisch 2005). As noted in Table 3.9-2, 110-115 dB is the noise level associated with a rock concert or a jet plane flying overhead at 300 meters.

The World Health Organization (WHO) and EPA consider L_{eq} = 70 dBA to be a safe daily average noise level for the ear. Some research has suggested that 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 millimeters of mercury (mmHg) higher in a group of students exposed to road traffic noise from high traffic transit routes (Babisch 2006).

However, a meta-analysis of 43 epidemiological studies of the association between noise exposure and blood pressure and ischemic heart disease (IHD) (van Kempen et al. 2002) found no statistically significant correlation between community exposure and heart disease, although small but statistically significant correlations were found for occupational exposures. This paper found a positive correlation between high blood pressure and elevated noise exposure in the workplace. It was not, however, able to identify a threshold above which significant health effects could be expected to occur in the general population. The meta-analysis concludes that "epidemiological evidence on noise exposure, blood pressure, and IHDs is still limited" (van Kempen et al. 2002). Extending upon this and other studies, Babisch (2006) concluded that evidence of health effects related to hypertension and IHDs has

increased in recent years, although other health effects have not been clearly demonstrated.

In conclusion, there appears to be a relationship between exposure to higher than normal noise levels and some health effects, although the evidence is inconsistent at this time. Recent research has not unequivocally identified community noise levels above which specific health effects may occur. In the absence of more definitive research, a level of 120 dBA may be a suitable threshold above which acute exposure would be health threatening. Similarly, chronic exposures above the 70 dBA threshold used by the WHO and EPA may potentially be health threatening.

Existing Noise Environment in the Project Region

A noise survey was conducted over a 48-hour period between April 17 and April 19, 2006 to quantify ambient noise levels at a total of seven sites, as described in Table 3.9-3 and illustrated in Figure 3.9-1. For the purposes of analysis in this document, the April 2006 characterization of the existing noise environment is assumed to be equivalent to conditions during the 2005 baseline year.

At Sites 1 and 2, noise levels were monitored continuously in consecutive hourly intervals. This long-term noise monitoring was achieved using two Larson Davis Model 820 Integrating Sound Level Meters, each fitted with a Larson Davis type PRM-828 preamplifier and type 2251 ½-inch microphone. Each noise monitoring system was calibrated onsite, immediately prior to measurement, using a Bruel and Kjaer Type 4231 Sound Level Calibrator. The Calibrator was checked at the completion of the monitoring period and it was found that no change had taken place.

At Sites 3 through 7, short-term noise measurements, each of 15-minute duration, were made periodically to represent typical day, evening and nighttime noise conditions. Short-term measurements were made using a Bruel & Kjaer Modular Precision Sound Analyzer Type 2260 fitted with a Type 4189 ½-inch microphone and running Bruel and Kjaer's Type BZ-7206 Enhanced Sound Analysis Software application. The analyzer was calibrated prior to use and the calibration checked periodically during the survey period using a Bruel and Kjaer Type 4231 Sound Level Calibrator.

Each of the long-term and short-term sound level measurement/monitoring systems used in the survey complies with the requirements of ANSI S1.4 for a Type 1 sound level meter.

The results of the noise measurements are shown in Tables 3.9-4 and 3.9-5 as Leq values.

West Coast Long Beach Hotel (Site 1)

This hotel is located on Queensway Drive, immediately to the east of the Port property, and is one of the closest commercial uses to the Project site. A rooftop location was selected for its unobstructed line-of-sight to the Port and the surrounding streets.

Car and truck movements on the Queensway Bridge, Queens Highway, and Harbor Scenic Drive were found to control noise levels in this location day and night, with additional short-duration noise contribution from cars, vans, and buses around the parking lot and perimeter road of the hotel.

Table 3.9-3. Noise Measurement Sites

Site	Location	Comment
1	West Coast Long Beach Hotel 700 Queensway Drive On the roof of Building 2	The site is associated with long-term monitoring.
2	Long Beach Hilton Hotel 2, World Trade Center On a 14th floor balcony at the southwest corner of the hotel.	The site is associated with long-term monitoring, and is representative of condo and apartment buildings south of Ocean Avenue.
3	On Golden Avenue, immediately east of Cesar Chavez Park, between 4th and 5th Streets.	The site is associated with short-term monitoring, is representative of a residential neighborhood, and there is a school nearby.
4	Set back 20' from Pacific Coast Highway, just east of Canal Street and west of the 710 freeway.	The site is associated with short-term monitoring, and there are residential uses nearby.
5	At the corner of Maine and Pacific Coast Highway, just east of the Los Angeles River.	The site is associated with short-term monitoring, and there are residential uses nearby.
6	At the end of Hill Street, immediately west of the 710 freeway.	The site is associated with short-term monitoring and is representative of a residential neighborhood.
7	At the end of 33rd Street, immediately west of the 710 freeway.	The site is associated with short-term monitoring and is representative of a residential neighborhood.

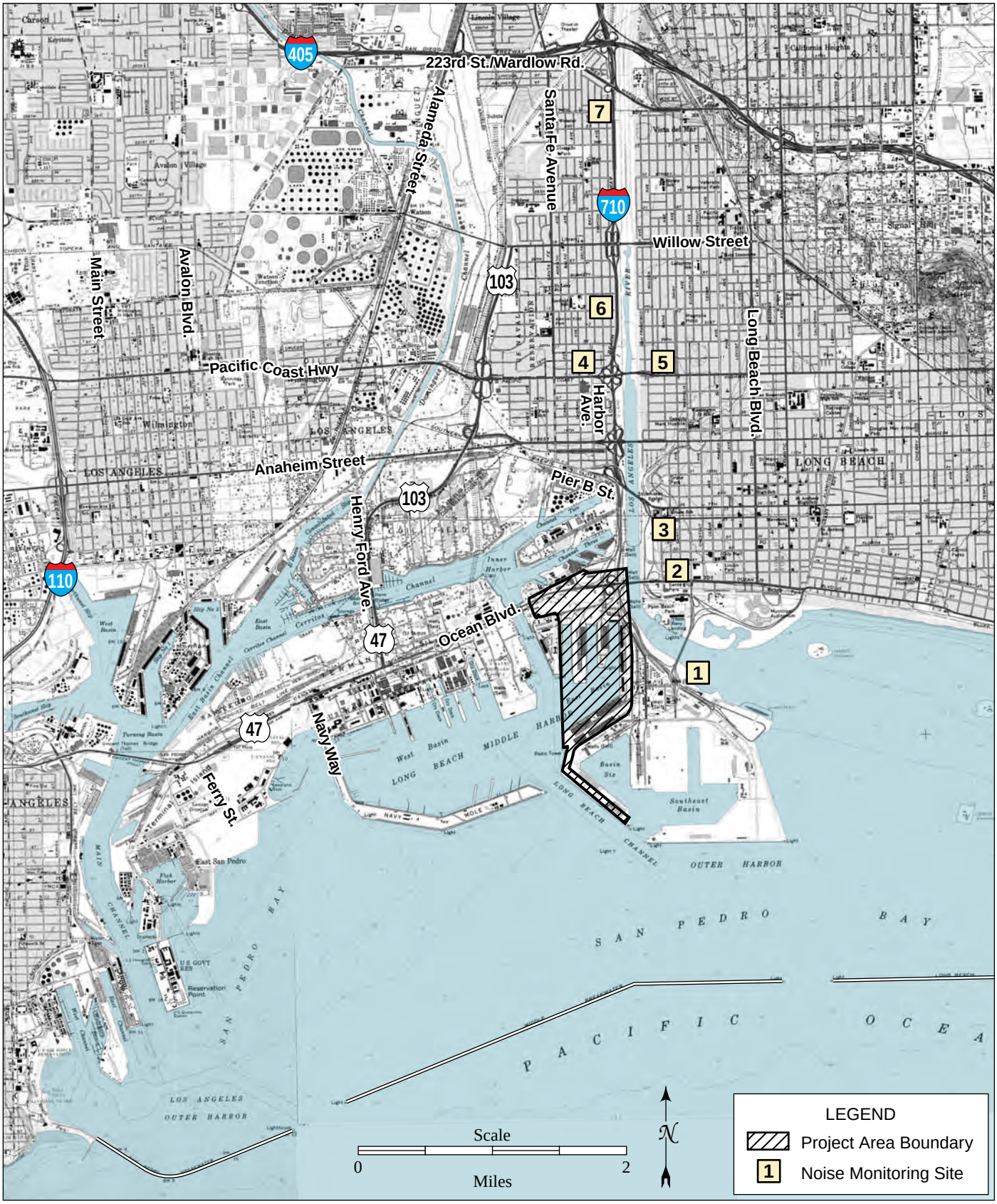

Figure 3.9-1. Noise Measurement Locations

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Table 3.9-4. Noise Levels Measured at Long-Term Monitoring Sites

Start Time	Site 1 West Coast Long Beach Hotel, Roof			Site 2 Long Beach Hilton Hotel, 14th Floor		
	Hourly L_{eq} (dBA)			*Hourly L_{eq} (dBA)*		
	4/17/06	4/18/06	4/19/06	4/17/06	4/18/06	4/19/06
00:00	-	60	61	-	61	62
01:00	-	59	59	-	60	59
02:00	-	57	57	-	59	61
03:00	-	53	53	-	58	58
04:00	-	52	52	-	58	58
05:00	-	55	54	-	62	63
06:00	-	60	59	-	65	65
07:00	-	62	61	-	67	66
08:00	-	62	62	-	66	66
09:00	-	63	63	-	66	66
10:00	-	64	63	-	66	66
11:00	-	65	64	-	66	66
12:00	-	63	63	-	66	66
13:00	-	64	64	66	66	-
14:00	65	66	-	66	66	-
15:00	64	64	-	66	66	-
16:00	64	64	-	67	67	-
17:00	62	62	-	66	67	-
18:00	63	63	-	66	66	-
19:00	64	63	-	67	66	-
20:00	63	63	-	65	65	-
21:00	63	62	-	65	64	-
22:00	61	61	-	64	63	-
23:00	61	61	-	62	62	-

Table 3.9-5. Noise Survey Results for Short-Term Monitoring Sites

Site	Location	Start Date, Time of Measurement	$L_{eq(15\ min)}$ (dBA)
3	Golden Avenue/Cesar Chavez Park	4/17/06, 17:10	61
		4/17/06, 22:40	56
		4/18/06, 02:25	47
		4/18/06, 08:35	57
		4/18/06, 15:20	68*
4	Set back from PCH near Canal Street	4/17/06, 19:00	69
		4/17/06, 21:50	68
		4/18/06, 01:50	66
		4/18/06, 8:00	70
		4/18/06, 14:40	70
5	PCH at Maine	4/17/06, 17:30	66
		4/17/06, 22:10	67
		4/18/06, 03:20	65
		4/18/06, 15:00	69
6	Hill Street adjacent to 710 Freeway	4/17/06, 18:15	61
		4/17/06, 21:30	61
		4/18/06, 01:20	54
		4/18/06, 08:20	63
		4/18/06, 14:20	62
7	33rd Street adjacent to 710 Freeway	4/17/06, 18:40	60
		4/17/06, 21:05	60
		4/18/06, 01:00	57
		4/18/06, 03:00	55
		4/18/06, 14:00	60

Long Beach Hilton Hotel (Site 2)

This hotel is located on Ocean Boulevard, just to the east of the Los Angeles River. A balcony on the 14th floor was selected as the noise monitoring location, to represent noise exposure at the other mid and high-rise buildings in the vicinity, which include residential uses on Golden Shore, Oceangate, and West Seaside Way.

From this high elevation, noise contributions were collected from car and truck traffic on Harbor Scenic Drive, Ocean Boulevard and the various north and south bound connectors to the 710 Freeway.

Train horns and distant aircraft flyovers were occasionally audible from this location, but did not have a significant effect on the hourly Leq values.

Cesar Chavez Park (Site 3)

The Park was selected as a noise monitoring site because of the residential uses (which include multi-storey apartment and condo buildings to the east of the park and a school to the south) and proximity to the 710 freeway, which would handle much of the truck traffic in and out of the Project area. The Park therefore serves to represent both recreational and residential receptor locations in closest proximity to the Project site as well as the major transit routes to and from the Project.

Noise levels in and around the Park were dominated by car and truck movements on the 710 freeway as well as the elevated on- and off-ramps connecting to 7th and 6th Streets, respectively. A substantial sound wall at the western boundary of the Park blocks the line of sight to the roads and railroads to the west and provides significant attenuation of the noise produced by traffic flows on the 710 north and southbound lanes, Shoreline Drive, and Harbor Scenic Way.

Noise levels in the Park on the afternoon of April 18, 2006, were elevated by the operation of lawn mowers, leaf blowers, and other power tools being used by maintenance staff.

Train horns and distant aircraft flyovers were occasionally audible from this location, but did not have a significant effect on the hourly Leq values. The sound of locomotives and railcars moving on the tracks across the Los Angeles River were rarely, if ever, heard above the dominant street and freeway traffic noise.

Pacific Coast Highway, West of 710 (Site 4)

Multi and single-family residential uses occur in the first block north of PCH, near the intersection with Canal Street. This location is exposed to the constant noise of traffic flows on PCH, which includes a high percentage of heavy trucks, day and night. In addition to through-traffic, a steady flow of northbound trucks join PCH from Canal Street before turning east to join the 710 Freeway.

At night, during breaks in the traffic on PCH, the constant noise of a fan running at a nearby industrial facility could be clearly heard.

Pacific Coast Highway, East of 710 (Site 5)

This stretch of PCH includes motels and duplex/single-family residential uses in the first block to the north.

The noise climate is very similar to Site 4 and is dominated by traffic flows on PCH, which include a high percentage of heavy trucks, day and night. Local traffic includes car movements in and out of the parking lots of the motels and other commercial/ light industrial businesses in the vicinity.

Neighborhood West of 710 (Sites 6 & 7)

These sites are located in residential neighborhoods on either side of the Los Angeles River, north of PCH. On the west side of the river, the homes are immediately adjacent to the 710 Freeway, which would handle much of the truck traffic associated with the Project.

A substantial sound wall blocks the line of sight between Sites 6 and 7 and the freeway; however, freeway noise is still the dominant noise source at these locations, day and night. Local traffic flows – mostly on Gale Avenue – also make a contribution to the hourly Leq values.

Occasional aircraft flyovers were audible at Sites 6 and 7, although these were generally not sufficiently loud to influence hourly Leq values.

The City of Long Beach Municipal Code (LBMC) maintains noise level limits for the LUDs, as discussed in Section 3.9.1.3. Existing noise levels at Site 1 were generally found to be at or below the anytime noise limit for LUD Three; noise levels reached 66 dBA only during the single noisiest daytime hour of the 48-hour continuous monitoring period, marginally exceeding the 65 dBA limit by one dBA. Measurement/monitoring of noise conditions at Sites 2 through 7 indicated that existing ambient noise levels already exceed the maximum day and nighttime noise limits prescribed

by the LBMC for LUD One, in some cases by a substantial margin.

Train Vibration

Existing ground vibration levels were recorded on the morning of April 18, 2006 at Site 3 in Cesar Chavez Park. The recording/analysis system comprised of a Bruel and Kjaer Type 4513 accelerometer, a Bruel and Kjaer Type 2250 analyzer (serving as a preamp), and Bruel and Kjaer Pulse 11 Sound and Vibration Multi-Analyzer software.

Site 3 was selected because it represents those sensitive uses closest to rail lines that would serve the Project. The measurement date and time were selected to coincide with two train departures from the Port that were scheduled to pass by on the Port mainline tracks south of Ocean Boulevard, directly across the Los Angeles River from Site 3.

Data were collected by the vibration recording/ analysis system before, during, and after a train, in order to establish a baseline ambient condition and the levels of vibration produced by train passage.

Typical ambient vibration levels and vibration levels measured during a train movement on the Port mainline tracks directly across the river from Site 3 are shown in Figures 3.9-2 and 3.9-3, respectively. In each case, the measured vibration spectrum is compared to the acceptability base curve for residential buildings prescribed by ANSI S3.29-1983.

3.9.1.3 Regulatory Setting

Long Beach Municipal Code

Section 8 of the LBMC prescribes exterior noise level limits (Table 3.9-6). These limits apply to noise sources that persist for a cumulative total of more than 30 minutes in any hour.

Noise measurement/monitoring Site 1 (West Coast Long Beach Hotel) is located in LUD Three. The remaining six noise measurement monitoring sites are located in LUD One.

In the event that the noise source contains a steady audible tone such as a whine, screech, or hum, or is a repetitive noise such as hammering or riveting, Section 8.80.160 of the LBMC requires that the exterior noise limits presented in Table 3.9-6 be reduced (made more stringent) by five dB. This five dB penalty for tonal/impulsive noise would apply to many construction activities, such as pile-driving.

In receptor locations where the existing ambient noise level exceeds the permissible noise limit within any of the first four Land Use categories, the LBMC allows the noise exposure standard to be increased in five dB increments as necessary to encompass or reflect the ambient noise level.

The LBMC imposes additional regulations on construction activity noise in Section 8.80.202. These additional regulations do not strictly apply to construction activities within the Long Beach Harbor District; however, it is assumed that the construction of the Project would generally observe the hours of operation defined in Section 8.80.202.

FHWA Noise Standards

The FHWA has adopted standards, regulations, and policies related to traffic noise. While these standards apply only to Type 1 federally-funded highway improvement projects, they do identify Noise Abatement Criteria, which are another useful measure of the potential noise impacts of the Project. The noise abatement criteria, both interior and exterior, established by the FHWA for various land uses are shown in Table 3.9-7.

Table 3.9-6. LBMC Exterior Noise Limits

Land Use District	Land Uses within District	Maximum Noise Levels (dBA) L_{eq}		
		Daytime[1]	Nighttime[2]	Anytime
One	Predominantly residential	50	45	—
Two	Predominantly commercial	60	55	—
Three	Predominantly industrial	—	—	65[3]
Four	Predominantly industrial	—	—	70[3]
Five	Airports, freeways, and waterways	Regulated by other agencies and laws		

Notes:
1. 7:00 a.m. to 10:00 p.m.
2. 10:00 p.m. to 7:00 a.m.
3. Limits for Districts Three and Four are intended primarily for use at their boundaries rather than for noise control within those districts. All PMP planning districts are located within Noise LUD Four except the Queensway Bay Planning District, which is located within Noise LUD Three.

Source: LBMC, Section 8.80.150.

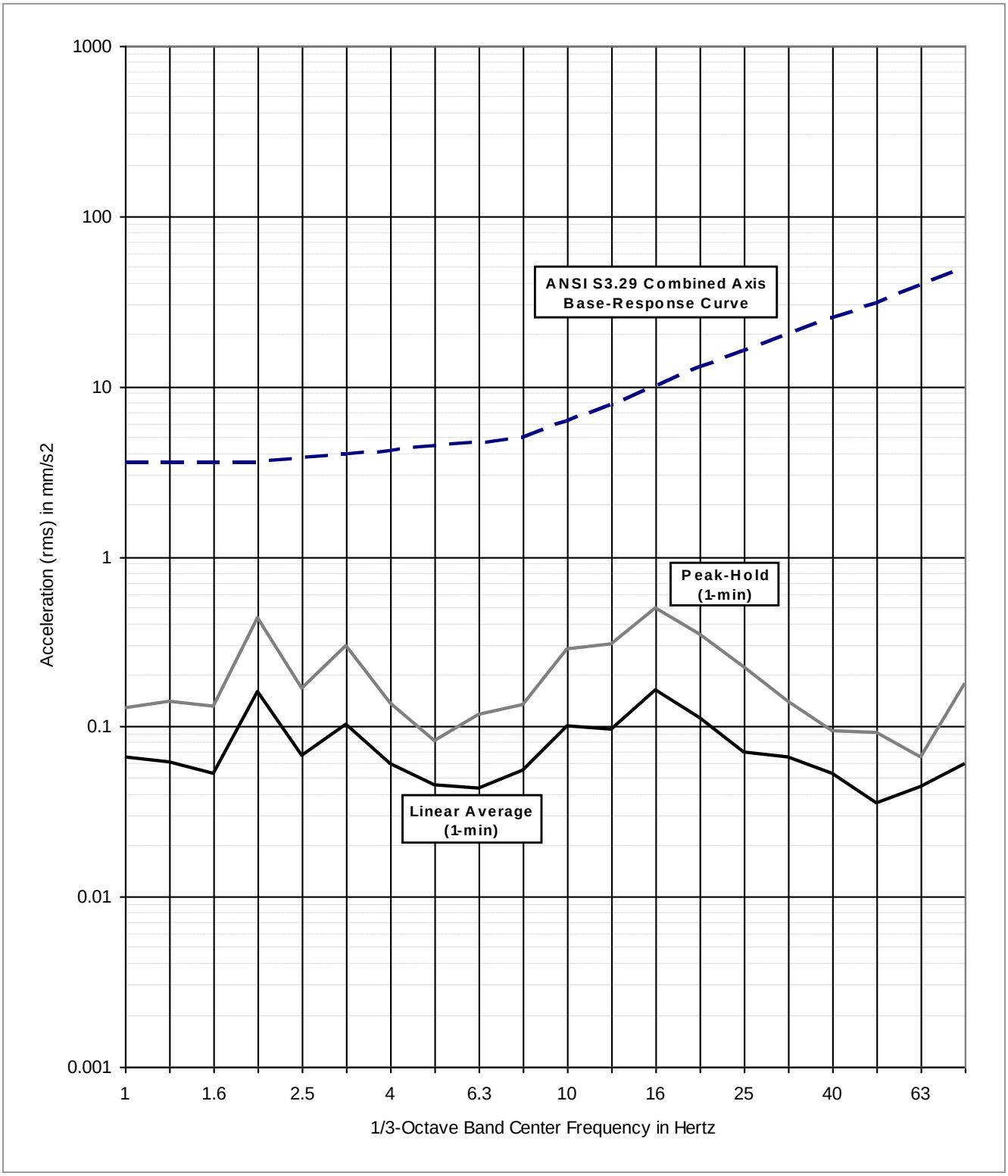

Figure 3.9-2. Ambient Ground Vibration Spectra (Vertical Axis) Measured at Site 3

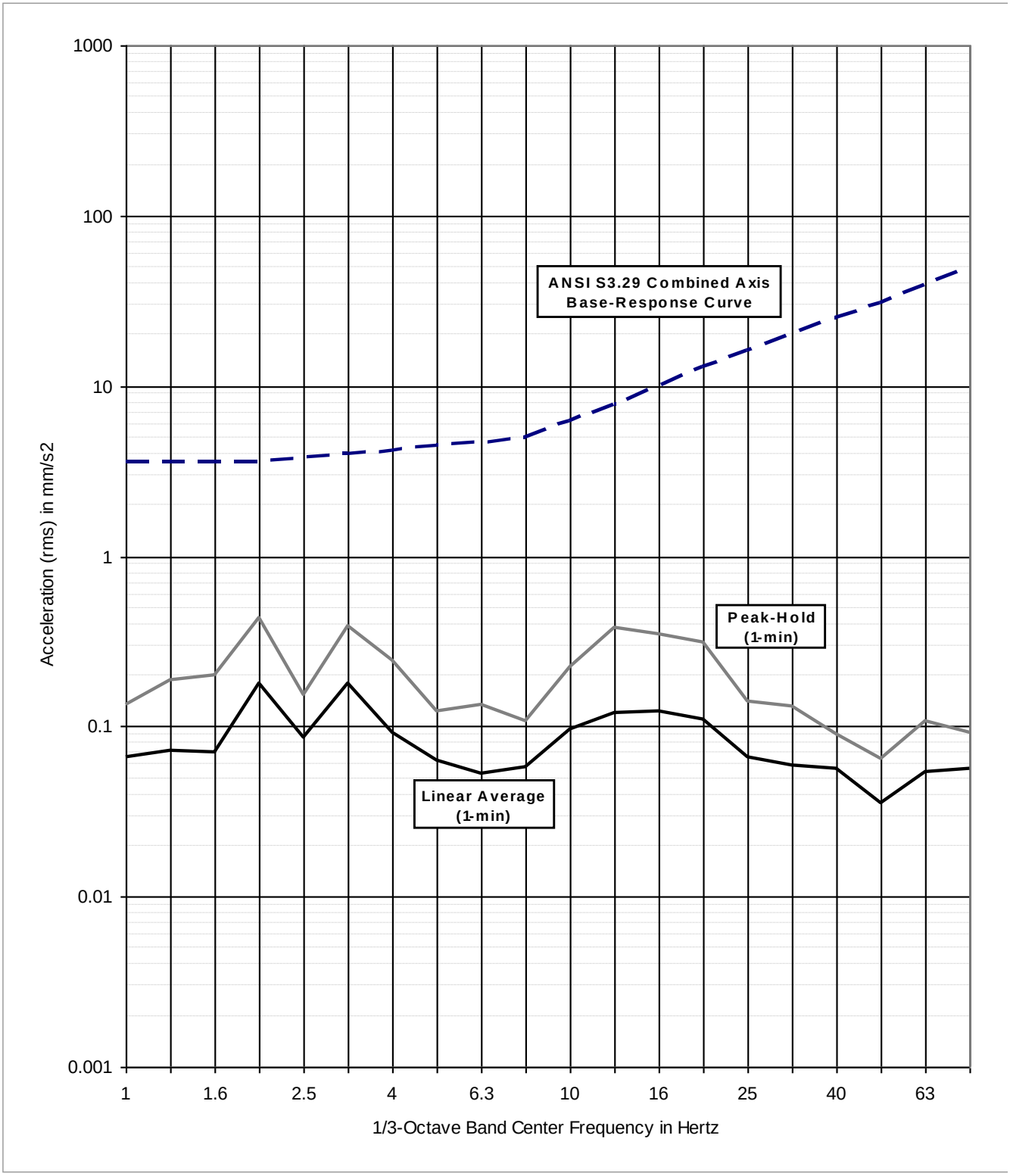

Figure 3.9-3. Ground Vibration Spectra (Vertical Axis) Measured at Site 3 during Train Movement on Port Mainline Track

Table 3.9-7. Federal Noise Abatement Criteria		
Activity Category	**Noise Abatement Criterion (dBA) $L_{eq[h]}$***	**Description of Activity Category**
A	57 (Exterior)	This category corresponds to lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to serve its intended purpose.
B	67 (Exterior)	This category corresponds to picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	This category corresponds to developed lands, properties, or activities not included in Categories A or B above.
D	--	This category corresponds to undeveloped lands.
E	52 (Interior)	This category corresponds to residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.
Note: * Noisiest hour expressed as the energy-average of the A-weighted noise level occurring during a one-hour period or Leq[h].		

3.9.2 Impacts and Mitigation Measures

3.9.2.1 Significance Criteria

Noise

Pursuant to the POLB Environmental Protocol (POLB 2006) and consistent with CEQA Guidelines *Appendix G* Environmental Checklist, the proposed Project would have a significant noise impact under the following circumstances:

NOI-1: Ambient noise levels would be increased by three dBA; or

NOI-2: Maximum noise levels allowed by the LBMC would be exceeded.

Vibration

The vibration significance criterion corresponds to ANSI Standard S3.29-1983. This standard sets acceptability limits for vibration in buildings (including residential structures) in the frequency range of one Hz to 80 Hz. Pursuant to the POLB Environmental Protocol (POLB 2006) and consistent with CEQA Guidelines *Appendix G* Environmental Checklist, the Project would have a significant vibration impact under the following circumstances:

NOI-3: Ground vibration levels would exceed the acceptability limits prescribed by ANSI S3.29-1983; or

NOI-4: Exposure would occur to a substantially increased number of vibration events that exceed the acceptability limits prescribed by ANSI S3.29.

3.9.2.2 Methodology

Assessment of the significance of noise and vibration impacts resulting from the construction and operation of the Project was conducted according to five main tasks: (1) sensitive receiver locations were selected to represent residential and other sensitive uses in the study area; (2) noise and vibration measurements were made at the selected receiver sites to establish existing baseline noise and vibration conditions and vibration levels associated with train movements; (3) noise data for each of the proposed construction activities were assembled from published sources and used to calculate estimates of the net construction noise impacts during each phase of the Project (calculations were based on worst-case estimates of the numbers of pieces of equipment to be utilized and assumptions about the likely phasing of the various activities involved in this work); (4) operational noise impacts were determined from a road traffic model, which included future auto and truck volumes on the street segments that would affect each receiver site for each project alternative; and (5) potential train operation noise and vibration impacts were assessed by comparing existing train movements with future train volume projections for the Project.

The assessment of construction noise assumed implementation of the following standard construction noise controls (Section 1.7.3).

a. *Construction Equipment.* Properly muffle and maintain all construction equipment powered by internal combustion engines.

b. *Idling Prohibitions*. Prohibit unnecessary idling of internal combustion engines near noise sensitive areas.

c. *Equipment Location*. Locate all stationary noise-generating construction equipment, such as air compressors and portable power generators, as far as practical from existing noise sensitive land uses.

d. *Quiet Equipment Selection*. Select quiet construction equipment whenever possible.

e. *Notification*. The Port would publish notices in the Press Telegram and all property managers adjacent to the Project site would be notified in advance of the construction schedule. The Port would coordinate with schools and other affected agencies to ensure construction activities do not substantially interfere with facility operations.

3.9.2.3 Alternative 1 – 345-Acre Alternative (the Project)

Construction Impacts

Noise levels produced by typical construction equipment were evaluated from a number of published references. These values are provided in Appendix C (Table C-2) and summarized in Table 3.9-8.

Overall noise levels are determined by the combined effect of noise contributions from the various types of activities and equipment in use at a given time. Hourly average Leq noise levels were estimated for the 345-Acre Alternative based on the types and numbers of equipment anticipated to be on site for each phase/stage of construction, as well as the scheduled overlap of the various phases/stages.

Calculated hourly average noise levels for each month of the construction schedule at a reference distance of 2,500 feet are provided in Appendix C. The Project site is located approximately 2,500 feet from the nearest sensitive receivers (i.e., Sites 1 and 2).

It is anticipated that the highest noise levels would occur during Project phases that include pile driving. On days when pile driving occurs, calculated hourly Leq values at a distance of 2,500 feet from the construction site would range from 64 – 66 dBA.

Table 3.9-8. Estimated Construction Equipment Noise Levels

Equipment	Estimated Noise at 50-feet
Dozer	80
Truck	80-82
Crane	80-88
Pipelayer	80
Clamshell Dredge	81
Sandblaster/compressor	81
Bottom Dump Scow	82
Concrete Pump	82
Crew/Survey/Tug Boat	82
Trencher	83
Loader	84
Auger	85
Ballast Spreader	85
Ballast Tamper	85
Concrete Saw	85
Excavator	85
Road Sweeper	85
Roller	85
Derrick Barge	88
Scrapers	88
AC Paver	89
Cutter Suction Dredging	89
Backhoe	90
Vibratory Hammer & Power Pack	92
Pile-Driver	97

Sources:
EPA 1971; USACE and Port of Oakland 1998; Oregon Department of Transportation Research Group 1999; DA and USACE 2004; Alameda Corridor Transportation Authority 1993.

Impact NOI-1.1: Project construction activities would increase ambient noise levels by three dBA.

The minimum ambient daytime hourly Leq noise level recorded at the closest sensitive receptor site (i.e., Site 1) was 61 dBA. During Project pile driving activities, calculated hourly Leq noise levels at Site 1 would range between 64 – 66 dBA, which would exceed a three dB increase and represent a significant impact. Generally, pile-driving activities are expected to occur during Construction Phase 1. The longest scheduled period of pile-driving would occur for 12 months in Construction Phase 1/Stage 1 during construction of the new Berth E24 extension and redevelopment of the existing berth at Berth E24.

Pile-driving activities would also occur during Construction Phase 1/ Stage 2, Construction Phase 1/Stage 3, and Construction Phase 2/Stage 2 in-water activities associated with new wharf construction at Berth E23 and wharf redevelopment/ improvements at Berths E25, E26, and E27.

At receiver Site 2, levels of existing daytime ambient noise are significantly higher than those at Site 1. Calculated construction noise levels at this location would not exceed the existing daytime ambient noise level by three dBA.

At receiver Sites 3 through 7, increased distance from the Project and the shielding effects of intervening structures and topography would reduce construction noise levels to below the existing ambient level.

CEQA Impact Determination

Project construction activities would cause ambient noise levels to be increased by more than three dBA at nearby sensitive receptors (i.e., Site 1), resulting in significant short-term impacts under CEQA.

Mitigation Measures

In addition to the standard construction noise controls described in Section 3.9.2.2, the following measures would minimize short-term construction noise impacts during pile-driving activities.

NOI-1.1a: Temporary noise barriers shall be located between noise-generating construction activities (e.g., pile driving) and hotel/residential buildings and Cesar Chavez School to the east.

NOI-1.1b: Pile-driving activities shall be limited to the hours of 7:00 am to 7:00 pm on weekdays, between 9:00 am and 6:00 pm on Saturdays, and prohibited anytime on Sundays and holidays as prescribed by Section 8.80.202 of the LBMC.

Significance of Impacts after Mitigation

Due to the difficulty of effectively mitigating substantial noise-generating activities, adherence to standard controls and construction of temporary noise barriers would not be sufficient to reduce projected increases in ambient noise levels to the point where it would no longer cause a substantial increase. Therefore, impacts would remain significant after mitigation.

NEPA Impact Determination

In-water construction activities would cause ambient noise levels to be increased by more than three dBA at nearby sensitive receptors (i.e., Site 1). Therefore, short-term impacts on noise would be significant under NEPA.

Mitigation Measures

In addition to the standard construction noise controls described in Section 3.9.2.2, **Mitigation Measures NOI-1.1a and NOI-1.1b** would apply to this impact.

Significance of Impacts after Mitigation

Due to the difficulty of effectively mitigating substantial noise-generating activities, adherence to standard controls and construction of temporary noise barriers would not be sufficient to reduce projected increases in ambient noise levels to the point where it would no longer cause a substantial increase. Therefore, impacts would remain significant after mitigation.

Impact NOI-2.1: Construction activities would exceed City of Long Beach Municipal Code maximum noise levels.

Receiver Site 1 is in LUD Three, for which the maximum noise level allowed by the LBMC is 65 dBA (Leq, one-hour) (Table 3.9-6). However, many of the construction activities would invoke the five dBA penalty for impulsive/tonal noise character, which would reduce the maximum allowable noise level in this location to 60 dBA. Calculated hourly average construction noise levels would intermittently exceed 60 dBA at receiver Site 1 until the end of construction Phase 2.

Receiver Site 2 is in LUD One (Table 3.9-6). Taking existing ambient noise levels into account, as well as the impulsive/tonal noise penalty, the

maximum daytime noise level allowed in this location under the LBMC would be 65 dBA (Leq, one-hour). Calculated hourly average construction noise levels at Site 2 would exceed 65 dBA during the noisiest periods of construction.

At receiver Sites 3 through 7, increased distance from the Project site and the shielding effects of intervening structures and topography would reduce construction noise to levels below the maximum allowed by the LBMC.

CEQA Impact Determination

Project construction activities would cause ambient noise levels to exceed LBMC maximum noise levels at Sites 1 and 2; therefore, significant short-term impacts would occur under CEQA.

Mitigation Measures

In addition to the standard construction noise controls described in Section 3.9.2.2, **Mitigation Measures NOI-1.1a and NOI-1.1b** would apply to this impact.

Significance of Impacts after Mitigation

Due to the difficulty of effectively mitigating substantial noise-generating activities, adherence to standard controls and construction of temporary noise barriers would not be sufficient to reduce projected increases in ambient noise levels to the point where it would no longer cause a substantial increase. Therefore, impacts would remain significant after mitigation.

NEPA Impact Determination

In-water construction activities would cause ambient noise levels to exceed LBMC maximum noise levels at Sites 1 and 2; therefore, impacts would be significant under NEPA.

Mitigation Measures

In addition to the standard construction noise controls described in Section 3.9.2.2, **Mitigation Measures NOI-1.1a and NOI-1.1b** would apply to this impact.

Significance of Impacts after Mitigation

Due to the difficulty of effectively mitigating substantial noise-generating activities, adherence to standard controls and construction of temporary noise barriers would not be sufficient to reduce projected increases in ambient noise levels to the point where it would no longer cause a substantial increase. Therefore, impacts would remain significant after mitigation.

Operational Impacts

Impact NOI-1.2: Project operations would not generate noise levels that would increase ambient noise levels by three dBA.

Operational activities that would generate noise include truck and rail movements in the newly developed backland areas and container terminal operations at the new wharves. Noise levels associated with typical container terminal equipment/operations include container ships, assist tugs, electric container cranes, yard hostlers, top picks, side picks, and heavy duty vehicles. Since the nearest sensitive receptors are outside Port property and located a substantial distance from Middle Harbor, and Port operational noise is not expected to change appreciably, it is expected that operational noise sources at the Project site would not increase noise levels at sensitive receptor sites.

However, Project-related truck traffic would generate noise adjacent to sensitive receptor sites on local surface streets and the Port's perimeter roadways, including the 710 freeway, Harbor Scenic Drive, Pico Boulevard, and PCH. Increases in road traffic noise level at each receptor site were calculated from modeled traffic volume data for the CEQA Baseline year (2005) and future years (2010, 2015, 2020 and 2030). All calculations were performed using the FHWA Traffic Noise Model software (version 2.5), which accounts for effects of distance from roadways as well as the intervening topography and the presence of barriers.

Calculated traffic noise level increases relative to the 2005 baseline, are provided in Table 3.9-9. These results show that, while increases in traffic noise levels would occur over time, these increases would not be significantly influenced by the Project. In cases where significant traffic noise level increases (greater than three dBA) are predicted, these increases would occur with or without the Project. For a given receptor location, year, and time of day, the difference between the predicted hourly equivalent noise level increase associated with the Project and that without the Project-related traffic would be no more than 0.5 dBA.

CEQA Impact Determination

Because operational noise levels associated with the Project (not including contributions from non-

Table 3.9-9. Predicted Road Traffic Noise Increases (dBA, Leq, one-hour) Relative to CEQA Baseline (2005)

Receptor Site and Time of Day*		2010				2015				2020				2030			
		Alternative 1 (345-Acre)	*Alternative 2 (315-Acre)*	*Alternative 3[1] (Landside)*	*Alternative 4 (No Project)*	*Alternative 1 (345-Acre)*	*Alternative 2 (315-Acre)*	*Alternative 3[1] (Landside)*	*Alternative 4 (No Project)*	*Alternative 1 (345-Acre)*	*Alternative 2 (315-Acre)*	*Alternative 3[1] (Landside)*	*Alternative 4 (No Project)*	*Alternative 1 (345-Acre)*	*Alternative 2 (315-Acre)*	*Alternative 3[1] (Landside)*	*Alternative 4 (No Project)*
Site 1	AM	-	-	-	-	1.0	1.0	1.1	1.0	4.9	4.9	4.9	5.0	5.7	5.6	5.6	5.5
	MD	-	-	-	-	0.4	0.4	0.0	0.3	1.3	1.4	1.4	1.3	1.8	1.8	1.8	1.8
	PM	0.3	0.4	0.4	0.2	0.6	0.7	0.7	0.6	1.3	1.3	1.5	1.4	1.9	2.0	2.0	1.9
	NT	0.3	0.3	0.3	0.1	1.2	1.3	1.3	1.2	2.7	2.7	2.7	2.7	3.4	3.4	3.4	3.3
Site 2	AM	1.2	1.2	1.2	1.2	1.5	1.5	1.5	1.4	1.3	1.2	1.3	1.2	1.1	1.1	1.2	1.3
	MD	1.8	1.8	1.8	2.0	1.9	1.9	1.9	2.1	1.7	1.7	1.7	1.6	1.4	1.4	1.4	1.4
	PM	0.5	0.5	0.4	0.4	0.3	0.8	0.3	0.3	0.9	0.5	0.5	0.4	0.8	0.5	0.4	0.4
	NT	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.4	4.9	4.9	4.9	4.9	4.8	4.8	4.7	4.8
Site 3	AM	-	-	-	-	-	-	-	-	-	-	-	-	0.3	0.1	0.2	0.4
	MD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	NT	-	-	-	-	-	-	-	-	0.1	0.1	0.1	0.1	0.4	0.4	0.4	0.4
Site 4	AM	-	-	-	-	-	-	-	-	0.4	0.3	0.5	0.2	0.7	0.8	0.8	0.8
	MD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	NT	2.6	2.6	2.6	2.1	1.8	1.8	2.3	2.5	3.7	3.5	3.8	3.5	4.5	4.4	4.7	4.2
Site 5	AM	-	-	-	-	-	-	-	-	0.1	0.1	0.2	0.0	0.7	0.8	0.8	0.8
	MD	-	-	-	-	-	-	-	-	-	-	-	-	1.3	1.3	1.0	1.0
	PM	-	-	-	-	-	-	-	-	-	-	-	-	0.7	0.6	0.6	0.7
	NT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Site 6	AM	-	-	-	-	0.4	0.4	0.4	0.2	1.4	1.4	1.4	1.3	1.7	1.6	1.7	1.4
	MD	-	-	-	-	-	-	-	-	0.3	0.2	0.3	0.2	0.4	0.4	0.4	0.3
	PM	-	-	-	-	-	-	-	-	0.3	0.3	0.3	0.3	0.7	0.6	0.5	0.5
	NT	0.8	0.8	0.8	0.7	2.2	2.2	2.3	1.9	3.0	3.0	3.0	2.9	2.8	3.0	3.0	3.0
Site 7	AM	-	-	-	-	0.6	0.6	0.6	0.4	1.7	1.7	1.7	1.5	1.6	1.6	1.6	1.6
	MD	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.4	0.5	0.4	0.4	0.5	0.5	0.6	0.5
	PM	0.4	0.4	0.5	0.4	0.8	0.8	0.8	0.6	1.0	0.9	1.0	0.9	1.0	1.0	1.0	0.9
	NT	1.3	1.3	1.3	1.3	2.9	3.0	3.0	2.5	3.9	3.9	3.9	3.7	4.4	4.4	4.4	4.0

Notes:
1. Alternative 3 (Landside Improvements) = NEPA Baseline.
* AM = Morning; MD = Mid-Day; PM = Afternoon/Evening; NT = Night-time.

Project related growth in traffic) would not increase ambient noise levels by more than 0.5 dBA, operational noise impacts would be less than significant under CEQA.

Mitigation Measures

As impacts on noise would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on noise would be less than significant.

NEPA Impact Determination

Because operational noise levels would not substantially increase (i.e., greater than three dBA) above ambient NEPA Baseline levels at sensitive receptor locations, impacts on noise would be less than significant under NEPA.

Mitigation Measures

As impacts on noise would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on noise would be less than significant.

Impact NOI-2.2: Project operations would not exceed City of Long Beach Municipal Code maximum noise levels.

Table C-2 in Appendix C shows that, while changes in traffic noise levels are predicted over time, these changes would not be significantly influenced by the Project. In cases where significant traffic noise level increases are predicted, these increases would occur with or without the Project.

For a given receptor location, year, and time of day, the difference between the predicted hourly equivalent noise level increase due to the Project and that without Project-related traffic would be no more than 0.5 dBA, which is not enough to increase noise levels above the limits prescribed by the LBMC.

CEQA Impact Determination

The analysis shows that future increases in traffic noise levels would not be significantly influenced by the Project. Therefore, Project-related traffic would not result in noise levels that exceed the maximum thresholds allowed by the LBMC. Therefore, impacts on noise would be less than significant under CEQA.

Mitigation Measures

As impacts on noise would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on noise would be less than significant.

NEPA Impact Determination

The predicted traffic noise levels associated with the 345-Acre Alternative would not be significantly higher than those predicted for the NEPA Baseline at any of the receptor sites. Therefore, impacts would be less than significant under NEPA.

Mitigation Measures

As impacts on noise would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on noise would be less than significant.

Impact NOI-3.1: Project operations would not generate ground vibration levels that would exceed ANSI S3.29-1983 acceptability limits.

Measurements at Site 3 (Cesar Chavez Park) indicated no significant difference between ambient ground vibration and ground vibration during train movement on the Port mainline tracks. In each case, the measured ground vibration spectrum was well below the baseline acceptability curve prescribed by ANSI S3.29-1983 (Figures 3.9-2 and 3.9-3).

CEQA Impact Determination

Vibration measurements from Site 3 did not indicate a significant difference between ambient ground vibration and ground vibration during train movements on the Port mainline tracks. Measured vibration levels are well below the acceptability curve prescribed by ANSI S3.29-1983, as shown in Figures 3.9-2 and 3.9-3. Therefore, train movements on the Port mainline tracks associated with Project operations would have a less than significant vibration impact on sensitive receptors at Cesar Chavez Park. Impacts would be less than significant under CEQA.

Mitigation Measures

As impacts on vibration would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on vibration would be less than significant.

NEPA Impact Determination

Vibration measurements from Site 3 indicate that train movements on the Port mainline tracks associated with Project operations would have a less than significant vibration impact on noise sensitive receptors at Cesar Chavez Park. Therefore, impacts would be less than significant under NEPA.

Mitigation Measures

As impacts on vibration would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on vibration would be less than significant.

Impact NOI-4.1: Project operations would not increase the number of vibration events that would exceed ANSI S3.29 acceptability limits.

CEQA Impact Determination

The operation of the Project would substantially increase rail traffic in and out of the Port. However, measurements from Site 3 show that ground vibration levels in Cesar Chavez Park produced by each train movement would not exceed the limits prescribed by ANSI S3.29-1983 (Figure 3.9-3). Therefore, train movements associated with Project operations on the Port mainline tracks would not generate substantial vibration. Accordingly, impacts on sensitive receptors at Cesar Chavez Park would be less than significant under CEQA.

Mitigation Measures

As impacts on vibration would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on vibration would be less than significant.

NEPA Impact Determination

Vibration measurements from Site 3 indicate that train movements associated with Project operations on the Port mainline tracks would not generate substantial vibration levels. Therefore, impacts on sensitive receptors at Cesar Chavez Park would be less than significant under NEPA.

Mitigation Measures

As impacts on vibration would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on vibration would be less than significant.

3.9.2.4 Alternative 2 – 315-Acre Alternative

Alternative 2 would add 24.7 net acres of newly created land to the existing 294-acre Project site by filling Slip 1 between Piers E and F (Berths E12-E14 and F1-F4). Under this alternative, the East Basin would not be filled. Middle Harbor container terminal operations under this alternative could handle approximately 2,870,000 TEUs per year when operating at maximum throughput capacity.

Construction Impacts

Calculated hourly average noise levels for each month of the construction schedule for Alternative 2 at a reference distance of 2,500 feet are provided in Appendix C (Table C-3).

For much of the construction period, the predicted noise level impacts would be similar to Alternative 1; however, Alternative 2 would require less pile-driving activity and therefore would reduce the periods of time over which noise impacts would occur.

Impact NOI-1.1: Construction activities would increase ambient noise levels by three dBA.

The minimum ambient daytime hourly Leq noise level recorded at Site 1 was 61 dBA. During pile-driving activities for the Project construction phase, calculated hourly Leq noise levels at this location would be in the 64 to 66 dBA range, therefore exceeding the three dBA increase criterion and representing a significant impact. The longest scheduled period of pile-driving would occur in Construction Phase 1/Stage 1 during construction of the new Berth E24 extension and redevelopment of the existing berth at Berth E24. Pile-driving would also occur during Construction Phase 1/Stage 2, Construction Phase 1/Stage 3, Construction Phase 1/Stage 3, and Construction Phase 1/Stage 6 in-water activities associated with wharf redevelopment at Berths E25, E26, and F1-F4, and wharf improvements at Berth E27 and F6-F10.

CEQA Impact Determination

Project construction activities (i.e., pile driving) would increase ambient noise levels by more than three dBA at nearby sensitive receptors (i.e., Site 1), resulting in significant short-term impacts under CEQA.

Mitigation Measures

In addition to the standard construction noise controls described in Section 3.9.2.2, **Mitigation Measures NOI-1.1a and NOI-1.1b** would apply to this impact.

Significance of Impacts after Mitigation

Due to the difficulty of effectively mitigating substantial noise-generating activities, adherence to standard controls and construction of temporary noise barriers would not be sufficient to reduce projected increases in ambient noise levels to the point where it would no longer cause a substantial increase. Therefore, impacts would remain significant after mitigation.

NEPA Impact Determination

In-water construction activities would increase ambient noise levels by more than three dBA at nearby sensitive receptors. Therefore, short-term impacts on noise would be significant under NEPA.

Mitigation Measures

In addition to the standard construction noise controls described in Section 3.9.2.2, **Mitigation Measures NOI-1.1a and NOI-1.1b** would apply to this impact.

Significance of Impacts after Mitigation

Due to the difficulty of effectively mitigating substantial noise-generating activities, adherence to standard controls and construction of temporary noise barriers would not be sufficient to reduce projected increases in ambient noise levels to the point where it would no longer cause a substantial increase. Therefore, impacts would remain significant after mitigation.

Impact NOI-2.1: Construction activities would exceed City of Long Beach Municipal Code maximum noise levels.

Since receiver Site 1 is in LUD Three, the maximum noise level allowed by the LBMC is 65 dBA (Leq, one-hour). However, many of the construction activities would invoke the five dBA penalty for impulsive/tonal noise character, reducing the maximum allowable noise level in this location to 60 dBA. Calculated hourly average construction noise levels would intermittently exceed 60 dBA at Receiver Site 1 until completion of proposed construction activities.

Receiver Site 2 is in LUD One. Taking existing ambient noise levels into account as well as the impulsive/tonal noise penalty, the maximum daytime noise level allowed in this location under the LBMC would be 65 dBA (Leq, one-hour). Calculated hourly average construction noise levels would intermittently exceed 65 dBA during the noisiest periods of construction.

CEQA Impact Determination

Construction activities would cause ambient noise levels to exceed LBMC maximum noise levels at Sites 1 and 2; therefore, significant short-term impacts would occur under CEQA.

Mitigation Measures

In addition to the standard construction noise controls described in Section 3.9.2.2, **Mitigation Measures NOI-1.1a and NOI-1.1b** would apply to this impact.

Significance of Impacts after Mitigation

Due to the difficulty of effectively mitigating substantial noise-generating activities (i.e., pile driving), adherence to standard controls and construction of temporary noise barriers would not be sufficient to reduce projected increases in ambient noise levels to the point where it would no longer cause a substantial increase. Therefore, impacts would remain significant after mitigation.

NEPA Impact Determination

In-water construction activities would cause ambient noise levels to exceed LBMC maximum noise levels at Sites 1 and 2; therefore, impacts would be significant under NEPA.

Mitigation Measures

In addition to the standard construction noise controls described in Section 3.9.2.2, **Mitigation Measures NOI-1.1a and NOI-1.1b** would apply to this impact.

Significance of Impacts after Mitigation

Due to the difficulty of effectively mitigating substantial noise-generating activities, adherence to standard controls and construction of temporary noise barriers would not be sufficient to reduce projected increases in ambient noise levels to the point where it would no longer cause a substantial increase. Therefore, impacts would remain significant after mitigation.

Operational Impacts

There are no significant differences between the increases in traffic noise levels predicted for the proposed Project and Alternative 2. Therefore, operational noise impacts for Alternative 2 would be the same as described for **Impacts NOI-1.2 and NOI-2.2.**

Since ground vibration levels measured in Cesar Chavez Park were below the ANSI S3.29 limits and would be unaffected by proposed train movements on the Port mainline tracks, the number of train movements would not affect the overall level of ground vibration in the park. Therefore, impacts under Alternative 2 would be the same as those described for **Impacts NOI-3.1 and NOI-4.1.**

3.9.2.5 Alternative 3 – Landside Improvements Alternative

Alternative 3 would redevelop existing terminal areas on Piers E and F and convert underutilized land north of the Gerald Desmond Bridge and Ocean Boulevard within the Project site to a container yard. No in-water activities, including dredging, filling Slip 1 and the East Basin, new wharf construction, wharf upgrades, or channel and berth deepening would occur.

Construction Impacts

Calculated hourly average noise levels for each month of the construction schedule for Alternative 3 at a reference distance of 2,500 feet are provided in Appendix C (Table C-4). Since this alternative would not involve in-water construction activities, impacts associated on noise with construction activities would be reduced compared to Alternatives 1 and 2.

Impact NOI-1.1: Construction activities would not increase ambient noise levels by three dBA.

The minimum ambient daytime hourly Leq noise level recorded at Site 1 was 61 dBA. Calculated construction noise levels for Alternative 3 would not exceed 63 dBA at this location. Therefore, construction activity noise levels would not exceed the three dBA significance threshold.

CEQA Impact Determination

Because construction noise levels would not increase ambient noise levels by three dBA or greater, construction noise impacts would be less than significant under CEQA.

Mitigation Measures

As impacts on noise would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on noise would be less than significant.

NEPA Impact Determination

Alternative 3 is equivalent to the NEPA Baseline because it only includes construction activities that would not require issuance of federal permits. As no federal action or permit would be required, there would be no significance determination under NEPA for this alternative. No impacts on noise would occur.

Impact NOI-2.1: Construction activities would exceed City of Long Beach Municipal Code maximum noise levels.

Since receiver Site 1 is in LUD Three, the maximum noise level allowed by the LBMC is 65 dBA (Leq, one-hour). However, many of the landside construction activities (i.e., redevelopment and backlands expansion, rail improvements, construction of the Pier E Substation, and construction of shore-to-ship infrastructure) would invoke the five dBA penalty for impulsive/tonal noise character, reducing the maximum allowable noise level in this location to 60 dBA. Calculated hourly average construction noise levels would intermittently exceed 60 dBA at Receiver Site 1 until completion of proposed construction activities.

CEQA Impact Determination

Landside construction activities would cause ambient noise levels to exceed the LBMC maximum noise levels at Site 1; therefore, significant short-term impacts would occur under CEQA.

Mitigation Measures

No feasible mitigation measures are available in addition to the standard construction noise controls described in Section 3.9.2.2.

Significance of Impacts after Mitigation

Due to the difficulty of effectively mitigating substantial noise-generating activities, adherence to standard controls and construction of temporary noise barriers would not be sufficient to reduce projected increases in ambient noise levels to the point where it would no longer cause a substantial increase. Therefore, impacts would remain significant after mitigation.

NEPA Impact Determination

Alternative 3 is equivalent to the NEPA Baseline because it only includes construction activities that would not require issuance of federal permits. As no federal action or permit would be required, there would be no significance determination under NEPA for this alternative. No impacts on noise would occur.

Operational Impacts

There are no significant differences between the increases in traffic noise levels predicted for the Landside Improvements Alternative, the 345-Acre Alternative, and 315-Acre Alternative. Therefore, operational impacts for the Landside Improvements Alternative would be the same as described for **Impacts NOI-1.2 and NOI-2.2.**

Since ground vibration levels measured in Cesar Chavez Park were below the ANSI S3.29 limits and would be unaffected by proposed train movements on the Port mainline tracks, the number of train movements would not affect the overall level of ground vibration in the park. Therefore, impacts under the Landside Improvements Alternative would be the same as those described for **Impacts NOI-3.1 and NOI-4.1.**

3.9.2.6 Alternative 4 – No Project Alternative

The No Project Alternative would not include construction of upland site improvements, including rail improvements and construction of the Pier E Substation, or in-water activities (i.e., dredging, filling of Slip 1 and the East Basin, and/ or new wharf construction). However, forecasted increases in cargo would still occur under this alternative. Operational impacts associated with the following activities would occur: cargo ships that currently berth and load/unload at the terminal would continue to do so; terminal equipment would continue to handle cargo containers; and trucks would continue to transport containers to outlying distribution facilities.

CEQA Impact Determination

This alternative would not allow implementation of the proposed Project or other physical improvements at Middle Harbor. Therefore, this alternative would not result in a substantial increase in noise levels at surrounding sensitive receiver locations. Therefore, no impacts on noise would occur under CEQA.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water proposed Project area. Therefore, no impacts on noise would occur under NEPA.

3.9.3 Cumulative Impacts

Construction Impacts

All of the projects listed in Table 2.1-1 would have some potential for construction noise impacts, with the exception of the Berths 206-209 Interim Container Terminal Reuse and Ultramar Lease Renewal projects in the POLA, which would involve no construction. Where project construction schedules overlap, there is the potential for cumulative construction noise impacts because multiple sources could jointly contribute to increases in ambient noise at one or more locations.

Therefore, during construction, the Project's contribution to cumulative impacts would remain significant and unavoidable under both NEPA and CEQA, even with implementation of **Mitigation Measures NOI-1.1a and NOI-1.1b**, and adherence to modern construction engineering and safety standards.

Operational Impacts

All reasonably foreseeable projects listed in Table 2.1-1 would have the potential to generate operational noise impacts, such as increased noise from vehicular traffic. Reasonably foreseeable future projects that would increase rail traffic would result in potentially significant vibration impacts. However, the Project's contribution to vibration would be well below acceptable standards and the Project contribution to cumulative vehicular traffic noise would be at or below 0.5 dB, substantially inaudible and less than significant under both NEPA and CEQA. Port operational noise levels associated with container terminal operations (container ships, assist tugs, electric container cranes, yard hostlers, top picks, side picks, and heavy duty vehicles) is not expected to change appreciably from current levels. Therefore, operational noise sources at the Project site would not increase noise levels at sensitive receptor sites and the contribution of Port operations to cumulative noise would be less than significant under NEPA and CEQA.

The Port has developed a program in an effort to mitigate potential cumulative noise impacts of Port projects: the Schools and Related Sites Program - Guidelines for the Port of Long Beach Grant Programs. This program is specifically aimed at sensitive populations (e.g., school-age children). The Schools and Related Sites Program focuses on school age children and identifies schools, preschools and daycare centers as eligible applicants for the funding opportunities of the program.

The eligibility criteria for this program have been developed to take into account that cumulative noise impacts are a function of distance from the Port area and the related goods movement transportation routes, including the I-710 and SR-47. For this reason, the guidelines in the Port program gives preference to facilities closer to the Port because the sensitive receptors at these facilities would likely be exposed to greater cumulative noise impacts.

The implementation guidelines for the program (1) establish eligibility criteria for potential applicants based on the facility type and proximity to the Port; (2) provide metrics that will be used to assess a proposed project's noise mitigation potential; and (3) explain how the Port of Long Beach Board of Harbor Commissioners will choose among eligible proposals and approve funding. Although the cumulative noise impacts

of the Project would be insignificant, Project approval would require the proposed Project's participation in this Port-wide program. Additional information on these Port-wide programs is available at the Port's website: www.polb.com.

3.9.4 Mitigation Monitoring Program

Implementation of **Mitigation Measures NOI-1.1a and NOI-1.1b** would be required to reduce short-term construction impacts on sensitive noise receptors during pile-driving activities. These mitigation measures and monitoring requirements are summarized in Table 3.9-10.

Table 3.9-10. Mitigation Monitoring Program

Mitigation Measure	Responsible Party	Timing/Frequency
NOI-1.1a: Temporary noise barriers shall be located between noise-generating construction activities (e.g., pile driving) and hotel/residential buildings and Cesar Chavez School to the east.	POLB / USACE	During pile-driving activity.
NOI-1.1b: Pile-driving activities shall be limited to the hours of 7:00 am to 7:00 pm on weekdays, between 9:00 am and 6:00 pm on Saturdays, and prohibited anytime on Sundays and holidays as prescribed by Section 8.80.202 of the LBMC.	POLB / USACE	During pile-driving activity.

3.10 HAZARDS AND HAZARDOUS MATERIALS

3.10.1 Environmental Setting

The proposed Project would involve construction activities and increased throughput during operations that would increase the potential for spills or leaks of petroleum products and hazardous substances. The proposed Project would not involve risk of fire or explosion hazards from sources such as tanker vessels, oil tanks, or refineries. Therefore, this section does not include a risk of upset analysis and associated hazard footprint analysis, in accordance with the POLB Risk Management Program (RMP).

3.10.1.1 Area of Influence

The area of influence for hazards associated with releases of hazardous materials (e.g., spills and leaks) and existing soil, groundwater, and sediment contamination would include the Project site, adjacent harbor waters, major roadways, and rail lines in the Port area. See Section 3.1, Geology, Groundwater, and Soils, and Section 3.3, Hydrology and Water Quality, for a description of the area of influence for those resources.

3.10.1.2 Setting

Hazardous Materials

Hazardous materials are the raw materials for a product or process that may be classified as toxic, flammable, corrosive, or reactive. Hazardous materials classifications that may be transported at the Port include 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 A, B, or C explosives;
- Oxidizing materials — Any element or compound, including flammable materials, that yield oxygen or react 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, and that are capable of violent decomposition or autoreaction, but which are not designed primarily as an explosive;
- 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.

Hazardous materials that are transported in containers are stored in individual containers specifically manufactured for storing and transporting the material. In addition, shipping companies prepare, package, and label hazardous materials shipments in accordance with federal requirements (49 CFR 170-179) to facilitate surface transport of the containers. All hazardous materials in containers are required to be properly manifested. Hazardous material manifests for inbound containerized hazardous materials are reviewed and approved by the Port Security and the LBFD before they can be unloaded.

There are no hazardous liquid-bulk facilities within the Project area.

<u>Asbestos and Lead-Based Paint</u>

Asbestos containing materials (ACMs) and lead-based paint were used in building materials until the 1960s. It is now recognized that such materials can be harmful if inhaled or ingested, which occurs most commonly if the materials are disturbed, such as during demolition activities. Onsite buildings that were constructed prior to 1970 may contain such materials. The EPA has classified ACMs as a hazardous air pollutant, in accordance with Section 112 of the CAA. Onsite buildings built prior to 1970 include the following:

- A1 Area shack;
- Administration building;
- Multiple smoke houses/offices;
- Large metal industrial sheds;
- L.G. Everist office building; and
- Multiple warehouse/terminal sheds.

<u>Polychlorinated Biphenyls (PCBs)</u>

PCBs were widely used historically as a fire retardant and insulator in the manufacture of transformers and capacitors, due to their ability to withstand exceptionally high temperatures. Fluid-

filled electrical transformers, capacitors, and circuit breakers manufactured prior to June 1979 may contain PCBs. Similarly, natural gas pipelines constructed prior to 1981 may contain PCBs. Use of this substance was banned in 1979 based on its establishment as a human carcinogen.

Oil Production Facilities

The Project site is located within the Wilmington Oil Field, the third largest oil field in the U.S. Portions of Pier E have been used as an oil and gas production field from the late 1930s to present. Associated oil field infrastructure, such as oil separation facilities, storage tanks, and pipelines (oil, gas, and water) continue to be used on the property, as illustrated on Figure 1.5-2. Improperly abandoned oil wells can potentially result in gas migration to the surface, which in turn could create a health hazard.

Naturally occurring radioactive material (NORM), which is derived from subsurface geologic formations, can be brought to the surface in the form of water during oil exploration and production. These NORMs may contain materials such as uranium, thorium, and associated daughter products, including radium 226 and radium 228. In addition, radon gas, a daughter product of radium, may be found in produced natural gas. Because NORM levels are typically low in produced water and gas, these materials are generally not a health and safety hazard unless they become concentrated in some manner. Workers employed in the area of cutting and rearming oilfield pipe, removing solids from tanks and pits, and refurbishing gas processing equipment, may be exposed to particles containing levels of alpha-emitting radionuclides that could pose health risks if inhaled or ingested.

Information pertaining to potential soil and groundwater contamination associated with onsite oil field operations is discussed in Section 3.1, Geology, Groundwater, and Soils.

Past Accidents and Spills

Table 3.10-1 summarizes oil spills and hazardous materials spills since 1997 in the POLB. These spills range in size and type of materials spilled, including both nonhazardous petroleum spills and spills of hazardous substances. The causes of these spills are extremely varied and include incidents such as: 1) recreational boats pumping oil from their bilge; 2) incidental spills of hazardous materials used in boat maintenance; 3) fuel dock and bunking accidents; 4) incidental spills from onshore vehicles; 5) pipeline spills; 6) container spills; and 7) large commercial vessels discharging oil-contaminated ballast water. The LBFD typically completes 100 to 250 spill responses annually; however, many of these are small enough for immediate cleanup and are too small to warrant an incident investigation. The spill numbers in Table 3.10-1 reflect spill incidents which resulted in an investigation (personal communication, Mark Boone 2008; POLB 2008).

Table 3.10-1. Petroleum/Hazardous Materials Spills in POLB

Year	Number of Hazardous Materials Incidents
1997	50
1998	19
1999	57
2000	40
2001	49
2002	45
2003	34
2004	49
2005	37
2006	29
2007	58

Source: POLB 2008.

In 2004, the amount of oil that affected the waters of the POLB and POLA was less than 2,000 gallons. In 2006, the largest oil spills were 4,200 gallons from a pipeline leak in the vicinity of the Los Angeles River, and 250 gallons from a slurry spill associated with a highway accident along the Palos Verdes coastline. In addition, in 2006 there was a 600,000 pound spill of ferrous chloride in the POLB and POLA, which resulted from improper packing of containers (Harbor Safety Committee 2007).

The California Office of Emergency Services (OES) maintains the Response Information Management System (RIMS) database that includes detailed information on all reported hazardous material spills in California. All spills that occur within the Port, both hazardous and non-hazardous, are reported to the OES and entered into the RIMS database. This database includes spills that may not result in a risk to the public, but could be considered to be an environmental hazard. Table 3.10-2 presents a summary of accidental spills from container terminals that have occurred in the port complex.

During 1997-2004, there were 40 hazardous material spills directly associated with container terminals in the POLB and POLA (Table 3.10-2). This equates to an average of approximately five spills per year for the entire port complex. During this period, the total throughput of the container terminals was 76,874,841 TEU. Therefore, the probability of a spill at a container terminal can be

Table 3.10-2. Historical Container-Related Spills at POLB/POLA 1997-2004

Spill Control Number	Substance	Spill Size	Port	Injuries	Fatalities	Evacuations
97-0684	Unknown dry substance	Unknown	POLB	2	0	0
97-1644	Phenetidine	Unknown	POLB	0	0	0
97-2220	Perfume	Unknown	POLB	0	0	0
97-2360	Ethanolamine	10 gallons	POLA	0	0	0
97-2782	Arsenic Trioxide	0.5 pounds	POLB	0	0	0
97-3158	Flammable liquid	Unknown	POLB	0	0	0
97-4369	Toluene Disocyaete	1 quart	POLA	0	0	0
98-4030	Nitric Acid	Unknown	POLB	0	0	0
98-4243	Isopropanol	55 gallons	POLB	0	0	0
99-3076	Alkyl Benzine	2 gallons	POLB	0	0	0
99-4630	Hypochlorite Solution	Unknown	POLB	0	0	0
00-1186	Xylenol	5 gallons	POLB	0	0	0
00-1232	Petroleum Distillates	1 gallon	POLB	0	0	0
00-2078	Chromium 6 Oxide	5 pounds	POLA	0	0	0
01-1433	Dodecylbenzene Sulfonic Acid Detergent	330 gallons	POLB	0	0	0
01-3682	Hydroperoxide	15 gallons	POLA	0	0	0
01-3943	Isopropanol	5 gallons	POLA	0	0	0
01-5462	Organic Peroxide	1 gallon	POLA	0	0	0
01-6533	Lead Acid Batteries	5 gallons	POLA	0	0	0
01-6902	Motor oil	3 gallons	POLB	0	0	0
02-0219	Calcium Hypochlorite	2 ounces	POLB	0	0	0
02-0822	Unknown material	Unknown	POLA	0	0	0
02-2033	Aerosol Cans	Unknown	POLA	0	0	0
02-3248	Perfume and Sulfamic Acid	Unknown	POLB	0	0	0
03-0278	Hexachlorocyclopentadiene	2 gallons	POLA	0	0	20
03-1653	Hydro Phosphorous Acid	1 gallon	POLA	0	0	0
03-0568	Organo Phosphorus Pesticide	3 gallons	POLA	0	0	0
03-0563	Organo Phosphorus Pesticide	1 gallon	POLA	0	0	0
03-0133	Sulfuric acid	Unknown	POLA	0	0	0
03-2554	Unknown Corrosive	1 gallon	POLB	0	0	0
03-3307	Unknown Oil	Unknown	POLB	0	0	0
03-4110	Unknown Oil	Unknown	POLA	0	0	0
04-1458	Alkyl benzyne	2,475 gallons	POLB	0	0	0
04-1431	Alkylene Carbonate	1 gallon	POLA	0	0	0
04-0085	Calcium Hypochlorite	Unknown	POLA	0	0	0
04-2525	Cutting Oil	Unknown	POLB	0	0	0
04-1135	Flammable Material	Unknown	POLB	0	0	0
04-2810	Hydrazine Hydrate, 34% solution	1 gallon	POLA	0	0	0
04-5008	Methane Sulfonic Acid	Unknown	POLA	0	0	0
04-1409	Unknown flammable	1 gallon	POLB	0	0	0
			Total	**2**	**0**	**20**

estimated as 5.2×10^{-7} per TEU (40 spills divided by 76,874,841 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 (e.g., perfume spills), but would still be considered an environmental hazard. It should be noted that during this period there were no reported impacts to the public (injuries, fatalities, and/or evacuations), with potential consequences limited to port workers (two worker injuries that were treated at the scene and 20 workers evacuated as a precaution).

Information pertaining to causes and rates of vessel accidents is discussed in Section 3.6, Vessel Transportation.

Fire Protection and Emergency Response

The proposed Project site is served by seven LBFD stations. Other organizations that provide emergency assistance include the LBPD, USCG, Department of Homeland Security, United States Customs, the Federal Bureau of Investigation, and the CDFG. Public services are discussed in detail in Section 3.8, Public Services/Health and Safety.

3.10.1.3 Regulatory Setting

Regulations applicable to the proposed Project are designed to regulate hazardous materials and hazardous wastes. These regulations also are designed to limit the risk of upset during the use, transport, handling, storage, and disposal of hazardous materials. The Project would be subject to numerous federal, state, and local laws and regulations including, but not limited to, those described below.

Resource Conservation and Recovery Act of 1976 (42 U.S.C. Section 6901-6987)

The goal of RCRA, a federal statute passed in 1976, 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 (HSWA) 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.

Hazardous Waste Control Law (California Health and Safety Code, Chapter 6.5)

This statute is the basic hazardous waste law for California. The Hazardous Waste Control Law 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. The program is administered by the DTSC.

Emergency Planning and Community Right-To-Know Act (42 U.S.C. 11001 et seq.)

Also known as Title III of the Superfund Amendments and Reauthorization Act (SARA), the Emergency Planning and Community Right-To-Know Act (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.

Hazardous Material Release Response Plans and Inventory Law (California Health and Safety Code, Chapter 6.95)

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 includes 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 Long Beach Certified Unified Program Agency (CUPA), which combines hazardous materials management programs of the Department of Health and Human Services and the LBFD, Fire Prevention Division. 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.

Other Requirements

POLB Risk Management Program

The RMP (Reese-Chambers Systems Consultants, Inc. 1981), which includes the Risk Management Plan (POLB 1981), is an amendment to the certified PMP. The RMP was required by the CCC as a means for judiciously managing, controlling, and directing proposed developments in order to prevent, insure, protect against, and minimize the

risks of loss or significant adverse impacts, due to potential hazards within and surrounding the POLB. The RMP is primarily concerned with the transfer, handling, storage, and transport of hazardous liquid bulk cargoes (POLB 1981).

Asbestos and Lead-Based Paint

The EPA has classified ACMs as a hazardous air pollutant, in accordance with Section 112 of the CAA. Surveys for ACMs are required by 40 CFR 61.145 prior to demolition of structures.

Lead-based paint is regulated in accordance with California Code of Regulations, Title 8 – Section 1532.1 and Title 17 – Sections 35022 and 35038, pertaining to construction sites and in the work place. In addition, 15 USC Section 2601, of the Federal Toxics Control Act, would apply to analysis of lead-based paint in onsite structures. Included in these regulations are requirements for facility surveys, notification of intent to disturb lead-based paint, control measures, removal measures, and handling and disposal techniques. Any proposed building demolition activities that include the removal and/or handling of lead-based paint would need to comply with these regulations.

Marine Transportation

Hazardous materials inside cargo containers fall under the primary jurisdiction of the federal Department of Homeland Security and USCG (33 CFR 126) while the containers are at sea, in Port waters, and at waterfront facilities. Under the jurisdiction of the Department of Homeland Security, the USCG maintains an Office of Operating and Environmental Standards Division, which develops national regulations and policies on marine environmental protection. This division coordinates with appropriate federal, state, and international organizations to minimize conflicting environmental requirements.

The USCG also maintains a Hazardous Materials Standards Division (HMSD), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials. This includes transportation of bulk liquid chemicals and liquefied gases, hazardous bulk solids, and packaged hazardous cargoes, as well as hazardous materials used as ship's stores and hazardous materials used for shipboard fumigation of cargo.

VTS is a public/private partnership vessel traffic service for the POLB and POLA. VTS is jointly operated and managed by the Marine Exchange of Southern California (a nonprofit corporation) and the Coast Guard COTP. VTS is a cooperative effort of the State of California, USCG, Marine Exchange of Southern California and POLB, and POLA. VTS is under the authority of California Government Code, Section 8670.21, Harbors and Navigation Code, Sections 445-449.5, and the Port tariffs of Long Beach and Los Angeles.

Terminal cargo operations involving hazardous materials are governed by the LBFD in accordance with regulations of federal and state departments of transportation (49 CFR 176). Regulated hazardous materials in the Port may include maritime-use compounds such as chlorinated solvents, petroleum products, compressed gases, paints, cleaners, and pesticides.

PCBs

Any electrical equipment, including but not limited to transformers that contain PCBs at concentrations greater than or equal to 50 ppm is considered PCB-contaminated electrical equipment. Any transformer that contains PCB concentrations greater than or equal to 500 ppm is considered a PCB transformer. Discovery of PCB-contaminated electrical equipment or PCB transformers requires EPA notification, removal of such transformers, and sampling and characterization of adjacent soils. Natural gas pipelines containing less than 500 ppm PCB must be drained of fluids and either abandoned in-place or disposed in a non-RCRA landfill, scrap metal recovery oven/smelter, or EPA-permitted PCB disposal facility. Pipelines containing greater than 500 ppm PCB must either be incinerated or disposed in a PCB-regulated landfill.

Oil Wells

Abandonment of existing oil wells and related infrastructure must be completed in accordance with standards and procedures set forth by the DOGGR Construction Project Site Review and Well Abandonment Procedures, as well as site-specific instructions from the DOGGR. Any structure located over or in proximity to a previously abandoned well potentially requires re-abandonment. PRC, section 3208.1, authorizes the State Oil and Gas Supervisor to order re-abandonment of any previously abandoned well when construction of any structure over or in proximity to the well could result in a hazard. The DOGGR strongly recommends avoiding placement of structures directly over an abandoned well. If construction over an abandoned well is unavoidable, a gas venting system or membrane would potentially be required by DOGGR.

Written approval from the DOGGR is required prior to plugging or abandoning any well. The operator's NOI to perform well operations is reviewed on an engineering and geological basis. Approval of the NOI depends upon the following criteria: (1) protection of subsurface hydrocarbons and fresh waters; (2) protection of the environment; (3) use of adequate blowout prevention equipment; and (4) utilization of accepted cementing techniques. The DOGGR must also witness or inspect all operations specified in the approval of any notice. This includes tests and inspections of blowout prevention equipment, reservoir and freshwater protection measures, and well-plugging operations.

Current federal and state regulations allow nonhazardous fluids produced from oil and gas wells, including NORMs, to be injected into a Class II disposal well.

3.10.2 Impacts and Mitigation Measures

3.10.2.1 Significance Criteria

Criteria for determining the significance of impacts related to hazards and hazardous materials are based on the POLB Environmental Protocol (POLB 2006) and are consistent with CEQA Guidelines *Appendix G* Environmental Checklist.

Construction Impacts

Project construction would have significant impacts on hazards and hazardous materials if the Project would:

HAZ-1: Accidentally release hazardous materials from onshore facilities or from vessels that would adversely affect the health and safety of the general public or workers.

Construction and Operational Impacts

Project construction and operations would have significant impacts on hazards and hazardous materials if the Project would:

HAZ-2: Result in noncompliance with state guidelines associated with abandoned oil wells.

Operational Impacts

Project operations would have significant impacts on hazards and hazardous materials if the Project would:

HAZ-3: Substantially increase the probable frequency and severity of consequences to people or property as a result of accidental release of a petroleum product or hazardous substance; or

HAZ-4: Result in inconsistency with the Risk Management Program.

3.10.2.2 Methodology

CEQA guidelines require identifying any adverse change in any of the physical conditions within the area affected by the Project, including the probability of spills or releases. The following probability criteria have been used to assess whether the Project would substantially increase the probable frequency and severity of consequences to people or property as a result of accidental release of a petroleum product or hazardous substance. Accidental spill or release probability has been divided into five categories (LACFD 1991):

A - Frequent	0 to 1 year More than once per year
B - Periodical	Every 1 to 10 years At least once each decade
C - Occasional	Every 10 to 100 years Probably during the lifetime of the facility
D - Possible	Every 100 to 10,000 years Not expected, but could occur
E - Improbable	Not for 10,000 or more years Not expected or likely to occur at all

It is also necessary to classify accidents according to the severity of consequences to people or property. There are four categories of classifications:

I - Catastrophic	Results in death (or damage and production losses >$1,000,000)
II - Severe	Results in multiple injuries (or losses between $100,000 and $1,000,000)
III - Moderate	Results in a single injury (or losses between $10,000 and $100,000)
IV - Slight	Results in operational problems only (or losses <$10,000)

The risk criticality matrix shown in Table 3.10-3 combines accidental probability with the severity of consequences to identify the operational risk criticality. The risk criticality matrix presented in Table 3.10-3 was originally developed for use in evaluating the probability and significance of a release of acutely hazardous materials (AHM) under the requirements of Health and Safety Code Section 25532(g). Four categories of risk have been defined as:

1. Critical. Mitigate within six months with administrative or engineering controls (to reduce the Risk Code to 3 or less).
2. Undesirable. Mitigate within one year with administrative or engineering controls (to reduce the Risk Code to 3 or less).
3. Acceptable. Verify need for engineering controls, or that administrative controls are in place for hazard.
4. Acceptable. No mitigating action required for the identified hazard.

In addition, the assessment of impacts is based on the following regulatory controls that would govern various project components and are the basis for federal and state permits that would be required prior to construction:

- An individual NPDES permit would be prepared for storm water discharges or coverage under the General Construction Activity Storm Water Permit in order to contain construction- and operationally-induced stormwater runoff. A SWPPP would be completed in association with the NPDES permit;
- A Spill Prevention, Control, and Countermeasure (SPCC) Plan and an Oil Spill Contingency Plan (OSCP) would be prepared and would be reviewed and approved by the California Department of Fish and Game Office of Spill Prevention and Response, in consultation with other responsible agencies. The SPCC would detail and implement spill prevention and control measures to prevent oil spills from seeping into onsite soils and reaching navigable waters. The OSCP would identify and plan as necessary for contingency measures that would minimize damage to soil and water quality and provide for restoration to pre-spill conditions.

3.10.2.3 Alternative 1 – 345-Acre Alternative (the Project)

Construction Impacts

Impact HAZ-1: Construction activities would not result in an accidental release of hazardous materials from onshore facilities or from vessels that would adversely affect the health and safety of the general public or workers.

Phase 1 and 2 construction activities would include terminal expansion on adjacent areas of existing and newly created land, dredge and fill operations, and new wharf construction. Existing structures and underground utilities would be demolished; existing Tidelands oil well facilities and pipelines, located on the southwest portion of Pier E, would be abandoned; and new buildings and ancillary infrastructure would be constructed. Construction activities would be conducted using BMPs in accordance with City Planning and Building Department BMP guidelines (City of Long Beach 2006). Applicable BMPs include, but are not limited to, vehicle and equipment fueling and maintenance; material delivery, storage, and use; spill prevention and control; solid and hazardous waste management; and contaminated soil management. Project plans and specifications would be reviewed by the LBFD for conformance to the Long Beach Municipal Fire Code, as a standard practice.

Table 3.10-3. Risk Criticality Matrix

Frequency	Severity of Consequence			
	I (Catastrophic)	II (Severe)	III (Moderate)	IV (Slight)
A. Frequent	1	1	2	4
B. Periodical	1	2	3	4
C. Occasional	2	3	4	4
D. Possible	4	4	4	4
E. Improbable	4	4	4	4

Notes:
Incidents that fall in the dark shaded area of the risk matrix would be classified as significant in the absence of mitigation, while the lighter shaded areas would be significant in the absence of engineering and/or administrative controls. Un-shaded areas would be considered less than significant.
Source: LACFD 1991.

Project construction would be required to comply with all existing hazardous waste laws and regulations, including the federal RCRA and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and CCR Title 22 and Title 26. The Project would comply with these laws and regulations, which would ensure that potential hazardous materials handling would occur in an acceptable manner.

Demolition and construction equipment could spill oil, gasoline, or other fluids during normal usage or during refueling. Oil field abandonment activities could spill crude oil or other oil field related hazardous waste. However, spills would be short term and localized. The NPDES permit mandated BMPs would govern spill containment during Phase 1 and 2 construction activities, through use of features such as temporary spill containment booms and berms.

ACMs and lead-based paint may be present in buildings and other infrastructure (e.g., old utility lines) to be demolished as part of the Project. Similarly, PCBs may be present in pre-1979 electrical equipment and natural gas pipelines. Disturbance of such materials would be harmful if inhaled or ingested during demolition and disposal activities. Therefore, health impacts associated with demolition of onsite buildings and related infrastructure would be potentially significant. However, ACM, lead-based paint, and PCB surveys would be completed in accordance with all federal and state regulations. In the event that hazardous levels of ACMs, lead-based paint, and PCBs were detected, a contractor licensed to handle such materials would properly remove and dispose these materials offsite. Implementation of standard health and safety protocol during remediation activities, such as respiratory and skin protection, would prevent health and safety impacts to onsite personnel.

As discussed under **Impact HAZ-3**, accidental spills of hazardous substances could also occur during Project operations.

CEQA Impact Determination

Hazardous substances would potentially be spilled or exposed during Project construction, resulting in health and safety impacts to onsite personnel and/or the environment. However, implementation of standard BMPs, proper use and storage of hazardous materials and petroleum products, and proper removal of ACMs, lead-based paint, and PCBs, in accordance with applicable federal, state, and local regulations, would result in less than significant Project construction impacts on hazards and hazardous materials under CEQA.

Mitigation Measures

As impacts on hazards and hazardous materials would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on hazards and hazardous materials would be less than significant

NEPA Impact Determination

The proposed Project would include landfilling and construction of wharves and dikes, which would result in an increased likelihood of hazardous materials spills during construction. However, implementation of standard BMPs and proper use and storage of hazardous materials and petroleum products, in accordance with applicable federal, state, and local regulations, would result in less than significant Project construction impacts on hazards and hazardous materials, under NEPA.

Mitigation Measures

As impacts on hazards and hazardous materials would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on hazards and hazardous materials would be less than significant.

Construction and Operational Impacts

Impact HAZ-2: The Project would not result in noncompliance with state guidelines associated with abandoned oil wells.

Existing oil wells and related infrastructure would be abandoned in accordance with standards and procedures set forth by the California DOGGR Construction Project Site Review and Well Abandonment Procedures, as well as site-specific instructions from the DOGGR. If any structure were to be located over or near a previously abandoned well, that well would potentially require re-abandonment. If construction over an abandoned well were unavoidable, a gas venting system or membrane would potentially be required by DOGGR. In addition, if any plugged and abandoned or unrecorded wells are damaged or uncovered during excavation or grading, remedial plugging operations may be required.

Written approval from the DOGGR is required prior to plugging or abandoning any well. The operator's NOI to perform well operations is reviewed on an engineering and geological basis. Approval of the NOI depends upon the following criteria: (1) protection of subsurface hydrocarbons and fresh waters; (2) protection of the environment; (3) use of adequate blowout prevention equipment; and (4) utilization of accepted cementing techniques. The DOGGR must also witness or inspect all operations specified in the approval of any notice. This includes tests and inspections of blowout prevention equipment, reservoir and freshwater protection measures, and well-plugging operations.

Current federal and state regulations allow nonhazardous fluids produced from oil and gas wells, including NORMs, to be injected into a Class II disposal well.

Standard DOGGR measures, such as those described above, would reduce adverse health and safety impacts to construction and operational personnel.

CEQA Impact Determination

Portions of Pier E have been used as an oil and gas production field from the late 1930s to present. Associated oil field infrastructure, such as oil separation facilities, storage tanks, and pipelines (oil, gas, and water) continue to be used on the property. Improperly abandoned oil wells can potentially result in gas migration to the surface, which in turn could create a health hazard. However, implementation of standard DOGGR measures would reduce adverse health and safety impacts to construction and operational personnel. Therefore, impacts would be less than significant under CEQA.

Mitigation Measures

As impacts on hazards and hazardous materials would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on hazards and hazardous materials would be less than significant.

NEPA Impact Determination

The proposed Project would include landfilling and construction of wharves and dikes in areas of existing and former oil wells. Associated oil field infrastructure, such as oil separation facilities, storage tanks, and pipelines (oil, gas, and water) continue to be used on the property. Improperly abandoned oil wells can potentially result in gas migration to the surface, which in turn could create a health hazard. However, implementation of standard DOGGR measures would reduce adverse health and safety impacts to construction and operational personnel. Therefore, impacts would be less than significant under NEPA.

Mitigation Measures

As impacts on hazards and hazardous materials would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on hazards and hazardous materials would be less than significant.

Operational Impacts

Impact HAZ-3: Project operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of accidental release of a petroleum product or hazardous substance.

Existing terminal facilities on the Project site include break-bulk facilities, container terminals, and an on-dock rail facility. Currently, the Project site handles approximately 1,264,000 TEUs (approximately 702,200 containers) per year based on data from 2005 (CEQA Baseline). At full build-out the Project could handle approximately 3,310,000 TEUs (1,838,000 containers) per year when functioning at maximum capacity. This would equate to a 162 percent increase in throughput capacity.

Terminal operations would be subject to safety regulations that govern the storage and handling of hazardous materials. These regulations (i.e., Port RMP, USCG and LBFD regulations and requirements, and DOT regulations) would limit the severity and frequency of potential releases of hazardous materials that otherwise could result in increased exposure of people to health hazards. For example, as discussed in Section 3.10.1.3, and summarized below, the USCG maintains a HMSD, under the jurisdiction of the federal Department of Homeland Security (33 CFR 126), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials. Among other requirements, the proposed Project would conform to the USCG

requirement to provide a segregated cargo area for containerized hazardous materials.

Terminal cargo operations involving hazardous materials are also governed by the LBFD in accordance federal and state DOT regulations (49 CFR 176). The transport of hazardous materials in containers on the street and highway system is regulated by Caltrans procedures and the Standardized Emergency Management System prescribed under Section 8607 of the California Government Code. These safety regulations strictly govern the storage of hazardous materials in containers (i.e., types of materials and size of packages containing hazardous materials). Implementation of increased hazardous materials inventory control and spill prevention controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

In addition, the DOT Hazardous Materials Regulations (Title 49 CFR Parts 100-185) regulate almost all aspects of terminal operations. Parts 172 (Emergency Response), 173 (Packaging Requirements), 174 (Rail Transportation), 177 (Highway Transportation), 178 (Packaging Specifications) and 180 (Packaging Maintenance) would apply to the proposed Project activities.

Terminal maintenance activities would potentially involve the use of hazardous materials such as petroleum products, solvents, paints, and cleaners. 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 and a Hazardous Materials Inventory. Conformance to these requirements would limit both the frequency and severity of potential releases of hazardous materials. Quantities of hazardous materials utilized at the Project site that are below the thresholds of Chapter 6.95 would not likely result in a substantial release into the environment.

CEQA Impact Determination

Because projected terminal operations at the Middle Harbor container terminal would accommodate a 162 percent increase in containerized cargo compared to the CEQA Baseline, the potential for an accidental release or explosion of hazardous materials would also be expected to increase proportionally.

As previously discussed, during 1997-2004, there were 40 hazardous material spills directly associated with container terminals in the POLB and POLA (Table 3.10-2). Therefore, the probability of a spill at a container terminal can be estimated as 5.2×10^{-7} per TEU (40 spills divided by 76,874,841 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 (e.g., perfume spills), but would still be considered an environmental hazard. The probability of spills associated with future operations would be based on the spill probability per TEU times the number of TEUs under the proposed Project.

As previously discussed in Section 3.10.1.2, during this period there were no reported impacts to the public (i.e., injuries, fatalities and evacuations), and potential consequences were limited to port workers (two worker injuries that were treated at the scene and 20 workers evaluated as a precaution).

Based on the Port's accident history of containers containing hazardous materials, which includes 40 incidents over an eight-year period in the entire port complex (POLB and POLA), the frequency of Project-related spills can be estimated as shown in Table 3.10-4.

Based on the projected increase in TEUs, the frequency of potential Project-related spills would increase from 0.6 to 1.6 spills per year, or about one spill per year. This spill frequency would be classified as "frequent" (more than once a year). Based on past history, a slight possibility exists for injury and/or property damage to occur during one of these accidents; therefore, the potential consequence of such accidents is classified as "slight," equating to a Risk Code of 4 (i.e., "acceptable").

Table 3.10-4. Existing and Projected Cargo Throughput Volumes at the Middle Harbor Container Terminal

Operations	Overall Throughput (TEUs)[1]	Potential Spills (per year)
CEQA Baseline (2005)	1,264,000	0.6
Project (2025)	3,310,000	1.6

Note:
1. TEUs = twenty-foot equivalent units

It should be noted that there were no impacts to the public from any of the hazardous materials spills that were reported during 1997-2004. Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potentials for adverse public health impacts. Therefore, proposed Project operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of a potential accidental release or explosion of a hazardous substance. Consequently, impacts would be less than significant under CEQA.

Mitigation Measures

As impacts on hazards and hazardous materials would be less than significant, no mitigation measures are necessary.

Significance of Impacts after Mitigation

Impacts on hazards and hazardous materials would be less than significant.

NEPA Impact Determination

The Project would result in construction of new wharves, which would result in an increase in TEUs, in comparison to the NEPA Baseline. Middle Harbor container terminal operations under the NEPA Baseline would handle approximately 2,910,000 TEUs per year, when optimized and functioning at maximum capacity (year 2025). The Project would result in a net increase of 400,000 TEUs per year compared to the NEPA Baseline. An overall increase in TEUs would result in proportionally greater hazardous materials containers subject to accidental release, as summarized in Table 3.10-5.

Based on the projected increase in TEUs, the frequency of potential Project-related spills would increase from 1.4 to 1.6 spills per year, equating to about two spills per year. This spill frequency would be classified as "frequent" (more than once a year). Based on past history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents; therefore, the potential consequence of such accidents is classified as "slight," equating to a Risk Code of 4 (i.e., "acceptable").

It should be noted that there were no impacts to the public from any of the hazardous materials spills that were reported during 1997-2004. Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potentials for adverse public health impacts. Therefore, proposed Project operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of a potential accidental release or explosion of a hazardous substance. Consequently, impacts would be less than significant under NEPA.

Mitigation Measures

As impacts on hazards and hazardous materials would be less than significant, no mitigation measures are necessary.

Significance of Impacts after Mitigation

Impacts on hazards and hazardous materials would be less than significant.

Impact HAZ-4: The Project would comply with Risk Management Program policies guiding development within the Port.

The POLB has implemented the RMP 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 RMP provides guidance for future development of the Port to minimize or eliminate the hazards to vulnerable resources from accidental releases.

The RMP implements development guidelines in an effort to minimize the danger of accidents to vulnerable resources. This would be achieved mainly through physical separation as well as through facility design features, fire protection, and other risk management methods. There are two

Table 3.10-5. Existing and Projected Cargo Throughput Volumes at the Middle Harbor Container Terminal

Operations	Overall Throughput (TEUs)[1]	Potential Spills (per year)
NEPA Baseline (2025)	2,910,000	1.4
Project (2025)	3,310,000	1.6

Note:
1. TEUs = twenty-foot equivalent units

primary categories of vulnerable resources: people and facilities. People are further divided into subgroups, the first subgroup of which is comprised of residences, recreational users, and visitors. The second subgroup is comprised of workers in high density facilities. Facilities that are vulnerable resources are critical impact facilities or facilities of major economic importance. The determination of a vulnerable resource is made by the Port and LBFD on a case-by-case basis. Within the Port setting, residences and recreational users are considered vulnerable resources. The Port does not consider container terminals to be vulnerable resources. The southeast portion of the Project would be located immediately adjacent to several liquid-bulk tanks at Berth F211. In addition, several liquid-bulk tanks are located on Pier S, approximately one-half mile west of Pier D. However, because container terminals are not considered vulnerable resources, the Project would not conflict with the RMP.

CEQA Impact Determination

The RMP was written primarily to evaluate the risk of upset, including an evaluation of the hazard footprint and potential vulnerable resources within those footprints, associated with liquid bulk storage facilities. Such facilities are not proposed as part of the Project; therefore, the RMP would not be applicable to the Project and no impacts would occur under CEQA.

Mitigation Measures

As impacts on hazards and hazardous materials would not occur, no mitigation measures are necessary.

Significance of Impacts after Mitigation

Impacts on hazards and hazardous materials would not occur.

NEPA Impact Determination

The RMP was written primarily to evaluate the risk of upset, including an evaluation of the hazard footprint and potential vulnerable resources within those footprints, associated with liquid bulk storage facilities. Such facilities are not proposed as part of the Project; therefore, the RMP would not be applicable to the Project and no impacts would occur under NEPA.

Mitigation Measures

As impacts on hazards and hazardous materials would not occur, no mitigation measures are necessary.

Significance of Impacts after Mitigation

Impacts on hazards and hazardous materials would not occur.

3.10.2.4 Alternative 2 – 315-Acre Alternative

Alternative 2 would add 24.7 net acres of newly created land to the existing 294-acre Project site by filling Slip 1 between Piers E and F (Berths E12-E14 and F1-F4). Under this alternative, the proposed East Basin would not be filled. Middle Harbor container terminal operations under this alternative could handle approximately 2,870,000 TEUs per year when operating at maximum throughput capacity.

CEQA Impact Determination

Under this alternative, construction impacts related to hazards and hazardous materials would be similar in nature to, but slightly less than those described under **Impacts HAZ-1 and HAZ-2** for the Project, because the extent of construction activity causing short-term impacts and extent of new Project structures and infrastructure would be reduced with the elimination of the East Basin fill. Also, operational impacts would be similar but slightly less than those described under **Impact HAZ-3,** since this alternative would handle slightly fewer TEUs per year when operating at maximum throughput capacity. Similar to the Project, no impacts would occur with respect to **Impact HAZ-4**. As with the Project, implementation of Alternative 2 would result in less than significant impacts related to hazards and hazardous materials under CEQA.

NEPA Impact Determination

Under this alternative, impacts related to hazards and hazardous materials would be similar in nature to, but slightly less than those described under **Impacts HAZ-1 and HAZ-2** for the Project, because the extent of construction activity causing short-term impacts and extent of new Project structures and infrastructure would be reduced with the elimination of the East Basin fill. Operational impacts would be similar but slightly less than those described under **Impact HAZ-3,** as this alternative would handle slightly fewer TEUs per year when operating at maximum throughput capacity. Similar to the Project, no impacts would occur with respect to **Impact HAZ-4**. As with the Project, implementation of this alternative would result in less than significant impacts to hazards and hazardous materials under NEPA.

3.10.2.5 Alternative 3 – Landside Improvements Alternative

Alternative 3 would redevelop existing terminal areas on Piers E and F and convert underutilized land north of the Gerald Desmond Bridge and Ocean Boulevard within the Project site to a container yard. When optimized at maximum throughput capacity (anticipated by approximately 2025), the terminals would be designed to accommodate a combined total of about 2,910,000 TEUs per year.

Under this alternative, no in-water activities including dredging, filling Slip 1 and the East Basin, new wharf construction, wharf upgrades, or channel and berth deepening would occur.

CEQA Impact Determination

Under this alternative, construction impacts related to hazards and hazardous materials would be similar in nature to, but slightly less than those described under **Impacts HAZ-1 and HAZ-2** for the Project, because the extent of construction activity causing short-term impacts and extent of new Project structures and infrastructure would be reduced with the elimination of filling Slip 1 and the East Basin (taking into consideration that 18 acres of backland would be redeveloped). Operational impacts would be similar but slightly less than those described under **Impact HAZ-3,** since this alternative would handle slightly fewer TEUs per year when operating at maximum throughput capacity. Similar to the Project, no impacts would occur with respect to **Impact HAZ-4**. As with the Project, implementation of this alternative would result in less than significant impacts related to hazards and hazardous materials under CEQA.

NEPA Impact Determination

Alternative 3 is equivalent to the NEPA Baseline because it only includes construction and operational activities that would not require issuance of federal permits. As no federal action or permit would be required, there would be no significance determination under NEPA for this alternative. No impacts on hazards and hazardous materials would occur.

3.10.2.6 Alternative 4 – No Project Alternative

The No Project Alternative would not include construction of upland site improvements, including rail improvements and construction of the Pier E Substation, or in-water activities (i.e., dredging, filling of Slip 1 and the East Basin, and/or new wharf construction). However, forecasted increases in cargo would still occur under this alternative. Operational impacts associated with the following activities would occur: cargo ships that currently berth and load/unload at the terminal would continue to do so; terminal equipment would continue to handle cargo containers; and trucks would continue to transport containers to outlying distribution facilities.

CEQA Impact Determination

Under this alternative, no construction (i.e., dredging, filling, new wharf construction, and infrastructure improvements) would occur. Consequently, no construction-related impacts on hazards and hazardous materials would occur. Operational impacts would be less than those described under **Impact HAZ-3,** as this alternative would handle fewer TEUs per year when operating at maximum throughput capacity. Similar to the Project, no impacts would occur with respect to **Impact HAZ-4**. Therefore, the No Project Alternative would result in less than significant impacts on hazards/hazardous materials under CEQA.

NEPA Impact Determination

Under this alternative, no in-water construction activities and, consequently, no construction-related impacts would occur. Operational impacts would be less than those described under **Impact HAZ-3,** as this alternative would handle fewer TEUs per year when operating at maximum throughput capacity. Similar to the Project, no impacts would occur with respect to **Impact HAZ-4**. Therefore, the No Project Alternative would result in less than significant operational impacts on hazards/ hazardous materials under NEPA.

3.10.3 Cumulative Impacts

The proposed Project along with other related projects proposed in the POLB and POLA would result in an increase in the maximum throughput of containers. These terminals would allow the operators to handle projected increases in containerized cargo. Related projects within the Project area are predominantly berth and terminal expansion or traffic circulation improvements undertaken by the POLB and POLA. Exceptions include several commercial developments, road improvement projects, and municipal construction projects.

Operation of the proposed Project would increase the level of impacts within the POLB and POLA.

Because projected terminal operations at Middle Harbor would accommodate a 162 percent increase in containerized cargo compared to the CEQA Baseline, the potential for an accidental release or explosion of hazardous materials would also be expected to increase proportionally. Based on the projected increase in TEUs, the frequency of potential Project-related spills would increase from 0.6 to 1.6 spills per year, or about one spill per year under CEQA and from 1.4 to 1.6 spills per year, equating to about two spills per year under NEPA. The projected number of increased spills would be the Project's contribution to cumulative impacts in the POLB/POLA region. This spill frequency would be classified as "frequent" (more than once a year). Based on past history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents; therefore, the potential consequence of such accidents is classified as "slight," equating to a Risk Code of 4 (i.e., "acceptable").

To the extent that increased container throughput would occur through existing POLB and POLA terminals, there could be an increased risk of upset, compared to baseline conditions, from increased vessel/truck traffic and container throughput. In the absence of any quantitative details of such a scenario, however, it is not possible to definitively conclude that those impacts would occur or be significant.

In general, each POLB and POLA project is subject to regulatory standards that must be achieved during construction and operation. All projects individually undergo rigorous safety, fire preparedness, and NEPA/CEQA reviews. As a result any potential hazards or risks are evaluated and measures to minimize those risks are implemented. Mitigation for future projects would be expected to be consistent with applicable standards, regulations, and permits required, reducing potential impacts from hazards and hazardous materials. Incorporation of these mitigation measures to other projects would be expected to reduce impacts to the extent feasible.

In summary, the proposed Project would contribute to cumulative impacts from hazards and hazardous materials from other projects. However, compliance with applicable federal, state, and local laws and regulations governing packing, labeling, and transporting and manifesting hazardous materials, along with emergency response to hazardous materials spills, would minimize the potential for adverse public safety impacts associated with the proposed Project. In addition, as previously discussed, the potential consequence of accidental spills is classified as "slight," equating to a Risk Code of 4 that is "acceptable." Therefore, the proposed Project's cumulative contribution would be adverse, but less than significant under NEPA and CEQA.

3.10.4 Mitigation Monitoring Program

As no mitigation measures are required to address impacts on hazards and hazardous materials no mitigation monitoring program is required.

3.11 RECREATION

3.11.1 Environmental Setting

3.11.1.1 Area of Influence

The recreational resources analysis includes local and regional recreational facilities and services within the Long Beach Harbor and the San Pedro Bay. Recreational facilities, such as parks, were analyzed within a five-mile radius of the Project site.

3.11.1.2 Setting

Parks

The City of Long Beach maintains several park facilities adjacent to the POLB. Table 3.11-1 shows the facilities that are located within a five-mile radius of the Project vicinity.

The parks listed in Table 3.11-1 offer a variety of facilities including community centers, playgrounds, swimming pools, golf courses, and sports fields.

Table 3.11-1. City of Long Beach Parks Within the Project Vicinity

Park	Location	Distance to Project Site (miles)
Admiral Kidd Park	2125 Santa Fe Ave.	2
Bayshore (Playground, Handball, and Roller Hockey Rink)	14 54th Pl.	4.6
Belmont Veterans Memorial Pier	Ocean Blvd. & 39th Pl.	3.6
Billie Jean King Tennis Center	10th & Park Ave.	4.1
Bixby Park	130 Cherry Ave.	2.5
Blair Field	4700 Deukmejian Dr.	4.1
Bluff Park	Ocean Blvd. between 20th & 36th Pl.	3.0
Bouton Creek	Atherton St. & Litchfield Ave.	4.9
California Recreation Center	1550 Martin Luther King Ave.	2.2
Cesar E. Chavez Park	401 Golden Ave.	0.5
Chittick Field	1900 Walnut Ave.	2.8
Colorado Lagoon	5119 E. Colorado St.	4.4
Douglas Park	Clark & Conaut Ave.	2.4
Drake Park	951 Maine Ave.	0.9
East Village Arts Park	150 Elm Ave.	1.3
Fellowship Park	N. Pasadena Ave. & Willow St.	2.9
Fourteenth Street Playground	14th St. & Chestnut Ave.	1.4
Hudson Park	2335 Webster Ave.	2.2
Lincoln Park and Civic Center	Pacific Ave. & Broadway St.	0.9
Livingston Drive Playground	Livingston Dr. & Park Ave.	4.2
Los Cerritos Park	3750 Del Mar Ave.	4.2
Macarthur Park	1321 Anaheim St.	2.3
Marina Green	Shoreline Dr. & Pine Ave.	1.3
Marina Vista	Colorado St. & Santiago	4.7
Martin Luther King Jr. Park and Pool	1105 19th St.	2.6
Orizaba Park	Orizaba Ave. & Spaulding St.	3.3
Peace Park	14th St. & Atlantic Ave.	1.8
Queen Mary Events Park	1126 Queens Hwy.	1.4
Rainbow Lagoon	Pine Ave. & Shoreline Ave.	1.1
Rancho Los Cerritos	4600 Virginia Rd.	4.8
Recreation Park and Golf Course	4900 E. 7th St.	4.3
Rose Park	8th St. & Orizaba Ave.	3.2
Santa Cruz Park	Cedar Ave. to Golden Ave.	3.4
Silverado Park and Pool	4600 Long Beach Blvd.	3.3
Somerset Park	1500 E. Carson	5.0
Stearns Champion Park	4520 E. 23rd St.	4.6
Tanaka Park	1400 W. Wardlow Rd.	4.0
Veterans Park	101 E. 28th St.	3.1
Victory Park	Ocean Blvd. & Alamitos Ave.	1.4
Will Rogers Mini Park	Appian Way & Nieto Ave.	4.5

Source: City of Long Beach 2007b.

Aquatic Recreation

Within the POLB area, numerous marina and aquatic recreational services are provided. These do not, however, include live-aboard services. Marina and aquatic recreation facilities located within the POLB area include the following (Figure 3.11-1):

- *Rainbow Harbor/Marina.* 87 slips for commercial and recreational boaters, 200-foot long dock for day guests, twelve 150-foot docks for commercial vessels, cruise line terminals, charter transportation and excursions, and Aqua Bus/Aqua Link stations;
- *Long Beach Shoreline Marina.* 1844 slips for recreational boaters;
- *Queensway Bay.* Public launch ramp, sightseeing, charter transportation and excursions, cruise line terminals, and Aqua Bus/Aqua Link stations; and
- *Berth 55.* Charter transportation/excursions.

There are also numerous marinas and aquatic recreational facilities located in the POLA area within five miles of the Project site. The following marina facilities are located within the POLA:

- California Yacht Marina;
- Cerritos Yacht Anchorage;
- Holiday Harbor Marina;
- Island Yacht Anchorage #1 and #2;
- Leeward Bay;
- Lighthouse Yacht Landing;
- Newmarks Yacht Center;
- Pacific Yacht Landing;
- Yacht Haven Marina;
- Al Larson Marina;
- Cabrillo Marina (Main Channel); and
- Cabrillo Way Marina (Main Channel).

In contrast, the POLB Middle Harbor area has been developed with industrial uses. No pleasure craft slips are located in the immediate Project area. However, the Project area may be used by recreational boaters and charter fishing vessels.

3.11.2 Impacts and Mitigation Measures

3.11.2.1 Significance Criteria

The following significance criteria are based on the POLB Environmental Protocol (POLB 2006) and the CEQA Guidelines *Appendix G* Environmental Checklist. The Project would have a significant impact on recreational resources if it would:

REC-1: Result in a substantial loss or diminished quality of recreational, educational, or visitor-oriented opportunities, facilities, or resources; or

REC-2: Result in a demand for recreation and park services that exceeds the available resources.

3.11.2.2 Methodology

The type and quantity of nearby parks and recreational resources were evaluated to determine if the needs of the proposed Project could be adequately served by existing resources, or if availability would be adversely impacted by the proposed Project. Agencies were contacted to obtain information regarding their existing and projected service capacity, as well as the projected impacts that could result upon implementation of the proposed Project.

3.11.2.3 Alternative 1 – 345-Acre Alternative (the Project)

Construction Impacts

Impact REC-1.1: Project construction would not result in a substantial loss or diminished quality of recreational, educational, or visitor-oriented opportunities, facilities, or resources.

Proposed Project construction activities including dredging, filling, construction of additional container storage areas, wharf renovation, and new wharf construction would not disturb or adversely affect the nearest existing recreational facilities in the City of Long Beach.

Marine recreational opportunities within the Long Beach Harbor would not be significantly affected during the in-water construction period. The Project area and POLB waterways are used primarily for commercial shipping activities, such that interference with pleasure craft traffic located in the immediate Project area would be nominal.

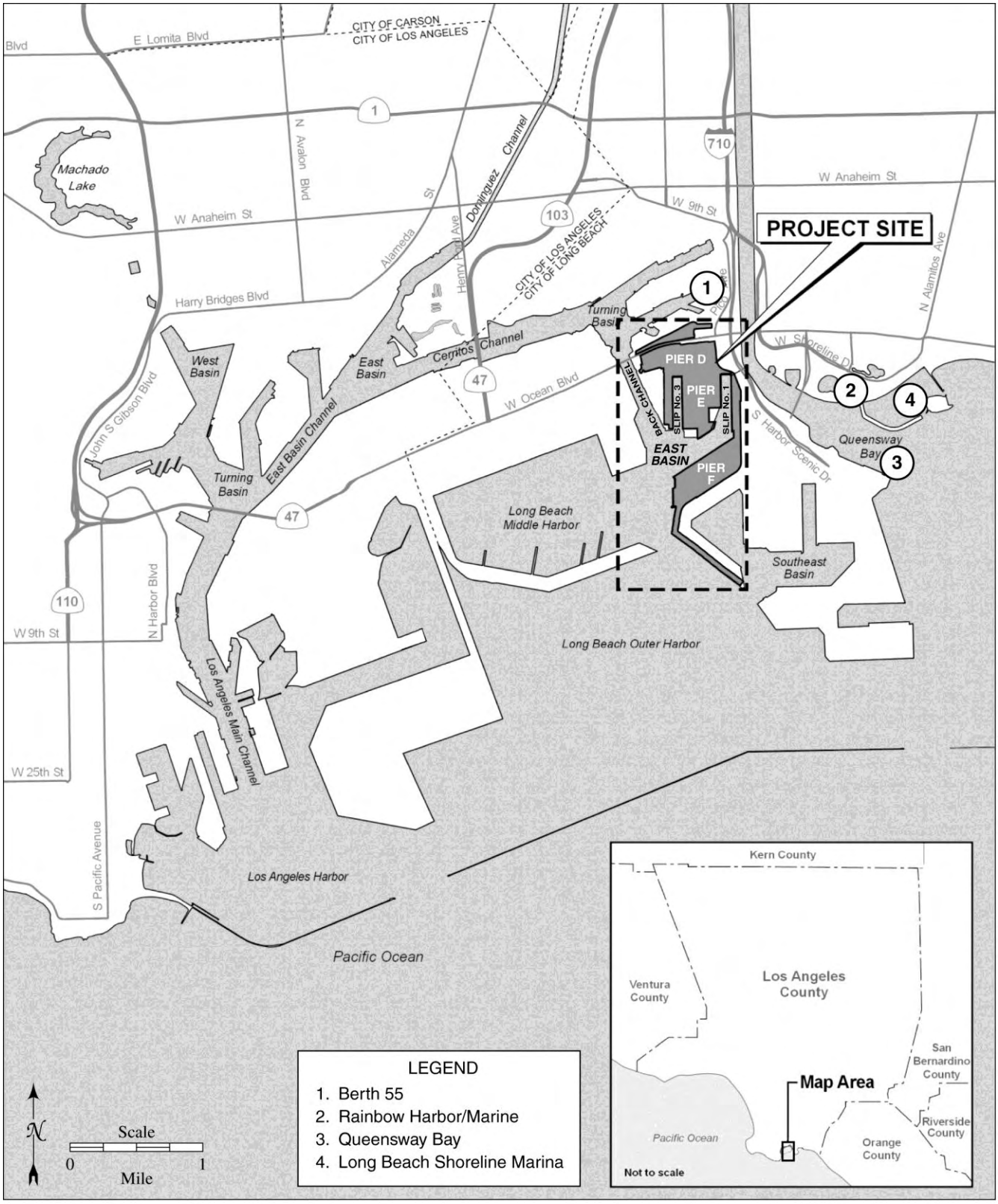

Figure 3.11-1. Recreational Facilities Within the Project Vicinity

Additionally, recreational boating that occurs within the San Pedro Bay would not be adversely affected during the construction period.

In the event that additional sources of Project fill were required from as yet undetermined dredge locations throughout the southern California region, such as soils from Marina del Rey, the barges traveling in the Long Beach Harbor to the Project site would potentially encroach within corridors used by recreational boaters. As discussed in Section 3.6.2.3, standard existing safety precautions governing POLB navigation would apply to all Project construction support boats or barges traveling through harbor waters. Therefore, the short-term presence of these vessels in the vicinity of recreational boaters during the construction period would be substantially reduced.

CEQA Impact Determination

Project construction would not remove or affect existing recreational facilities, including parks and marine recreational opportunities. Although the Project site is located within an industrial area, recreational boaters and charter fishing vessels that could be in the vicinity would not experience significant impacts. Any Project-related marine vessel traffic would be subject to standard existing safety precautions governing POLB navigation. Therefore, proposed Project construction activity would have a less than significant impact on recreational resources under CEQA.

Mitigation Measures

As impacts on recreational resources would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on recreational resources would be less than significant.

NEPA Impact Determination

The proposed Project would include increased levels of in-water construction activities that would not occur under the NEPA Baseline; however, this would not result in significant impacts to nearby marine recreational opportunities. Any Project-related marine vessel traffic would be subject to existing standard safety precautions governing POLB navigation. Therefore, impacts on recreational resources would be less than significant under NEPA.

Mitigation Measures

As impacts on recreational resources would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on recreational resources would be less than significant.

Impact REC-2.1: Project construction would not result in a demand for recreation and park services that exceeds the available resources.

Although construction personnel would be employed at the construction site during the approximately 10-year period, this workforce would primarily live in the Long Beach area. Even if construction workers would utilize local recreation and park facilities during the construction period, (e.g., during lunch breaks) additional demands on nearby parks would not occur because the local workforce already has access to these facilities. Therefore, their use would not constitute a new demand.

As discussed in Section 3.12.2.3, the additional temporary employment related to proposed Project construction would result in approximately 292 employees by 2010 and 432 employees by 2015. Therefore, additional demand for recreational and park services resulting from temporary Project construction employment would be minimal.

CEQA Impact Determination

Construction of the proposed Project would not result in substantial demands for recreational services in the Project vicinity. Because of the existing sizable local and regional labor pool in the Long Beach area, no substantial influx of workers in the local communities is anticipated. Consequently, Project construction would not result in an increased demand for existing recreational services and facilities that would exceed available resources during the approximately 10-year construction period. Therefore, impacts on recreational resources would be less than significant under CEQA.

Mitigation Measures

As impacts on recreational resources would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on recreational resources would be less than significant.

NEPA Impact Determination

Although the proposed Project would result in increased levels of construction activities compared to NEPA Baseline conditions, it would not result in a substantial temporary influx of workers in the surrounding communities. Project construction would not result in an increased demand for existing recreational services and facilities that would exceed available resources during the approximately 10-year construction period. Impacts on recreational resources would be less than significant under NEPA.

Mitigation Measures

As impacts on recreational resources would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on recreational resources would be less than significant.

Operational Impacts

Impact REC-1.2: Project operations would not result in a substantial loss or diminished quality of recreational, educational, or visitor-oriented opportunities, facilities, or resources.

As discussed under **Impact REC-1.1,** the Middle Harbor area has been developed primarily for industrial uses and is not generally used for recreational purposes. However, the Project area is accessible by recreational boaters and charter fishing vessels. Project operational activities would not degrade on-land recreational opportunities. As existing land uses would not change under Project operations, the nearby recreational resources would not be significantly impacted.

Marine recreational opportunities within the harbor would not be significantly affected during proposed operations. Specifically, recreational boating that occurs within the San Pedro Bay would not be adversely affected during Project operations. The Project area is generally used for commercial shipping activities and no pleasure craft slips are located in the immediate Project area.

CEQA Impact Determination

As the Project site is located in an industrial area that is not generally used for recreational purposes, the potential for interference with pleasure craft traffic located in the immediate Project area would be nominal. Project operations would have a less than significant impact on recreational resources under CEQA.

Mitigation Measures

As impacts on recreational resources would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on recreational resources would be less than significant.

NEPA Impact Determination

The proposed Project would include increased levels of in-water operations that would not occur under the NEPA Baseline; however, this would not significantly affect nearby marine recreational opportunities as the potential for interference with pleasure craft traffic within the immediate Project area would be nominal. Therefore, impacts on recreational resources within the Project area would be less than significant under NEPA.

Mitigation Measures

As impacts on recreational resources would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on recreational resources would be less than significant.

Impact REC-2.2: Project operations would not result in a demand for recreation and park services that exceeds the available resources.

As stated in Section 3.12.2.3, the proposed Project would create 24,779 additional jobs by 2025 in the five-county Gateway Cities Subregion. This would result in the long-term demand for 700 additional homes in the Long Beach City area. The additional long-term demands on recreational facilities would be addressed as these new units were constructed by conditioning the payment of housing recreational fees pursuant to state Quimby Act legislation. Therefore, the incremental Project-related indirect impacts on recreation would be addressed through the local housing project permitting process.

CEQA Impact Determination

Operation of the proposed Project would not result in substantial demands for recreational services in the Project vicinity. The Project's indirect impacts on recreational resources resulting from increased employment and housing in the Gateway Cities

Subregion would be incrementally mitigated through the local housing project permitting process. Therefore, impacts on recreational resources would be less than significant under CEQA.

Mitigation Measures

As impacts on recreational resources would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on recreational resources would be less than significant.

NEPA Impact Determination

Operation of the proposed Project would not result in substantial demands for recreational services in the Project vicinity. The Project's indirect impacts on recreational resources resulting from increased employment and housing in the Gateway Cities Subregion would be incrementally mitigated through the local housing project permitting process. Therefore, impacts on recreational resources would be less than significant under NEPA.

Mitigation Measures

As impacts on recreational resources would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on recreational resources would be less than significant.

3.11.2.4 Alternative 2 – 315-Acre Alternative

Alternative 2 would add 24.7 net acres of newly created land to the existing 294-acre Project site by filling Slip 1 between Piers E and F (Berths E12-E14 and F1-F4). Under this alternative, the proposed East Basin would not be filled.

CEQA Impact Determination

Under this alternative, impacts on recreational resources would be similar to, but slightly less than those described under **Impacts REC-1.1 through REC-2.2** for the Project, as the East Basin would not be filled. As with the Project, implementation of this alternative would result in less than significant impacts on recreational resources under CEQA.

NEPA Impact Determination

Under this alternative, potential impacts on recreational resources would be similar to, but slightly less than those described for the Project under the NEPA analysis for **Impacts REC-1.1 through REC-2.2** due to the elimination of the East Basin fill. As with the Project, implementation of this alternative would result in less than significant impacts on recreational resources under NEPA.

3.11.2.5 Alternative 3 – Landside Improvements Alternative

Alternative 3 would redevelop existing terminal areas on Piers E and F and convert underutilized land north of the Gerald Desmond Bridge and Ocean Boulevard within the Project site to a container yard. No in-water activities, including dredging, filling Slip 1 and the East Basin, new wharf construction, wharf upgrades, or channel and berth deepening would occur.

CEQA Impact Determination

Under this alternative, impacts on recreational resources would be similar to, but slightly less than those described under **Impacts REC-1.1 through REC-2.2** for the proposed Project, as there would be no in-water construction activities. As with the Project, implementation of this alternative would result in less than significant impacts on recreational resources under CEQA.

NEPA Impact Determination

Alternative 3 is equivalent to the NEPA Baseline because it only includes construction and operational activities that would not require issuance of federal permits. As no federal action or permit would be required, there would be no significance determination under NEPA for this alternative. No impacts on recreational resources would occur.

3.11.2.6 Alternative 4 – No Project Alternative

The No Project Alternative would not include construction of upland site improvements or in-water activities (i.e., dredging, filling of Slip 1 and the East Basin, and/or new wharf construction). However, forecasted increases in cargo would still occur under this alternative. Operational impacts associated with the following activities would occur: cargo ships that currently berth and load/unload at the terminal would continue to do so; terminal

equipment would continue to handle cargo containers; and trucks would continue to transport containers to outlying distribution facilities.

CEQA Impact Determination

The No Project Alternative would not result in any loss or diminished quality of recreation, education, or visitor-oriented opportunities, facilities, or resources in the Project area. Although forecasted increases in cargo throughput would still occur, the No Project Alternative would not interfere with existing recreational opportunities. Therefore, the No Project Alternative would have no impact on recreational resources under CEQA.

NEPA Impact Determination

Under this alternative, no in-water development would occur in the Project area. Therefore, the No Project Alternative would not preclude private watercraft recreational opportunities in the Project vicinity. There would be no impact on recreational resources under NEPA.

3.11.3 Cumulative Impacts

Similar to the proposed Project, most of the related projects for cumulative analysis in the Project vicinity are marine terminal expansions and/or improvements, or traffic circulation improvements undertaken by the POLB and POLA. These actions represent expansions or intensifications of existing Port-related uses, and would similarly have potential temporary cumulative effects on recreational boating activities within Long Beach and Los Angeles Harbors. Standard existing safety precautions governing POLB and POLA navigation would apply to all related project construction support boats or barges traveling through harbor waters, such that this cumulative impact would remain less than significant under NEPA and CEQA.

Related project construction and operation of the POLB and POLA projects would not have any physical effect on nearby recreational uses in adjacent municipalities. On the contrary, some of the related projects listed in Table 2.1-1, such as the Cabrillo Way Marina, Cabrillo Marine Aquarium Expansion, San Pedro Waterfront Enhancement, and Wilmington Waterfront Development, would enhance local recreation by creating new public open space, a new cruise ship terminal, new parks, and upgraded waterfront access. Therefore, cumulative impacts on recreational resources would actually be beneficial in this regard.

Similar to the proposed Project, short-term construction employment and new jobs created by increased operations at POLB and POLA would generally be derived from the workforce already living in the regional vicinity. The cumulative short-term demand on nearby recreation facilities would be less than significant under NEPA and CEQA, as the majority of the temporary workforce would not represent a new population recreation demand.

The cumulative long-term impact resulting from new employees supporting POLB and POLA development projects would increase populations in the five-county Gateway Cities Subregion. The increased population would represent potentially substantial increased demands on local recreational facilities. However, impacts on recreational resources resulting from increased employment and housing in the Gateway Cities Subregion would be incrementally mitigated through the local housing project permitting process to less than significant under NEPA and CEQA.

The proposed Project would be one of 41 related projects within the POLB and POLA area and vicinity contributing to these impacts on recreation. The Project's contribution to this cumulative impact would be less than significant under NEPA and CEQA due to the implementation of standard Port navigational safety standards during construction, and local housing project permitting conditions applied to future developments providing housing to new populations generated by the Project.

3.11.4 Mitigation Monitoring Program

As no mitigation measures are required to address impacts on recreational resources, no mitigation monitoring program is required.

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3.12 SOCIOECONOMICS

3.12.1 Environmental Setting

The environmental setting includes existing (baseline) conditions and describes population, employment, and housing 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 the five-county region that includes the counties of Los Angeles, Orange, Riverside, San Bernardino, and Ventura.

3.12.1.1 Area of Influence

The region of influence (ROI) for this analysis is the SCAG's five-county area. In addition, this analysis addresses the Gateway Cities subregion (as defined by SCAG and represented by the Gateway Cities Council of Governments), which consists of 27 cities (Artesia, Avalon, Bell, Bell Gardens, Bellflower, Cerritos, Commerce, Compton, Cudahy, Downey, Hawaiian Gardens, Huntington Park, La Habra Heights, La Mirada, Lakewood, Long Beach, Lynwood, Maywood, Montebello, Norwalk, Paramount, Pico-Rivera, Santa Fe Springs, Signal Hill, South Gate, Vernon, and Whittier) as well as the unincorporated area.

3.12.1.2 Setting

Population

The population in the ROI was 16.7 million at the time of the 2000 Census (Table 3.12-1). Of the 16.7 million, over 10 million are in Los Angeles County. Orange County, the second largest county in the ROI, had a much smaller population of approximately 2.8 million. The smallest county in terms of population was Ventura County with a population of 753,820 (SCAG 2004b).

The ROI experienced population growth at a rate of 1.4 percent per year between 1990 and 2000. During that period all of the counties in the ROI experienced population growth. Riverside County had the highest growth rate, increasing in population 2.8 percent per year. San Bernardino County followed with a population growth rate of 1.9 percent per year (Table 3.12-1). Los Angeles County experienced the slowest population growth rate with an average annual rate of one percent. The population of the state of California increased at a growth rate of 1.5 percent per year during the same time period (SCAG 2004b).

The population in the five-county ROI continued to grow through 2005 and SCAG (2004b) projections through 2025 indicate that population growth will continue. SCAG (2004c) predicts that net domestic migration from neighboring states and cities, as well as net international immigration – in particular from Latin America, Asia, and the Middle East – will be the primary sources of population growth (SCAG 2004c). The ROI grew at an average annual rate of 1.3 percent between 2000 and 2005. The projected growth rate for the ROI between 2005 and 2025 is estimated at 1.3 percent per year. Riverside County continued to have the fastest growth rate, increasing in population 3.3 percent per year between 2000 and 2005. Between 2005 and 2025, it is projected that the population growth rate in Riverside County will slow to 2.7 percent per year; however, the projection suggests Riverside will still grow faster than any other county in the five-county region. In Los Angeles County, the population growth rate

Table 3.12-1. Population Growth, Region of Influence and California, 1990-2025

	Los Angeles County	Orange County	Riverside County	San Bernardino County	Ventura County	Region of Influence	California
1990	8,901,987	2,417,552	1,194,623	1,436,696	670,274	14,621,132	29,942,397
2000	9,838,861	2,833,190	1,570,885	1,727,452	753,820	16,724,208	34,653,395
2005 (projected)	10,218,386	3,014,812	1,843,416	1,949,481	800,690	17,826,785	37,372,444
2010 (projected)	10,604,452	3,163,776	2,125,537	2,187,807	854,580	18,936,152	39,957,616
2015 (projected)	10,978,502	3,277,959	2,420,686	2,439,134	909,851	20,026,132	42,370,899
2020 (projected)	11,575,693	3,431,869	2,773,431	2,747,213	981,565	21,509,771	45,448,627
2025 (projected)	12,164,590	3,593,045	3,151,194	3,076,319	1,054,603	23,039,751	48,626,052
Average Annual Growth 1990-2000	1.0%	1.6%	2.8%	1.9%	1.2%	1.4%	1.5%
Average Annual Growth 2000-2005	0.8%	1.3%	3.3%	2.4%	1.2%	1.3%	1.5%
Average Annual Growth 2005-2025 (projected)	0.9%	0.9%	2.7%	2.3%	1.4%	1.3%	1.0%

Source: SCAG, 2004b.

slowed to 0.8 percent per year between 2000 and 2005 as compared to the one percent average annual rate of the previous decade. The projected population growth rate for Los Angeles County is estimated to be 0.9 percent per year between 2005 and 2025 (Table 3.12-1). Overall in California, the population growth rate remained steady between 2000 and 2005 with population continuing to increase 1.5 percent per year. The projected population growth rate in California, however, is projected to slow to one percent per year between 2005 and 2025 (SCAG 2004b).

The Gateway Cities subregion of Los Angeles County has a population of over two million people and is a major trade corridor, including the Port at the southern tip of the mainland. Like the larger five-county region, the Gateway Cities subregion has experienced recent population growth that SCAG projects will continue. The largest cities in the subregion are Long Beach, with a population of over 460,000 at the 2000 Census, and Norwalk, with a population of over 103,000 (Table 3.12-2). Over 318,000 people lived in the unincorporated areas of Los Angeles County within the Gateway Cities subregion in 2000 (SCAG 2004b).

Among the cities in the Gateway Cities subregion, Avalon and Signal Hill grew fastest between 2000 and 2005, with average annual increases in population of 2.2 percent and two percent, respectively (Table 3.12-2). However, all of the cities in the subregion, as well as the total population in unincorporated areas, grew from

Table 3.12-2. Population Growth, Gateway Cities Subregion, 2000-2025

Gateway Cities	2000	2005 (projected)	2010 (projected)	2015 (projected)	2020 (projected)	2025 (projected)	Average Annual Growth 2000-2005	Average Annual Growth 2005-2025 (projected)
Artesia	16,462	17,094	17,235	17,302	17,370	17,435	0.8%	0.1%
Avalon	3,140	3,493	3,779	4,183	4,582	4,964	2.2%	1.8%
Bell	36,811	38,626	39,261	39,963	40,652	41,313	1.0%	0.3%
Bell Gardens	44,230	46,355	47,307	47,894	48,473	49,031	0.9%	0.3%
Bellflower	73,187	77,151	78,331	80,731	83,098	85,364	1.1%	0.5%
Cerritos	51,705	54,433	54,756	54,936	55,112	55,282	1.0%	0.1%
Commerce	12,623	13,204	13,251	13,663	14,068	14,457	0.9%	0.5%
Compton	93,873	97,137	97,378	100,864	104,304	107,597	0.7%	0.5%
Cudahy	24,388	25,953	26,761	27,807	28,840	29,830	1.3%	0.7%
Downey	107,821	112,635	114,177	116,582	118,957	121,228	0.9%	0.4%
Hawaiian Gardens	14,844	15,806	16,182	16,519	16,850	17,167	1.3%	0.4%
Huntington Park	61,597	65,163	67,094	69,255	71,383	73,425	1.1%	0.6%
La Habra Heights	5,744	6,284	6,631	7,296	7,950	8,579	1.8%	1.6%
La Mirada	46,967	50,486	53,028	57,848	62,603	67,163	1.5%	1.4%
Lakewood	79,669	82,872	83,747	84,419	85,083	85,719	0.8%	0.2%
Long Beach	463,406	489,528	503,450	518,627	533,590	547,937	1.1%	0.6%
Lynwood	70,161	73,544	75,067	76,755	78,424	80,021	0.9%	0.4%
Maywood	28,200	29,368	29,735	30,227	30,717	31,183	0.8%	0.3%
Norwalk	103,716	109,673	111,255	114,009	116,729	119,336	1.1%	0.4%
Paramount	55,493	57,529	57,879	61,477	65,025	68,429	0.7%	0.9%
Pico Rivera	63,686	66,534	67,523	69,389	71,231	72,993	0.9%	0.5%
Santa Fe Springs	17,501	17,547	18,263	19,113	19,949	20,750	0.1%	0.8%
Signal Hill	9,425	10,388	10,558	11,415	12,260	13,070	2.0%	1.2%
South Gate	96,772	103,516	108,757	113,085	117,355	121,449	1.4%	0.8%
Vernon[1]	91	94	95	96	97	98	0.7%	0.2%
Whittier	83,997	87,073	88,085	89,577	91,049	92,462	0.7%	0.3%
Unincorporated Area	318,212	339,087	352,027	369,720	387,168	403,898	1.3%	0.9%
Gateway Cities Subregion Total	1,983,721	2,090,573	2,141,612	2,212,752	2,282,919	2,350,180	1.1%	0.6%

Note:

1. Vernon is declared a "city of industry" in which the city is primarily composed of various industrial plants including manufacturing and food processing. Therefore, Vernon had a very small resident population of 91 people in 2000. The population of Vernon is projected to grow to only 98 people by 2025. However, due to the nature of the city, employment was nearly 42,000 in 2000 and is projected to grow to over 57,000 by 2025 (Table 5, SCAG 2004b).

Source: SCAG 2004b.

2000 to 2005. The slowest growing city was Santa Fe Springs with an average population growth rate of only 0.1 percent per year between 2000 and 2005 (SCAG 2004b).

SCAG (2004b) projects the highest rates of population growth (i.e., at least one percent annually) between 2005 and 2025 to occur in Avalon, La Habra Heights, La Mirada, and Signal Hill, with average annual increases of 1.8 percent, 1.6 percent, and 1.4 percent, respectively (Table 3.12-2).

Employment

In 2004, the largest centers for employment in the five-county region were Los Angeles County, with approximately 5.5 million full-time and part-time jobs, and Orange County, with nearly 1.9 million jobs (BEA 2004). Employment in the five counties was primarily in the manufacturing, retail trade, and government and government enterprises industries. In Los Angeles County, government and government enterprises comprised 11 percent of total employment. Retail trade and manufacturing accounted for 10 percent and nine percent of total employment, respectively, in that county. Transportation and public utilities accounted for approximately four percent of total employment in Los Angeles County (Table 3.12-3).

According to SCAG (2004b), total employment grew relatively slowly in Los Angeles County between 2000 and 2005, at an average rate of 0.2 percent per year. Employment growth in Ventura County was also relatively slow, averaging 0.6 percent per year during the same time period. The remaining counties within the ROI, however, experienced faster than average job growth, at annual rates averaging from 0.9 percent per year in Orange County to 2.8 percent per year in Riverside County (Table 3.12-4). The low rates of employment growth could be a result of a migration of employment out of Los Angeles County to areas farther away from the coasts such as San Bernardino County, Riverside County, and

Table 3.12-3. Employment by Industry, Counties in the Region of Influence, 2004

Industry	Los Angeles County	Orange County	Riverside County	San Bernardino County	Ventura County
Total full-time and part-time employment	5,545,343	1,947,750	791,482	813,008	427,966
Farm employment	7,808	5,593	11,589	4,792	16,621
Forestry, fishing, related activities, and other	4,194	3,228	10,271	1,287	8,593
Mining	8,359	2,358	1,031	1,094	1,121
Utilities	13,175	5,558	1,595	3,684	1,011
Construction	215,816	118,608	89,622	56,345	25,286
Manufacturing	517,308	195,395	59,067	69,750	41,167
Wholesale trade	260,411	98,356	21,330	32,545	14,729
Retail Trade	533,556	197,199	99,457	99,762	46,760
Transportation and warehousing	193,035	32,926	18,813	46,660	6,449
Information	258,555	39,404	9,074	8,666	8,198
Finance and insurance	245,307	139,531	24,027	26,064	25,296
Real estate and rental and leasing	263,665	116,008	41,230	32,714	18,954
Professional and technical services	439,508	170,919	34,547	33,069	29,475
Management of companies and enterprises	75,354	31,817	5,321	6,619	5,915
Administrative and waste services	374,262	162,737	54,608	65,789	28,564
Educational services	130,664	29,979	7,867	11,316	6,108
Health care and social assistance	485,996	140,219	63,163	76,295	31,310
Arts, entertainment, and recreation	180,333	54,251	16,919	11,124	9,816
Accommodation and food services	341,509	138,830	59,196	51,032	26,621
Other services, except public administration	381,125	106,275	49,396	48,620	24,690
Government and government enterprises	615,403	158,559	113,359	125,781	51,282
Federal, civilian	53,330	11,836	6,499	10,529	7,613
Military	20,613	6,067	3,419	18,974	7,628
State and local	541,460	140,656	103,441	96,278	36,041

Source: BEA 2006 (Table CA25).

Table 3.12-4. Full-Time and Part-Time Employment, Counties in the Region of Influence, 2000-2025

	Los Angeles County	Orange County	Riverside County	San Bernardino County	Ventura County	Region of Influence
2000	4,453,477	1,514,611	526,541	594,923	337,247	7,426,799
2005 (projected)	4,503,683	1,580,855	603,610	669,028	346,770	7,703,946
2010 (projected)	5,022,215	1,749,985	727,711	770,877	381,680	8,652,468
2015 (projected)	5,198,739	1,801,602	839,698	870,491	403,000	9,113,530
2020 (projected)	5,366,865	1,848,135	954,499	972,243	424,470	9,566,212
2025 (projected)	5,520,139	1,887,542	1,070,761	1,074,861	445,193	9,998,496
Average Annual Growth 2000-2005	0.2%	0.9%	2.8%	2.4%	0.6%	0.7%
Average Annual Growth 2005-2025 (projected)	1.0%	0.9%	2.9%	2.4%	1.3%	1.3%

Source: SCAG 2004b.

Ventura County (SCAG 2004c). Another contributing factor could be the result of the higher rates of population growth in people over the age of 64 in relation to the population growth of people between the ages of 35 to 54. The slow population growth in the prime working population could contribute to the slow growth of the active labor force, thereby constraining employment growth (SCAG 2004c).

In the ROI, employment grew at an average annual rate of 0.7 percent between 2000 and 2005. SCAG projects growth to continue in the ROI at an average rate of 1.3 percent per year between 2005 and 2025. Employment growth in Los Angeles County is projected to increase at a rate of one percent per year between 2005 and 2025, and in Ventura County the projected employment growth rate is 1.3 percent per year (Table 3.12-4). In Orange, Riverside, and San Bernardino counties, SCAG projects employment will grow at about the same rate from 2005 to 2025, as noted between 2000 and 2005, with annual average growth rates ranging from 0.9 percent in Orange County to 2.9 percent per year in Riverside County (SCAG 2004b).

Between 2000 and 2005, employment growth rates in the Gateway Cities subregion varied between negligible growth rates in Downey and La Habra Heights of less than 0.1 percent per year (zero in La Habra Heights) to 0.7 percent per year in Bell (Table 3.12-5). SCAG projects average annual employment growth rates between 2005 and 2025 ranging from 0.2 percent per year in La Habra Heights to 2.3 percent per year in Bell (SCAG 2004b). Long Beach contained the largest number of jobs in the subregion in all years: more than 190,000 jobs in 2000 and over 192,000 in 2005, and SCAG projects job growth in the City will continue through 2025 at an average rate 1.1 percent per year.

Households and Housing

The size of households in Los Angeles County was 2.98 people per household in 2000 (U.S. Census Bureau 2000). Average household size was comparable in Orange County (3.00 people per household), Riverside County (2.98 people per household), and in Ventura County (3.04 people per household). In San Bernardino County, households were larger with 3.15 people per household (U.S. Census Bureau 2000).

In some counties, SCAG projects average household size to decrease over time (i.e., household growth would outpace population growth) due to expected changes in regional demographics. The number of people per household is expected to decrease due to smaller families and the increased number of senior citizen households (SCAG 2004b).

SCAG (2004b) reports the number of households in the ROI increased between 2000 and 2005 at an average annual rate of one percent. SCAG (2004b) also predicts the number of households in the ROI to continue to grow from 2005 to 2025, at an average annual rate of 1.2 percent. Between 2000 and 2005, the number of households increased for all of the counties in the ROI, ranging from an average annual growth rate in Los Angeles County of 0.6 percent to an average annual growth rate of 2.9 percent in Riverside County. Household projections between 2005 and 2025 show a slight increase in the growth rate in Los Angeles County to one percent per year and in San Bernardino County to 1.9 percent per year. Projections for Orange County and Ventura County show a slight decrease in the growth rate of households to average annual rates of 0.5 percent and one percent, respectively. In Riverside County, the household growth rate is projected to decrease slightly to 2.8 percent per year (Table 3.12-6). However, this growth rate would continue to represent the fastest growth rate in households in the ROI (SCAG 2004b).

Table 3.12-5. Full-Time and Part-Time Employment, Gateway Cities Subregion, 2000-2025

Gateway Cities	2000	2005 (projected)	2010 (projected)	2015 (projected)	2020 (projected)	2025 (projected)	Average Annual Growth 2000-2005	Average Annual Growth 2005-2025 (projected)
Artesia	4,789	4,840	5,356	5,520	5,676	5,815	0.2%	0.9%
Avalon	3,505	3,541	3,907	4,015	4,117	4,209	0.2%	0.9%
Bell	9,413	9,732	13,006	13,866	14,674	15,400	0.7%	2.3%
Bell Gardens	10,541	10,643	11,683	11,957	12,219	12,452	0.2%	0.8%
Bellflower	17,748	17,987	20,429	21,072	21,678	22,221	0.3%	1.1%
Cerritos	30,245	30,599	34,221	35,148	36,022	36,803	0.2%	0.9%
Commerce	57,304	57,872	63,728	65,172	66,538	67,764	0.2%	0.8%
Compton	32,388	32,709	35,987	36,894	37,753	38,522	0.2%	0.8%
Cudahy	3,831	3,909	4,694	4,932	5,158	5,361	0.4%	1.6%
Downey	55,499	55,627	56,926	57,936	58,888	59,742	0.0%	0.4%
Hawaiian Gardens	4,214	4,244	4,548	4,644	4,736	4,818	0.1%	0.6%
Huntington Park	17,338	17,612	20,415	21,131	21,807	22,416	0.3%	1.2%
La Habra Heights	425	425	429	434	440	446	0.0%	0.2%
La Mirada	16,839	17,033	18,998	19,538	20,051	20,505	0.2%	0.9%
Lakewood	14,584	14,690	15,794	16,509	17,195	17,829	0.1%	1.0%
Long Beach	190,466	192,568	213,998	222,549	230,774	238,440	0.2%	1.1%
Lynwood	14,416	14,561	16,052	16,467	16,863	17,217	0.2%	0.8%
Maywood	4,652	4,747	5,707	5,985	6,249	6,488	0.4%	1.6%
Norwalk	23,483	23,793	26,968	27,913	28,804	29,601	0.3%	1.1%
Paramount	19,295	19,447	21,008	21,460	21,881	22,261	0.2%	0.7%
Pico Rivera	22,809	23,082	25,867	26,631	27,349	27,994	0.2%	1.0%
Santa Fe Springs	60,452	60,832	64,736	65,703	66,617	67,436	0.1%	0.5%
Signal Hill	11,286	11,373	12,255	13,770	15,211	16,524	0.2%	1.9%
South Gate	25,376	25,531	27,117	27,660	28,171	28,628	0.1%	0.6%
Vernon [1]	41,956	42,436	47,363	50,859	54,158	57,111	0.2%	1.5%
Whittier	31,911	32,298	36,237	37,300	38,303	39,200	0.2%	1.0%
Unincorporated Area	81,079	82,081	92,317	94,968	97,471	99,719	0.2%	1.0%
Gateway Cities Subregion Total	805,844	814,212	899,746	930,033	958,803	984,922	0.2%	1.0%

Note:

1. Vernon is declared a "city of industry" in which the city is primarily composed of various industrial plants including manufacturing and food processing. Therefore, Vernon had a very small resident population of 91 people in 2000. The population of Vernon is projected to grow to only 98 people by 2025. However, due to the nature of the city, employment was nearly 42,000 in 2000 and is projected to grow to over 57,000 by 2025 (Table 5, SCAG 2004b).

Source: SCAG 2004b.

Table 3.12-6. Number of Households, Region of Influence, 2000-2025

	Los Angeles County	Orange County	Riverside County	San Bernardino County	Ventura County	Region of Influence
2000	3,137,047	939,036	509,311	530,498	244,476	5,362,368
2005 (projected)	3,235,358	978,423	587,257	567,172	260,357	5,630,572
2010 (projected)	3,404,016	1,034,027	685,775	618,782	275,352	6,019,962
2015 (projected)	3,582,693	1,046,473	796,360	686,584	289,318	6,403,443
2020 (projected)	3,763,875	1,063,976	907,932	756,640	303,596	6,798,039
2025 (projected)	3,942,753	1,081,421	1,018,239	826,669	317,831	7,188,938
Average Annual Growth 2000-2005	0.6%	0.8%	2.9%	1.3%	1.3%	1.0%
Average Annual Growth 2005-2025 (projected)	1.0%	0.5%	2.8%	1.9%	1.0%	1.2%

Source: SCAG 2004b.

SCAG (2004b) also projects the number of households to grow in the individual cities and unincorporated areas of the Gateway Cities subregion. SCAG (2004b) reports the fastest growing areas between 2000 and 2005 were Signal Hill, with an average annual growth rate of 1.4 percent, La Habra Heights with a 1.2 percent annual growth rate, and Avalon with a 1.1 percent annual growth rate. Household growth is projected to continue in La Habra Heights, Avalon, and La Mirada with average annual growth rates of 1.7 percent, 1.6 percent, and 1.5 percent, respectively (Table 3.12-7, SCAG 2004b).

In 2004, Los Angeles County and Orange County had the largest number of housing units in the ROI, with a combined total of over 4.3 million housing units (Table 3.12-8). However, between 2000 and 2004, Los Angeles County and Orange County experienced the slowest growth rates in housing units, with average annual increases of 0.4 percent and one percent, respectively. Riverside County experienced the fastest growth rate in housing units, with an average increase of 3.5 percent per year during the same time period (U.S. Census Bureau 2005). Occupancy rates in the five-county region in 2004 ranged from approximately 89 percent in Riverside and San Bernardino counties to over 96 percent in Los Angeles and Orange counties. Except in Los Angeles County, the occupied housing units are primarily owner-occupied. Riverside County has the highest rate of owner occupancy with 72 percent of the occupied housing units occupied by owners. In Los Angeles County, owner occupied housing accounts for 50 percent of the occupied housing units (Table 3.12-9) (U.S. Census Bureau 2005).

Table 3.12-7. Number of Households, Gateway Cities Region, 2000-2025

Gateway Cities	2000	2005 (projected)	2010 (projected)	2015 (projected)	2020 (projected)	2025 (projected)	Average Annual Growth 2000-2005	Average Annual Growth 2000-2025 (projected)
Artesia	4,475	4,515	4,597	4,683	4,771	4,861	0.2%	0.3%
Avalon	1,159	1,227	1,334	1,462	1,591	1,717	1.1%	1.6%
Bell	8,918	8,994	9,047	9,244	9,446	9,648	0.2%	0.3%
Bell Gardens	9,466	9,491	9,496	9,650	9,808	9,966	0.1%	0.2%
Bellflower	23,379	23,856	24,399	24,944	25,505	26,062	0.4%	0.4%
Cerritos	15,387	15,681	15,797	15,918	16,049	16,181	0.4%	0.2%
Commerce	3,285	3,326	3,338	3,488	3,637	3,785	0.2%	0.6%
Compton	22,327	22,360	22,390	23,224	24,074	24,914	0.0%	0.4%
Cudahy	5,435	5,561	5,721	6,020	6,327	6,628	0.5%	0.8%
Downey	34,008	34,315	34,777	35,436	36,111	36,787	0.2%	0.3%
Hawaiian Gardens	3,508	3,607	3,716	3,816	3,920	4,022	0.6%	0.5%
Huntington Park	14,860	15,169	15,738	16,345	16,963	17,572	0.4%	0.7%
La Habra Heights	1,890	2,008	2,204	2,418	2,635	2,849	1.2%	1.7%
La Mirada	14,580	15,257	16,628	18,124	19,639	21,133	0.9%	1.5%
Lakewood	26,853	27,067	27,564	28,117	28,685	29,249	0.2%	0.3%
Long Beach	163,088	166,144	171,723	178,252	184,906	191,482	0.4%	0.6%
Lynwood	14,406	14,517	14,688	15,085	15,489	15,893	0.2%	0.4%
Maywood	6,470	6,480	6,480	6,598	6,722	6,845	0.0%	0.2%
Norwalk	26,887	27,223	27,507	27,923	28,354	28,786	0.2%	0.3%
Paramount	13,973	14,003	14,065	14,917	15,782	16,637	0.0%	0.7%
Pico Rivera	16,468	16,731	17,301	17,910	18,534	19,149	0.3%	0.6%
Santa Fe Springs	4,832	4,955	5,201	5,451	5,702	5,952	0.5%	0.8%
Signal Hill	3,641	3,909	4,053	4,327	4,604	4,879	1.4%	1.2%
South Gate	23,213	23,624	24,458	25,540	26,642	27,731	0.4%	0.7%
Vernon [1]	25	25	25	25	25	25	0.0%	0.0%
Whittier	28,270	28,583	29,311	30,036	30,776	31,512	0.2%	0.4%
Unincorporated Area	78,238	81,745	86,293	90,837	95,450	99,998	0.9%	1.0%
Total	569,041	580,373	597,851	619,790	642,147	664,263	0.40%	0.62%

Note:

1. Vernon is declared a "city of industry" in which the city is primarily composed of various industrial plants including manufacturing and food processing. Therefore, Vernon had a very small resident population of 91 people in 2000. The population of Vernon is projected to grow to only 98 people by 2025. However, due to the nature of the city, employment was nearly 42,000 in 2000 and is projected to grow to over 57,000 by 2025 (Table 5, SCAG 2004b).

Source: SCAG 2004b.

Table 3.12-8. Total Housing Units, Region of Influence, 2000-2004

Counties	2000	2004	Average Annual Growth 2000-2004
Los Angeles County	3,270,909	3,319,806	0.4%
Orange County	969,484	1,009,342	1.0%
Riverside County	584,674	670,202	3.5%
San Bernardino County	601,369	635,802	1.4%
Ventura County	251,712	264,339	1.2%

Source: U.S. Census Bureau 2005 (Table B25001).

Table 3.12-9. Tenure of Housing Units, Region of Influence, 2004

Counties	Occupied Housing Units	Owner Occupied	Renter Occupied	Percent Owner Occupied	Percent Renter Occupied
Los Angeles County	3,194,434	1,582,487	1,611,947	50%	50%
Orange County	969,558	616,561	352,997	64%	36%
Riverside County	598,072	428,128	169,944	72%	28%
San Bernardino County	569,388	367,248	202,140	64%	36%
Ventura County	250,940	176,474	74,466	70%	30%

Source: U.S. Census Bureau 2005 (Table B25002).

The largest source of housing in the Gateway Cities subregion at the time of the 2000 Census was Long Beach with 171,659 housing units (Table 3.12-10) (U.S. Census Bureau 2002). Of the total housing units in Long Beach over 90 percent were occupied. Other main sources of housing in the Gateway Cities subregion include Norwalk with 27,554 housing units and Lakewood with 27,279 housing units.

In both Norwalk and Lakewood approximately 98 percent of the total housing units were occupied in 2000 (Table 3.12-10, U.S. Census Bureau 2000). La Habra Heights, Cerritos, and La Mirada had the highest percentage of owner-occupied housing units with 92 percent, 79 percent, and 76 percent, respectively, of the total housing units that were owner-occupied (U.S. Census Bureau 2000). Cities with primarily renter-occupied housing units include Cudahy with 81 percent, Bell Gardens with 75 percent, and Avalon with 73 percent of the total housing units occupied by renters in 2000 (Table 3.12-10, U.S. Census Bureau 2000).

3.12.2 Impacts and Mitigation Measures

3.12.2.1 Significance Criteria

Pursuant to the POLB Environmental Protocol (POLB 2006), Project construction and/or operation would have a significant impact on socioeconomics if it would:

SOCIO-1: Increase employment in the five-county region by 0.5 percent or more;

SOCIO-2: Increase population in one or more individual cities or the unincorporated area within the Gateway Cities subregion by 0.5 percent or more; or

SOCIO-3: Increase housing demand in one or more individual cities or the unincorporated area within the Gateway Cities subregion by 0.5 percent or more.

3.12.2.2 Methodology

New jobs generated from the direct or indirect effect of a project or alternative can be filled by people who already live inside the vicinity, or from outside (i.e., by those who migrate in). Thus, increases in employment opportunities may, but do not always, lead to increases in population. Increased employment opportunities can have beneficial effects for community members, but increased population can also have adverse impacts, because increased population places additional demands on physical and social infrastructure such as housing, utilities, hospitals, law enforcement, primary and secondary education, and social services. Over the medium to long run, the increase in local government tax revenues that result from increased employment and population should serve to mitigate the additional demands, provided that adequate resources (e.g., land and water) are available at a reasonable price. In the short run, however, and in the event of boom and bust cycles that characterize some types of economic growth, increases in employment and population can lead to housing shortages, overcrowding in schools,

Table 3.12-10. Total Housing Units, Gateway Cities Subregion, 2000

Gateway Cities[1]	Housing Units	Occupied Housing Units	Owner Occupied	Renter Occupied	% Owner Occupied	% Renter Occupied
Artesia	4,598	4,470	2,244	1,944	50.2%	43.5%
Avalon	1,853	1,167	213	850	18.3%	72.8%
Bell	9,215	8,918	2,272	6,116	25.5%	68.6%
Bell Gardens	9,788	9,466	1,825	7,140	19.3%	75.4%
Bellflower	24,207	23,336	7,722	13,926	33.1%	59.7%
Cerritos	15,612	15,395	12,186	2,516	79.2%	16.3%
Commerce	3,380	3,287	1,448	1,730	44.1%	52.6%
Compton	23,780	22,303	11,605	9,572	52.0%	42.9%
Cudahy	5,542	5,419	687	4,399	12.7%	81.2%
Downey	34,759	33,989	16,448	16,344	48.4%	48.1%
Hawaiian Gardens	3,616	3,509	1,023	1,908	29.2%	54.4%
Huntington Park	15,338	14,864	3,501	10,803	23.6%	72.7%
La Habra Heights	1,895	1,823	1,668	106	91.5%	5.8%
La Mirada	14,807	14,576	11,006	2,627	75.5%	18.0%
Lakewood	27,279	26,817	18,398	7,480	68.6%	27.9%
Long Beach	171,659	163,107	53,897	95,965	33.0%	58.8%
Lynwood	15,004	14,414	6,257	7,603	43.4%	52.7%
Maywood	6,701	6,469	1,700	4,540	26.3%	70.2%
Norwalk	27,554	26,894	16,573	9,179	61.6%	34.1%
Paramount	14,633	14,006	4,291	7,997	30.6%	57.1%
Pico Rivera	16,807	16,473	10,649	4,912	64.6%	29.8%
Santa Fe Springs	4,928	4,835	2,730	1,803	56.5%	37.3%
Signal Hill	3,820	3,647	798	1,953	21.9%	53.6%
South Gate	24,277	23,217	9,693	12,313	41.7%	53.0%
Vernon	26	25	1	21	4.0%	84.0%
Whittier	29,040	28,333	15,521	11,953	54.8%	42.2%
Gateway Cities Subregion Total	510,118	490,759	214,700	245,700	43.7%	50.1%

Note:
1. Information is not available for the unincorporated area included in the Gateway Cities subregion.
Source: U.S. Census Bureau 2000.

and other symptoms that existing infrastructure is inadequate to meet the new demand.

POLB uses a standard gravity modeling approach to forecast where people who migrate into the area to fill project-related jobs will reside. In this context, according to the assumptions underlying the model, the relative attractiveness of a given city within the Gateway Cities subregion is directly related to that city's amenities, such as public services, shopping, and accessibility to places of work. Planners and analysts often use city population as a surrogate measure for the concentration and variety of amenities, and use distance from an employment center to measure the accessibility to places of work.

The majority of direct Port industry jobs are located in the Gateway Cities subregion. These jobs are connected with warehousing, transloading, trucking, and other related logistics activities, as well as marine terminal operations at the project site. Based on the fact that historically these jobs were noted as being scattered throughout the Gateway Cities subregion, POLB assumed for this analysis that each city within the subregion would be equally accessible to direct port industry jobs created by the proposed Project or its alternatives. Thus, the only factor in allocating inmigrants to the subregion's cities was city size. Consequently, in the Port's gravity model, each city within the Gateway Cities subregion received a share of the inmigrating population that was equal to its share of the Gateway Cities' total population; larger cities received more inmigrating people, while smaller cities received less.

The impact thresholds that POLB uses are intended to provide a cutoff point at which employment growth, and the resulting potential for increased population and housing demand, would be more than incidental and could lead to significant adverse impacts. POLB uses a tiered approach to identify and mitigate socioeconomic impacts. If preliminary analysis indicates the thresholds may be exceeded by the proposed

Project or any of its alternatives, this would trigger the need for a more detailed case study analysis. The case study would evaluate the baseline conditions and the project impacts, including key characteristics of physical and social infrastructure (e.g., housing stock and capacity in public schools), along with applicable local plans. The results of this case study may indicate the growth in employment opportunities, population, or housing demand might be beneficial. For instance, this could be the case if a major employer in the vicinity had recently shut down or relocated permanently. The results could also indicate that the growth could have adverse impacts. In this situation, the Port would consider a range of options such as changing the project in such a way as to reduce impacts (e.g., slowing a planned expansion), arranging technical assistance for a local government to help plan for increased demands on infrastructure, or providing financial assistance to help mitigate the effects on existing populations.

The following sections provide additional information and assumptions that underlie the analysis of employment, population, and housing.

Employment

For each alternative analyzed, net employment was calculated at five-year intervals between 2005 and 2025 as the difference between the Project-related employment in the analysis year and the Project-related employment in 2005 (Table 3.12-11). Project-related employment is the direct, indirect, and induced employment in the five-county ROI resulting from the Project in that year. Net employment for each benchmark year is compared to two different baselines, the CEQA Baseline and the NEPA Baseline. The CEQA Baseline is established as the projected total employment estimated for the five-county region by the SCAG in each five-year interval. The net additional employment of each alternative is compared to the CEQA Baseline at each five-year interval to determine any potential impacts. The NEPA Baseline assumes No Federal Action, meaning the increase in Port-related employment that would occur in the absence of federal permits. The NEPA Baseline is established by combining total projected employment in the five-county region and the additional employment created by the NEPA Baseline activities. Each alternative is compared to the NEPA Baseline at each five-year interval to determine potential impacts. For each baseline, if employment constitutes 0.5 percent or more of total employment in the region, the impact would be significant.

Population

The additional construction and operations employment resulting from the Project could also have impacts on population and housing in the five-county region, in particular the Gateway Cities subregion. SCAG (2002) estimates that the creation of 1.5 new jobs in the region adds three people to the population. For analysis purposes, this ratio was used to estimate population increases in the area due to employment gains in the direct port industry and a portion of the direct export manufacturer and import wholesaler industries. Due to the temporary nature of construction industry jobs, the relatively large regional construction industry, and the fact that construction workers do not typically relocate to

Table 3.12-11. Estimated Employment Effects, CEQA Baseline and NEPA Baseline, Proposed Project, 2005-2025, Five-County Region

	CEQA Baseline Total Region Employment	Total Project-Related Employment	Net Effect on Employment	Share of Employment
2005	7,703,946	41,097	-	0.00%
2010	8,652,468	47,904	6,806	0.08%
2015	9,113,530	56,178	15,080	0.17%
2020	9,566,212	63,876	22,779	0.24%
2025	9,998,496	65,876	24,779	0.25%
	NEPA Baseline Total Region Employment	**Total Project-Related Employment**	**Net Effect on Employment**	**Share of Employment**
2005	7,703,946	41,097	-	0.00%
2010	8,657,674	47,904	6,806	0.08%
2015	9,127,428	56,178	15,080	0.17%
2020	9,581,652	63,876	22,779	0.24%
2025	10,015,139	65,876	24,779	0.25%

Source: POLB 2006 and SCAG 2004b.

near the job site, the analysis assumes that new construction jobs would not lead to increases in regional population.

As noted above, the analysis of population impacts assumes that due to the proximity of the Gateway Cities subregion to the Port, incoming population associated with the direct port industry employment as well as a portion of the population associated with the direct export manufacturer and import wholesaler employment would take up residence in the Gateway Cities subregion.

Note that this assumption overstates impacts on population because, in reality, not all Project jobs would be filled by inmigrants to the region, and not all inmigrants who do fill Project jobs would choose to live in the subregion. Some Port industry occupations are relatively low-skilled and low-paying jobs, such as service workers, assemblers and fabricators, and truck drivers, that are not likely to attract inmigrants from outside the region. Customized cross-tabulations from the 2000 Census for a geographic area approximating the Gateway Cities subregion indicate that for the period 1995-2000, only six percent of the Water Transportation Services workers (a reasonable sector-surrogate for all Port industry workers) living in the Gateway Cities subregion had moved there from someplace outside the subregion. During this same period, container traffic in San Pedro Bay increased 76 percent. These data suggest that new Port industry jobs are filled, in part, by workers already residing in the Gateway Cities subregion. In addition, the spatial distribution of International Longshore and Warehouse Union (ILWU) workers' places of residence suggest that over 30 percent lived outside the Gateway Cities subregion in June 2005.

The portion of the population associated with the direct export manufacturer and import wholesaler employment that would reside in the Gateway Cities subregion was estimated by calculating the share of the population of the Gateway Cities subregion compared to the total population of the five-county region and applying that share to the net employment of direct export manufacturers and import wholesalers. For analysis purposes, it is assumed that the incoming population would be distributed through the 27 cities of the Gateway Cities subregion based on the relative population of each city, as measured or projected by SCAG (2004b). The remaining additions to direct, indirect, and induced employment from the Project are assumed to be dispersed throughout the five-county region rather than being concentrated near the Port. Therefore, any related population and housing effects are presumed to be of smaller magnitude relative to individual communities in the five-county region and are not evaluated further.

For each of the 27 cities in the Gateway Cities subregion and the unincorporated area, if the net population increase from the Project constitutes 0.5 percent or more of the population projected by SCAG for the city (or unincorporated area) in the corresponding year, the impact would be significant.

Housing

For each alternative, the analysis estimates the demand for additional housing units due to the additional Port-related employment in the Gateway Cities subregion by applying the SCAG (2002) estimate of one housing unit per 1.5 jobs. The analysis estimates the potential impacts on housing demand for each five-year interval. The analysis provides estimates of housing demand for each of the cities and the unincorporated area in the Gateway Cities subregion. Applying the SCAG estimate of the number of households, the ratio between households and housing units in each Gateway City at the time of the 2000 Census is used to estimate the number of housing units in each time interval.

For each of the 27 cities in the Gateway Cities subregion and the unincorporated area, if the net housing demand from the Project constitutes 0.5 percent or more of the projected number of housing units for the affected city (or unincorporated area) in the corresponding year, the impact would be significant.

3.12.2.3 Alternative 1 – 345-Acre Alternative (the Project)

Construction Impacts

Impact SOCIO-1.1: The Project would not increase employment in the five-county region by 0.5 percent or more.

Construction of the Project would generate temporary jobs in the construction industry in the five-county region. The share of additional employment for the five-county region was estimated using the construction employment projections for the benchmark years, 2010 and 2015. Employment projections for each county were provided by SCAG in five-year intervals. The additional employment from the construction at the Port associated with the proposed Project would

comprise a share of regional employment of 0.003 percent in 2010 and 0.005 percent in 2015 as compared to each baseline (Table 3.12-12). The peak year of construction spending, and consequent employment would be 2013.

CEQA Impact Determination

There would be no significant impacts from the construction-related employment associated with the Project compared to the CEQA Baseline. The jobs created would comprise between 0.003 percent and 0.005 percent of regional employment. Therefore, impacts on employment would be less than significant under CEQA.

Mitigation Measures

As impacts on employment would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on employment would be less than significant.

NEPA Impact Determination

There would be no significant impacts from the proposed Project compared to the NEPA Baseline. The jobs created by the proposed Project would comprise only between 0.003 percent and 0.005 percent of regional employment. Therefore, impacts on employment would be less than significant under NEPA.

Mitigation Measures

As impacts on employment would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on employment would be less than significant.

Impact SOCIO-2.1: The Project would not increase population in the Gateway Cities subregion by 0.5 percent or more.

Given the temporary nature of construction industry jobs and the relatively large regional construction industry, it is likely that the labor force from within the region would be sufficient to complete the construction without an influx of new workers and their families and that relocation within the region would be minimal. Therefore, new construction employment generated by the Project would not impact population in the region.

CEQA Impact Determination

It is likely that most of the construction workers involved already reside in the Gateway Cities subregion and would not migrate to the area and increase the population. Therefore, impacts on population as a result of Project construction would be less than significant under CEQA.

Mitigation Measures

As impacts on population would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on population would be less than significant.

NEPA Impact Determination

It is likely that most of the construction workers involved already reside in the Gateway Cities subregion and would not migrate to the area and increase the population. Therefore, impacts on population as a result of Project construction would be less than significant under NEPA.

Mitigation Measures

As impacts on population would be less than significant, no mitigation is required.

Table 3.12-12. Estimated Construction Employment Effects, CEQA Baseline and NEPA Baseline, Proposed Project, 2010-2015, Five-County Region

	CEQA Baseline Estimated Regional Employment	Port-Related Employment[1]	Share of Regional Employment
2010	8,652,468	379	0.003%
2015	9,113,530	538	0.005%
	NEPA Baseline Estimated Regional Employment	**Port-Related Employment[1]**	**Share of Regional Employment**
2010	8,657,674	379	0.003%
2015	9,127,428	538	0.005%

Note:
1. Port-related employment includes the labor required for all construction at the Port, including the proposed Project.

Significance of Impacts after Mitigation

Impacts on population would be less than significant.

Impact SOCIO-3.1: The Project would not increase the demand for housing units in the Gateway Cities subregion by 0.5 percent or more.

As described in Section 3.12.2.2, it is likely that the labor force from within the region would be sufficient to complete Project construction without an influx of new workers and their families and that relocation within the region would be minimal. Therefore, any change in housing demand would also be minimal.

CEQA Impact Determination

There would be less than significant impacts on housing demand in the region as a result of Project construction spending. The construction labor force in the region would be sufficient to complete the construction projects without workers migrating to the region. Therefore, no new housing units would be necessary and construction spending would not impact housing demand. Impacts would be less than significant under CEQA.

Mitigation Measures

As impacts on housing would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on housing would be less than significant.

NEPA Impact Determination

There would be less than significant impacts on housing demand in the region as a result of Project construction spending. The construction labor force in the region would be sufficient to complete the construction projects without workers migrating to the region. Therefore, no new housing units would be necessary and construction spending would not impact housing demands. Impacts would be less than significant under NEPA.

Mitigation Measures

As impacts on housing would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on housing would be less than significant.

Operational Impacts

Impact SOCIO-1.2: The Project would not increase employment in the five-county region by 0.5 percent or more.

Employment projections were provided by the Port for four different alternatives. The Project would add 24,779 jobs by 2025, comprising 0.25 percent of total employment in the region in the same year, compared to each baseline (Table 3.12-12).

CEQA Impact Determination

The proposed Project would create 24,779 additional jobs by 2025 in the five-county region. However, the share of employment would only range between zero percent and 0.25 percent (i.e., would not reach the significance criterion of 0.5 percent). Therefore, impacts on regional employment would be less than significant under CEQA.

Mitigation Measures

As impacts on employment would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on employment would be less than significant.

NEPA Impact Determination

There would be no significant impacts on regional employment anticipated from the proposed Project compared to the NEPA Baseline. The proposed Project would have a net effect of 24,779 additional jobs by 2025 in the five-county region. However, the share of employment would only range between zero percent and 0.25 percent and does not reach the significance criteria of 0.5 percent. Therefore, impacts would be less than significant under NEPA.

Mitigation Measures

As impacts on employment would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on employment would be less than significant.

Impact SOCIO-2.2: The Project would not increase population in the Gateway Cities subregion by 0.5 percent or more.

In 2005, prior to the Project being enacted, the estimated population associated with the direct employment from the Port accounted for 0.6 percent for the population within the Gateway Cities subregion (Tables 3.12-13 and 3.12-14).

CEQA Impact Determination

There would be no significant impact anticipated from the additional population entering the Gateway Cities subregion as a result of the proposed Project. The additional population through the Gateway Cities would comprise at most 0.3 percent of the total population in each individual city (Tables 3.12-13 and 3.12-14). Therefore, the additional population would not comprise 0.5 percent or more of the region's population, and impacts would be less than significant under CEQA.

Mitigation Measures

As impacts on population would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on population would be less than significant.

NEPA Impact Determination

There would be no significant impact anticipated from the additional population entering the Gateway Cities subregion as a result of the proposed Project. The additional population through the Gateway Cities would comprise at most 0.3 percent of the total population in each

Table 3.12-13. Estimated Population Effects, CEQA Baseline, Proposed Project, 2005-2015, Gateway Cities Subregion

	2005			2010			2015		
City	Population	Baseline Port Population[1]	Share of Population	Population	Additional Port Population[1]	Share of Population	Population	Additional Port Population[1]	Share of Population
Artesia City	17,094	109	0.6%	17,235	18	0.1%	17,302	38	0.2%
Avalon City	3,493	22	0.6%	3,779	4	0.1%	4,183	9	0.2%
Bell City	38,626	245	0.6%	39,261	40	0.1%	39,963	87	0.2%
Bell Gardens City	46,355	294	0.6%	47,307	48	0.1%	47,894	104	0.2%
Bellflower City	77,151	490	0.6%	78,331	80	0.1%	80,731	175	0.2%
Cerritos City	54,433	346	0.6%	54,756	56	0.1%	54,936	119	0.2%
Commerce City	13,204	84	0.6%	13,251	13	0.1%	13,663	30	0.2%
Compton City	97,137	617	0.6%	97,378	99	0.1%	100,864	219	0.2%
Cudahy City	25,953	165	0.6%	26,761	27	0.1%	27,807	60	0.2%
Downey City	112,635	715	0.6%	114,177	116	0.1%	116,582	253	0.2%
Hawaiian Gardens City	15,806	100	0.6%	16,182	16	0.1%	16,519	36	0.2%
Huntington Park City	65,163	414	0.6%	67,094	68	0.1%	69,255	150	0.2%
La Habra Heights City	6,284	40	0.6%	6,631	7	0.1%	7,296	16	0.2%
La Mirada City	50,486	321	0.6%	53,028	54	0.1%	57,848	125	0.2%
Lakewood City	82,872	526	0.6%	83,747	85	0.1%	84,419	183	0.2%
Long Beach City	489,528	3,108	0.6%	503,450	512	0.1%	518,627	1,124	0.2%
Lynwood City	73,544	467	0.6%	75,067	76	0.1%	76,755	166	0.2%
Maywood City	29,368	186	0.6%	29,735	30	0.1%	30,227	66	0.2%
Norwalk City	109,673	696	0.6%	111,255	113	0.1%	114,009	247	0.2%
Paramount City	57,529	365	0.6%	57,879	59	0.1%	61,477	133	0.2%
Pico Rivera City	66,534	422	0.6%	67,523	69	0.1%	69,389	150	0.2%
Santa Fe Springs City	17,547	111	0.6%	18,263	19	0.1%	19,113	41	0.2%
Signal Hill City	10,388	66	0.6%	10,558	11	0.1%	11,415	25	0.2%
South Gate City	103,516	657	0.6%	108,757	111	0.1%	113,085	245	0.2%
Unincorporated	339,087	2,153	0.6%	352,027	358	0.1%	369,720	802	0.2%
Vernon City	94	1	0.6%	95	0	0.0%	96	0	0.0%
Whittier City	87,073	553	0.6%	88,085	90	0.1%	89,577	194	0.2%
Total Subregion	2,090,573	13,274	0.6%	2,141,612	2,176	0.1%	2,212,752	4,798	0.2%

Note:
1. Includes direct port industry and the portion of direct export manufacturers and import wholesaling employment assumed to live in the Gateway Cities subregion.

Source: SCAG 2004b.

Table 3.12-14. Estimated Population Effects, CEQA Baseline, Proposed Project, 2020-2025, Gateway Cities Subregion

	2020			2025		
City	Population	Additional Port Population[1]	Share of Population	Population	Additional Port Population[1]	Share of Population
Artesia City	17,370	55	0.3%	17,435	58	0.3%
Avalon City	4,582	14	0.3%	4,964	17	0.3%
Bell City	40,652	129	0.3%	41,313	138	0.3%
Bell Gardens City	48,473	153	0.3%	49,031	163	0.3%
Bellflower City	83,098	263	0.3%	85,364	284	0.3%
Cerritos City	55,112	174	0.3%	55,282	184	0.3%
Commerce City	14,068	44	0.3%	14,457	48	0.3%
Compton City	104,304	330	0.3%	107,597	358	0.3%
Cudahy City	28,840	91	0.3%	29,830	99	0.3%
Downey City	118,957	376	0.3%	121,228	404	0.3%
Hawaiian Gardens City	16,850	53	0.3%	17,167	57	0.3%
Huntington Park City	71,383	226	0.3%	73,425	244	0.3%
La Habra Heights City	7,950	25	0.3%	8,579	29	0.3%
La Mirada City	62,603	198	0.3%	67,163	224	0.3%
Lakewood City	85,083	269	0.3%	85,719	285	0.3%
Long Beach City	533,590	1,687	0.3%	547,937	1,824	0.3%
Lynwood City	78,424	248	0.3%	80,021	266	0.3%
Maywood City	30,717	97	0.3%	31,183	104	0.3%
Norwalk City	116,729	369	0.3%	119,336	397	0.3%
Paramount City	65,025	206	0.3%	68,429	228	0.3%
Pico Rivera City	71,231	225	0.3%	72,993	243	0.3%
Santa Fe Springs City	19,949	63	0.3%	20,750	69	0.3%
Signal Hill City	12,260	39	0.3%	13,070	44	0.3%
South Gate City	117,355	371	0.3%	121,449	404	0.3%
Unincorporated	387,168	1,224	0.3%	403,898	1,344	0.3%
Vernon City	97	0	0.0%	98	0	0.0%
Whittier City	91,049	288	0.3%	92,462	308	0.3%
Total Subregion	2,282,919	7,217	0.3%	2,350,180	7,823	0.3%

Note:
1. Includes direct port industry and the portion of direct export manufacturers and import wholesaling employment assumed to live in the Gateway Cities subregion.

Source: SCAG 2004b.

individual city (Tables 3.12-15 and 3.12-16). Therefore, the additional population would not comprise 0.5 percent or more of the region's population, and impacts would be less than significant under NEPA.

Mitigation Measures

As impacts on population would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on population would be less than significant.

Impact SOCIO-3.2: The Project would not increase the demand for housing units in the Gateway Cities subregion by 0.5 percent or more.

The Project would increase demand for housing units in the Gateway Cities subregion. In 2005, the estimated housing demand associated with the direct port industry employment and the portion of the direct export manufacturer and import wholesaler employment assumed to reside in the Gateway Cities subregion was estimated as 4,425 housing units. This comprises 0.7 percent of the total number of housing units in the subregion.

CEQA Impact Determination

The additional housing units that would be demanded in the Gateway Cities subregion would comprise between 0.1 percent in 2010 and 0.4 percent in 2020 and 2025 of the total number of housing units (Tables 3.12-17 and 3.12-18). Therefore, impacts on housing demands in the Gateway Cities subregion would be less than significant under CEQA.

Table 3.12-15. Estimated Population Effects, NEPA Baseline, Proposed Project, 2005-2015, Gateway Cities Subregion

	2005			2010			2015		
City	NEPA Baseline Population	Baseline Port Population[1]	Share of Population	NEPA Baseline Population	Additional Port Population[1]	Share of Population	NEPA Baseline Population	Additional Port Population[1]	Share of Population
Artesia City	17,094	109	0.6%	17,248	18	0.1%	17,337	38	0.2%
Avalon City	3,493	22	0.6%	3,782	4	0.1%	4,191	9	0.2%
Bell City	38,626	245	0.6%	39,292	40	0.1%	40,043	87	0.2%
Bell Gardens City	46,355	294	0.6%	47,344	48	0.1%	47,990	104	0.2%
Bellflower City	77,151	490	0.6%	78,392	80	0.1%	80,892	175	0.2%
Cerritos City	54,433	346	0.6%	54,799	56	0.1%	55,046	119	0.2%
Commerce City	13,204	84	0.6%	13,261	13	0.1%	13,690	30	0.2%
Compton City	97,137	617	0.6%	97,454	99	0.1%	101,066	219	0.2%
Cudahy City	25,953	165	0.6%	26,782	27	0.1%	27,863	60	0.2%
Downey City	112,635	715	0.6%	114,266	116	0.1%	116,815	253	0.2%
Hawaiian Gardens City	15,806	100	0.6%	16,195	16	0.1%	16,552	36	0.2%
Huntington Park City	65,163	414	0.6%	67,146	68	0.1%	69,393	150	0.2%
La Habra Heights City	6,284	40	0.6%	6,636	7	0.1%	7,311	16	0.2%
La Mirada City	50,486	321	0.6%	53,069	54	0.1%	57,964	125	0.2%
Lakewood City	82,872	526	0.6%	83,812	85	0.1%	84,588	183	0.2%
Long Beach City	489,528	3,108	0.6%	503,841	512	0.1%	519,663	1,124	0.2%
Lynwood City	73,544	467	0.6%	75,125	76	0.1%	76,908	166	0.2%
Maywood City	29,368	186	0.6%	29,758	30	0.1%	30,287	66	0.2%
Norwalk City	109,673	696	0.6%	111,341	113	0.1%	114,237	247	0.2%
Paramount City	57,529	365	0.6%	57,924	59	0.1%	61,600	133	0.2%
Pico Rivera City	66,534	422	0.6%	67,575	69	0.1%	69,528	150	0.2%
Santa Fe Springs City	17,547	111	0.6%	18,277	19	0.1%	19,151	41	0.2%
Signal Hill City	10,388	66	0.6%	10,566	11	0.1%	11,438	25	0.2%
South Gate City	103,516	657	0.6%	108,842	111	0.1%	113,311	245	0.2%
Unincorporated	339,087	2,153	0.6%	352,301	358	0.1%	370,459	802	0.2%
Vernon City	94	1	0.6%	95	0	0.0%	96	0	0.0%
Whittier City	87,073	553	0.6%	88,153	90	0.1%	89,756	194	0.2%
Total Subregion	2,090,573	13,274	0.6%	2,143,276	2,176	0.1%	2,217,174	4,798	0.2%

Note:
1. Includes direct port industry and the portion of direct export manufacturers and import w.holesaling employment assumed to live in the Gateway Cities subregion.

Mitigation Measures

As impacts on housing would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on housing would be less than significant.

NEPA Impact Determination

The additional housing units that would be demanded as a result of the proposed Project would comprise only between a 0.1 percent share in 2010 and a 0.4 percent share of housing units in 2020 and 2025 (Tables 3.12-19 and 3.12-20). Therefore, impacts on housing demands in the Gateway Cities subregion would be less than significant under NEPA.

Mitigation Measures

As impacts on housing would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on housing would be less than significant.

3.12.2.4 Alternative 2 – 315-Acre Alternative

Alternative 2 would add 24.7 net acres of newly created land to the existing 294-acre Project site by filling Slip 1 between Piers E and F (Berths

Table 3.12-16. Estimated Population Effects, NEPA Baseline, Proposed Project, 2020-2025, Gateway Cities Subregion

City	2020			2025		
	NEPA Baseline Population	Additional Port Population[1]	Share of Population	NEPA Baseline Population	Additional Port Population[1]	Share of Population
Artesia City	17,407	55	0.3%	17,474	58	0.3%
Avalon City	4,592	14	0.3%	4,975	17	0.3%
Bell City	40,739	129	0.3%	41,405	138	0.3%
Bell Gardens City	48,577	153	0.3%	49,141	163	0.3%
Bellflower City	83,276	263	0.3%	85,555	284	0.3%
Cerritos City	55,230	174	0.3%	55,406	184	0.3%
Commerce City	14,098	44	0.3%	14,489	48	0.3%
Compton City	104,528	330	0.3%	107,838	358	0.3%
Cudahy City	28,902	91	0.3%	29,897	99	0.3%
Downey City	119,212	376	0.3%	121,499	404	0.3%
Hawaiian Gardens City	16,886	53	0.3%	17,205	57	0.3%
Huntington Park City	71,536	226	0.3%	73,589	244	0.3%
La Habra Heights City	7,967	25	0.3%	8,598	29	0.3%
La Mirada City	62,737	198	0.3%	67,313	224	0.3%
Lakewood City	85,265	269	0.3%	85,911	285	0.3%
Long Beach City	534,733	1,687	0.3%	549,162	1,824	0.3%
Lynwood City	78,592	248	0.3%	80,200	266	0.3%
Maywood City	30,783	97	0.3%	31,253	104	0.3%
Norwalk City	116,979	369	0.3%	119,603	397	0.3%
Paramount City	65,164	206	0.3%	68,582	228	0.3%
Pico Rivera City	71,384	225	0.3%	73,156	243	0.3%
Santa Fe Springs City	19,992	63	0.3%	20,796	69	0.3%
Signal Hill City	12,286	39	0.3%	13,099	44	0.3%
South Gate City	117,606	371	0.3%	121,721	404	0.3%
Unincorporated	387,998	1,224	0.3%	404,801	1,344	0.3%
Vernon City	97	0	0.0%	98	0	0.0%
Whittier City	91,244	288	0.3%	92,669	308	0.3%
Total Subregion	2,287,811	7,217	0.3%	2,355,435	7,823	0.3%

Note:
1. Includes direct port industry and the portion of direct export manufacturers and import wholesaling employment assumed to live in the Gateway Cities subregion.

E12-E14 and F1-F4). Under this alternative, the East Basin would not be filled.

Construction Impacts

Impact SOCIO-1.1: Alternative 2 would not increase employment in the five-county region by 0.5 percent or more.

Construction of Alternative 2 would contribute to temporary construction employment in the construction industry in the five-county region. The share of additional employment for the five-county region was estimated using the construction employment projections for the benchmark years 2010 and 2015. Employment projections for each county were provided by SCAG in five-year intervals.

The additional employment from the construction at the Port associated with Alternative 2 would comprise a share of regional employment of 0.003 percent in 2010 and 2015 as compared to each baseline (Table 3.12-21). The peak year of construction spending for Alternative 2 would be 2010.

CEQA Impact Determination

The additional employment created by Alternative 2 construction spending would comprise less than 0.1 percent of total employment and would be a temporary addition to the total employment in the five-county region. Therefore, impacts on employment associated with construction spending would be less than significant under CEQA.

Mitigation Measures

As impacts on employment would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on employment would be less than significant.

Table 3.12-17. Estimated Effects on Housing Demand, CEQA Baseline, Proposed Project, 2005-2015, Gateway Cities Subregion

	2005			2010			2015		
City	Housing Units	Baseline Port-Related Housing Units	Share of Housing Units	Housing Units	Additional Port Housing Units	Share of Housing Units	Housing Units	Additional Port Housing Units	Share of Housing Units
Artesia City	4,639	34	0.7%	4,723	6	0.1%	4,812	12	0.2%
Avalon City	1,962	14	0.7%	2,133	2	0.1%	2,337	6	0.2%
Bell City	9,294	68	0.7%	9,348	11	0.1%	9,552	24	0.2%
Bell Gardens City	9,814	72	0.7%	9,819	11	0.1%	9,978	25	0.2%
Bellflower City	24,701	181	0.7%	25,263	29	0.1%	25,827	64	0.2%
Cerritos City	15,910	116	0.7%	16,028	19	0.1%	16,151	40	0.2%
Commerce City	3,422	25	0.7%	3,435	4	0.1%	3,589	9	0.2%
Compton City	23,815	174	0.7%	23,847	28	0.1%	24,735	61	0.2%
Cudahy City	5,670	42	0.7%	5,834	7	0.1%	6,139	15	0.2%
Downey City	35,073	257	0.7%	35,545	41	0.1%	36,219	90	0.2%
Hawaiian Gardens City	3,718	27	0.7%	3,830	4	0.1%	3,933	10	0.2%
Huntington Park City	15,657	115	0.7%	16,244	19	0.1%	16,871	42	0.2%
La Habra Heights City	2,013	15	0.7%	2,210	3	0.1%	2,424	6	0.2%
La Mirada City	15,495	113	0.7%	16,887	20	0.1%	18,406	46	0.2%
Lakewood City	27,496	201	0.7%	28,001	33	0.1%	28,563	71	0.2%
Long Beach City	174,876	1,280	0.7%	180,748	211	0.1%	187,620	465	0.2%
Lynwood City	15,120	111	0.7%	15,298	18	0.1%	15,711	39	0.2%
Maywood City	6,711	49	0.7%	6,711	8	0.1%	6,834	17	0.2%
Norwalk City	27,898	204	0.7%	28,189	33	0.1%	28,616	71	0.2%
Paramount City	14,664	107	0.7%	14,729	17	0.1%	15,622	39	0.2%
Pico Rivera City	17,075	125	0.7%	17,657	21	0.1%	18,279	45	0.2%
Santa Fe Springs City	5,053	37	0.7%	5,304	6	0.1%	5,559	14	0.2%
Signal Hill City	4,101	30	0.7%	4,252	5	0.1%	4,540	11	0.2%
South Gate City	24,707	181	0.7%	25,579	30	0.1%	26,711	66	0.2%
Unincorporated	86,045	630	0.7%	90,832	106	0.1%	95,615	237	0.2%
Vernon City	26	0	0.0%	26	0	0.0%	26	0	0.0%
Whittier City	29,362	215	0.7%	30,109	35	0.1%	30,854	76	0.2%
Total Subregion	604,318	4,425	0.7%	622,584	725	0.1%	645,522	1,599	0.2%

NEPA Impact Determination

The additional employment created by Alternative 2 construction spending would comprise less than 0.1 percent of total employment and would be a temporary addition to the total employment in the five-county region. Therefore, impacts on employment associated with construction spending would be less than significant under NEPA.

Mitigation Measures

As impacts on employment would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on employment would be less than significant.

Impact SOCIO-2.1: Alternative 2 would not increase population in the Gateway Cities subregion by 0.5 percent or more.

Population impacts were not considered in detail because it is likely that the labor force from within the region would be sufficient to complete Alternative 2 construction without an influx of new workers and their families, and that relocation within the region would be minimal. Therefore, Alternative 2 construction activities would not impact population in the region.

CEQA Impact Determination

It is likely that most of the construction workers involved would reside in the surrounding area and would therefore not migrate to the area and impact population. Therefore, impacts on population would be less than significant under CEQA.

Mitigation Measures

As impacts on population would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on population would be less than significant.

Table 3.12-18. Estimated Effects on Housing Demand, CEQA Baseline, Proposed Project, 2020-2025, Gateway Cities Subregion

City	2020			2025		
	Housing Units	Additional Port Housing Units	Share of Housing Units	Housing Units	Additional Port Housing Units	Share of Housing Units
Artesia City	4,902	18	0.4%	4,995	19	0.4%
Avalon City	2,544	9	0.4%	2,745	10	0.4%
Bell City	9,761	35	0.4%	9,969	38	0.4%
Bell Gardens City	10,142	36	0.4%	10,305	39	0.4%
Bellflower City	26,408	95	0.4%	26,985	102	0.4%
Cerritos City	16,284	59	0.4%	16,418	62	0.4%
Commerce City	3,742	13	0.4%	3,894	15	0.4%
Compton City	25,641	92	0.4%	26,535	100	0.4%
Cudahy City	6,452	23	0.4%	6,758	25	0.4%
Downey City	36,908	133	0.4%	37,599	142	0.4%
Hawaiian Gardens City	4,041	15	0.4%	4,146	16	0.4%
Huntington Park City	17,509	63	0.4%	18,137	68	0.4%
La Habra Heights City	2,642	10	0.4%	2,857	11	0.4%
La Mirada City	19,945	72	0.4%	21,462	81	0.4%
Lakewood City	29,140	105	0.4%	29,713	112	0.4%
Long Beach City	194,624	700	0.4%	201,545	759	0.4%
Lynwood City	16,132	58	0.4%	16,553	62	0.4%
Maywood City	6,962	25	0.4%	7,089	27	0.4%
Norwalk City	29,057	105	0.4%	29,500	111	0.4%
Paramount City	16,527	59	0.4%	17,423	66	0.4%
Pico Rivera City	18,916	68	0.4%	19,543	74	0.4%
Santa Fe Springs City	5,815	21	0.4%	6,070	23	0.4%
Signal Hill City	4,830	17	0.4%	5,119	19	0.4%
South Gate City	27,863	100	0.4%	29,002	109	0.4%
Unincorporated	100,471	361	0.4%	105,258	397	0.4%
Vernon City	26	0	0.0%	26	0	0.0%
Whittier City	31,614	114	0.4%	32,370	122	0.4%
Total Subregion	668,897	2,406	0.4%	692,018	2,608	0.4%

NEPA Impact Determination

It is likely that most of the construction workers involved would reside in the surrounding area and would therefore not migrate to the area and impact population. Therefore, impacts on population would be less than significant under NEPA.

Mitigation Measures

As impacts on population would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on population would be less than significant.

Impact SOCIO-3.1: Alternative 2 would not increase the demand for housing units in the Gateway Cities subregion by 0.5 percent or more.

Housing impacts were not considered in detail because it is likely that the labor force from within the region would be sufficient to complete Alternative 2 construction without an influx of new workers and their families, and that relocation within the region would be minimal.

CEQA Impact Determination

There would be no significant impact on housing in the region as a result of construction spending. The construction labor force in the region would be sufficient to complete the construction projects without workers migrating to the region. Therefore, construction would not impact housing and impacts would be less than significant under CEQA.

Mitigation Measures

As impacts on housing would be less than significant, no mitigation is required.

Table 3.12-19. Estimated Effects on Housing Demand, NEPA Baseline, Proposed Project, 2005-2015, Gateway Cities Subregion

	2005			2010			2015		
City	NEPA Baseline Housing Units	Baseline Port-Related Housing Units	Share of Housing Units	NEPA Baseline Housing Units	Additional Port Housing Units	Share of Housing Units	NEPA Baseline Housing Units	Additional Port Housing Units	Share of Housing Units
Artesia City	4,639	34	0.7%	4,728	6	0.1%	4,823	12	0.2%
Avalon City	1,962	14	0.7%	2,135	2	0.1%	2,343	6	0.2%
Bell City	9,294	68	0.7%	9,357	11	0.1%	9,574	24	0.2%
Bell Gardens City	9,814	72	0.7%	9,828	11	0.1%	10,001	25	0.2%
Bellflower City	24,701	181	0.7%	25,286	29	0.1%	25,886	64	0.2%
Cerritos City	15,910	116	0.7%	16,042	19	0.1%	16,188	40	0.2%
Commerce City	3,422	25	0.7%	3,438	4	0.1%	3,597	9	0.2%
Compton City	23,815	174	0.7%	23,868	28	0.1%	24,792	61	0.2%
Cudahy City	5,670	42	0.7%	5,839	7	0.1%	6,153	15	0.2%
Downey City	35,073	257	0.7%	35,577	41	0.1%	36,301	90	0.2%
Hawaiian Gardens City	3,718	27	0.7%	3,834	4	0.1%	3,942	10	0.2%
Huntington Park City	15,657	115	0.7%	16,259	19	0.1%	16,909	42	0.2%
La Habra Heights City	2,013	15	0.7%	2,212	3	0.1%	2,430	6	0.2%
La Mirada City	15,495	113	0.7%	16,902	20	0.1%	18,448	46	0.2%
Lakewood City		201	0.7%	28,026	33	0.1%	28,628	71	0.2%
Long Beach City	174,876	1,280	0.7%	180,909	211	0.1%	188,048	465	0.2%
Lynwood City	15,120	111	0.7%	15,311	18	0.1%	15,747	39	0.2%
Maywood City	6,711	49	0.7%	6,717	8	0.1%	6,849	17	0.2%
Norwalk City	27,898	204	0.7%	28,215	33	0.1%	28,681	71	0.2%
Paramount City	14,664	107	0.7%	14,742	17	0.1%	15,657	39	0.2%
Pico Rivera City	17,075	125	0.7%	17,673	21	0.1%	18,320	45	0.2%
Santa Fe Springs City	5,053	37	0.7%	5,309	6	0.1%	5,572	14	0.2%
Signal Hill City	4,101	30	0.7%	4,256	5	0.1%	4,550	11	0.2%
South Gate City	24,707	181	0.7%	25,602	30	0.1%	26,772	66	0.2%
Unincorporated	86,045	630	0.7%	90,913	106	0.1%	95,834	237	0.2%
Vernon City	26	0	0.0%	26	0	0.0%	26	0	0.0%
Whittier City	29,362	215	0.7%	30,136	35	0.1%	30,925	76	0.2%
Total Subregion	604,318	4,425	0.7%	623,138	725	0.1%	646,996	1,599	0.2%

Significance of Impacts after Mitigation

Impacts on housing would be less than significant.

NEPA Impact Determination

There would be no significant impact on housing in the region as a result of construction spending.

The construction labor force in the region would be sufficient to complete the construction projects without workers migrating to the region. Therefore, impacts would be less than significant under NEPA.

Mitigation Measures

As impacts on housing would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on housing would be less than significant.

Operational Impacts

Impact SOCIO-1.2: Alternative 2 would not increase employment in the five-county region by 0.5 percent or more.

Alternative 2 would add 15,850 jobs by 2025, comprising 0.16 percent of total employment in the region in the same year, as compared to each baseline (Table 3.12-22).

CEQA Impact Determination

At the height of its effect, Alternative 2 would generate additional employment comprising only 0.16 percent of total employment in the region (Table 3.12-22). This effect on employment would be less than the significance criterion of 0.5 percent. Therefore, impacts on employment would be less than significant under CEQA.

Table 3.12-20. Estimated Effects on Housing Demand, NEPA Baseline, Proposed Project, 2020-2025, Gateway Cities Subregion

	2020			2025		
City	NEPA Baseline Housing Units	Additional Port Housing Units	Share of Housing Units	NEPA Baseline Housing Units	Additional Port Housing Units	Share of Housing Units
Artesia City	4,914	18	0.4%	5,007	19	0.4%
Avalon City	2,550	9	0.4%	2,752	10	0.4%
Bell City	9,784	35	0.4%	9,995	38	0.4%
Bell Gardens City	10,166	36	0.4%	10,331	39	0.4%
Bellflower City	26,473	95	0.4%	27,053	102	0.4%
Cerritos City	16,323	59	0.4%	16,459	62	0.4%
Commerce City	3,751	13	0.4%	3,904	15	0.4%
Compton City	25,703	92	0.4%	26,603	100	0.4%
Cudahy City	6,467	23	0.4%	6,776	25	0.4%
Downey City	36,998	133	0.4%	37,695	142	0.4%
Hawaiian Gardens City	4,051	15	0.4%	4,156	16	0.4%
Huntington Park City	17,551	63	0.4%	18,183	68	0.4%
La Habra Heights City	2,648	10	0.4%	2,864	11	0.4%
La Mirada City	19,993	72	0.4%	21,516	81	0.4%
Lakewood City	29,211	105	0.4%	29,788	112	0.4%
Long Beach City	195,098	700	0.4%	202,055	759	0.4%
Lynwood City	16,171	58	0.4%	16,595	62	0.4%
Maywood City	6,979	25	0.4%	7,107	27	0.4%
Norwalk City	29,128	105	0.4%	29,575	111	0.4%
Paramount City	16,568	59	0.4%	17,467	66	0.4%
Pico Rivera City	18,962	68	0.4%	19,593	74	0.4%
Santa Fe Springs City	5,829	21	0.4%	6,086	23	0.4%
Signal Hill City	4,842	17	0.4%	5,132	19	0.4%
South Gate City	27,931	100	0.4%	29,075	109	0.4%
Unincorporated	100,716	361	0.4%	105,525	397	0.4%
Vernon City	26	0	0.0%	26	0	0.0%
Whittier City	31,691	114	0.4%	32,452	122	0.4%
Total Subregion	670,528	2,406	0.4%	693,770	2,608	0.4%

Table 3.12-21. Estimated Construction Employment Effects, CEQA Baseline and NEPA Baseline, Alternative 2, 2010-2015, Five-County Region

	CEQA Baseline Estimated Regional Employment	Port-Related Employment[1]	Share of Regional Employment
2010	8,652,468	379	0.003%
2015	9,113,530	457	0.003%
	NEPA Baseline Estimated Regional Employment	**Port-Related Employment[1]**	**Share of Regional Employment**
2010	8,657,674	379	0.003%
2015	9,127,428	457	0.003%

Notes:
1. Port-related employment includes the labor required for all construction at the Port, including the proposed Project.

Mitigation Measures

As impacts on employment would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on employment would be less than significant.

NEPA Impact Determination

The additional employment created by Alternative 2 would comprise at most 0.16 percent of total employment in the five-county region (Table 3.12-22). Therefore, impacts on employment would be less than significant under NEPA.

Table 3.12-22. Estimated Employment Effects, CEQA Baseline and NEPA Baseline, Alternative 2, 2005-2025, Five-County Region				
	CEQA Baseline Total Region Employment	**Total Employment Related to Alternative 2**	**Net Effect on Employment**	**Share of Employment**
2005	7,703,946	41,097	-	0.00%
2010	8,652,468	45,810	4,712	0.05%
2015	9,113,530	55,503	14,406	0.16%
2020	9,566,212	55,813	14,716	0.15%
2025	9,998,496	56,947	15,850	0.16%
	NEPA Baseline Total Region Employment	**Total Employment Related to Alternative 2**	**Net Effect on Employment**	**Share of Employment**
2005	7,703,946	41,097	-	0.00%
2010	8,657,674	45,810	4,712	0.05%
2015	9,127,428	55,503	14,406	0.16%
2020	9,581,652	55,813	14,716	0.15%
2025	10,015,139	56,947	15,850	0.16%

Table 3.12-23. Estimated Population Effects, CEQA Baseline, Alternative 2, 2005-2015, Gateway Cities Subregion

	2005			**2010**			**2015**		
City	**Population**	**Baseline Port Population**	**Share of Population**	**Population**	**Additional Port Population**	**Share of Population**	**Population**	**Additional Port Population**	**Share of Population**
Artesia City	17,094	109	0.6%	17,235	12	0.1%	17,302	36	0.2%
Avalon City	3,493	22	0.6%	3,779	3	0.1%	4,183	9	0.2%
Bell City	38,626	245	0.6%	39,261	28	0.1%	39,963	83	0.2%
Bell Gardens City	46,355	294	0.6%	47,307	33	0.1%	47,894	99	0.2%
Bellflower City	77,151	490	0.6%	78,331	55	0.1%	80,731	167	0.2%
Cerritos City	54,433	346	0.6%	54,756	39	0.1%	54,936	114	0.2%
Commerce City	13,204	84	0.6%	13,251	9	0.1%	13,663	28	0.2%
Compton City	97,137	617	0.6%	97,378	69	0.1%	100,864	209	0.2%
Cudahy City	25,953	165	0.6%	26,761	19	0.1%	27,807	58	0.2%
Downey City	112,635	715	0.6%	114,177	80	0.1%	116,582	241	0.2%
Hawaiian Gardens City	15,806	100	0.6%	16,182	11	0.1%	16,519	34	0.2%
Huntington Park City	65,163	414	0.6%	67,094	47	0.1%	69,255	143	0.2%
La Habra Heights City	6,284	40	0.6%	6,631	5	0.1%	7,296	15	0.2%
La Mirada City	50,486	321	0.6%	53,028	37	0.1%	57,848	120	0.2%
Lakewood City	82,872	526	0.6%	83,747	59	0.1%	84,419	175	0.2%
Long Beach City	489,528	3,108	0.6%	503,450	354	0.1%	518,627	1,074	0.2%
Lynwood City	73,544	467	0.6%	75,067	53	0.1%	76,755	159	0.2%
Maywood City	29,368	186	0.6%	29,735	21	0.1%	30,227	63	0.2%
Norwalk City	109,673	696	0.6%	111,255	78	0.1%	114,009	236	0.2%
Paramount City	57,529	365	0.6%	57,879	41	0.1%	61,477	127	0.2%
Pico Rivera City	66,534	422	0.6%	67,523	48	0.1%	69,389	144	0.2%
Santa Fe Springs City	17,547	111	0.6%	18,263	13	0.1%	19,113	40	0.2%
Signal Hill City	10,388	66	0.6%	10,558	7	0.1%	11,415	24	0.2%
South Gate City	103,516	657	0.6%	108,757	77	0.1%	113,085	234	0.2%
Unincorporated	339,087	2,153	0.6%	352,027	248	0.1%	369,720	766	0.2%
Vernon City	94	1	0.6%	95	0	0.0%	96	0	0.0%
Whittier City	87,073	553	0.6%	88,085	62	0.1%	89,577	186	0.2%
Total Subregion	2,090,573	13,274	0.6%	2,141,612	1,507	0.1%	2,212,752	4,583	0.2%

Table 3.12-24. Estimated Population Effects, CEQA Baseline, Alternative 2, 2020-2025, Gateway Cities Subregion

	2020			2025		
City	Population	Additional Port Population	Share of Population	Population	Additional Port Population	Share of Population
Artesia City	17,370	35	0.2%	17,435	37	0.2%
Avalon City	4,582	9	0.2%	4,964	11	0.2%
Bell City	40,652	83	0.2%	41,313	88	0.2%
Bell Gardens City	48,473	99	0.2%	49,031	104	0.2%
Bellflower City	83,098	170	0.2%	85,364	182	0.2%
Cerritos City	55,112	113	0.2%	55,282	118	0.2%
Commerce City	14,068	29	0.2%	14,457	31	0.2%
Compton City	104,304	213	0.2%	107,597	229	0.2%
Cudahy City	28,840	59	0.2%	29,830	64	0.2%
Downey City	118,957	243	0.2%	121,228	258	0.2%
Hawaiian Gardens City	16,850	34	0.2%	17,167	37	0.2%
Huntington Park City	71,383	146	0.2%	73,425	156	0.2%
La Habra Heights City	7,950	16	0.2%	8,579	18	0.2%
Lakewood City	85,083	174	0.2%	85,719	183	0.2%
La Mirada City	62,603	128	0.2%	67,163	143	0.2%
Long Beach City	533,590	1,090	0.2%	547,937	1,167	0.2%
Lynwood City	78,424	160	0.2%	80,021	170	0.2%
Maywood City	30,717	63	0.2%	31,183	66	0.2%
Norwalk City	116,729	238	0.2%	119,336	254	0.2%
Paramount City	65,025	133	0.2%	68,429	146	0.2%
Pico Rivera City	71,231	145	0.2%	72,993	155	0.2%
Santa Fe Springs City	19,949	41	0.2%	20,750	44	0.2%
Signal Hill City	12,260	25	0.2%	13,070	28	0.2%
South Gate City	117,355	240	0.2%	121,449	259	0.2%
Unincorporated	387,168	791	0.2%	403,898	860	0.2%
Vernon City	97	0	0.0%	98	0	0.0%
Whittier City	91,049	186	0.2%	92,462	197	0.2%
Total Subregion	2,282,919	4,662	0.2%	2,350,180	5,004	0.2%

Mitigation Measures

As impacts on employment would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on employment would be less than significant.

Impact SOCIO-2.2: Alternative 2 would not increase population in the Gateway Cities subregion by 0.5 percent or more.

The jobs created by Alternative 2 would increase the population in the area immediately surrounding the Port. The current Port-related population accounts for 0.6 percent of the population in the Gateway Cities subregion. Alternative 2 would add up to 5,004 people to the region between 2010 and 2025 (Tables 3.12-23 to 3.12-26), representing only 0.2 percent in 2025 for both baselines.

CEQA Impact Determination

The additional population from Alternative 2 would comprise 0.2 percent of the total population in the individual cities in the Gateway Cities subregion, less than the 0.5 percent criterion threshold. Therefore, impacts on population would be less than significant under CEQA.

Mitigation Measures

As impacts on population would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on population would be less than significant.

NEPA Impact Determination

The additional population would comprise only a 0.2 percent share of the total population in the Gateway Cities subregion, less than the 0.5 percent criterion threshold. Therefore, impacts on population would be less than significant under NEPA.

Table 3.12-25. Estimated Population Effects, NEPA Baseline, Alternative 2, 2005-2015, Gateway Cities Subregion

	2005			2010			2015		
City	NEPA Baseline Population	Baseline Port Population	Share of Population	NEPA Baseline Population	Additional Port Population	Share of Population	NEPA Baseline Population	Additional Port Population	Share of Population
Artesia City	17,094	109	0.6%	17,248	12	0.1%	17,337	36	0.2%
Avalon City	3,493	22	0.6%	3,782	3	0.1%	4,191	9	0.2%
Bell City	38,626	245	0.6%	39,292	28	0.1%	40,043	83	0.2%
Bell Gardens City	46,355	294	0.6%	47,344	33	0.1%	47,990	99	0.2%
Bellflower City	77,151	490	0.6%	78,392	55	0.1%	80,892	167	0.2%
Cerritos City	54,433	346	0.6%	54,799	39	0.1%	55,046	114	0.2%
Commerce City	13,204	84	0.6%	13,261	9	0.1%	13,690	28	0.2%
Compton City	97,137	617	0.6%	97,454	69	0.1%	101,066	209	0.2%
Cudahy City	25,953	165	0.6%	26,782	19	0.1%	27,863	58	0.2%
Downey City	112,635	715	0.6%	114,266	80	0.1%	116,815	241	0.2%
Hawaiian Gardens City	15,806	100	0.6%	16,195	11	0.1%	16,552	34	0.2%
Huntington Park City	65,163	414	0.6%	67,146	47	0.1%	69,393	143	0.2%
La Habra Heights City	6,284	40	0.6%	6,636	5	0.1%	7,311	15	0.2%
La Mirada City	50,486	321	0.6%	53,069	37	0.1%	57,964	120	0.2%
Lakewood City	82,872	526	0.6%	83,812	59	0.1%	84,588	175	0.2%
Long Beach City	489,528	3,108	0.6%	503,841	354	0.1%	519,663	1,074	0.2%
Lynwood City	73,544	467	0.6%	75,125	53	0.1%	76,908	159	0.2%
Maywood City	29,368	186	0.6%	29,758	21	0.1%	30,287	63	0.2%
Norwalk City	109,673	696	0.6%	111,341	78	0.1%	114,237	236	0.2%
Paramount City	57,529	365	0.6%	57,924	41	0.1%	61,600	127	0.2%
Pico Rivera City	66,534	422	0.6%	67,575	48	0.1%	69,528	144	0.2%
Santa Fe Springs City	17,547	111	0.6%	18,277	13	0.1%	19,151	40	0.2%
Signal Hill City	10,388	66	0.6%	10,566	7	0.1%	11,438	24	0.2%
South Gate City	103,516	657	0.6%	108,842	77	0.1%	113,311	234	0.2%
Unincorporated	339,087	2,153	0.6%	352,301	248	0.1%	370,459	766	0.2%
Vernon City	94	1	0.6%	95	0	0.0%	96	0	0.0%
Whittier City	87,073	553	0.6%	88,153	62	0.1%	89,756	186	0.2%
Total Subregion	2,090,573	13,274	0.6%	2,143,276	1,507	0.1%	2,217,174	4,583	0.2%

Mitigation Measures

As impacts on population would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on population would be less than significant.

Impact SOCIO-3.2: Alternative 2 would not increase the demand for housing units in the Gateway Cities subregion by 0.5 percent or more.

The additional population would increase the demand for housing in the Gateway Cities subregion. In 2005, the estimated housing demand associated with the direct Port industry employment and the portion of the direct export manufacturer and import wholesaler employment assumed to reside in the Gateway Cities subregion was estimated as 4,425 housing units, comprising 0.7 percent of the total number of housing units in the region.

CEQA Impact Determination

The additional housing unit demand would comprise at most 0.2 percent of the total number of housing units in the Gateway Cities subregion, less than the 0.5 percent threshold criterion (Tables 3.12-27 and 3.12-28). Therefore, impacts on housing demands in the Gateway Cities subregion would be less than significant under CEQA.

Mitigation Measures

As impacts on housing would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on housing would be less than significant.

Table 3.12-26. Estimated Population Effects, NEPA Baseline, Alternative 2, 2020-2025, Gateway Cities Subregion

	2020			2025		
City	NEPA Baseline Population	Additional Port Population	Share of Population	NEPA Baseline Population	Additional Port Population	Share of Population
Artesia City	17,407	35	0.2%	17,474	37	0.2%
Avalon City	4,592	9	0.2%	4,975	11	0.2%
Bell City	40,739	83	0.2%	41,405	88	0.2%
Bell Gardens City	48,577	99	0.2%	49,141	104	0.2%
Bellflower City	83,276	170	0.2%	85,555	182	0.2%
Cerritos City	55,230	113	0.2%	55,406	118	0.2%
Commerce City	14,098	29	0.2%	14,489	31	0.2%
Compton City	104,528	213	0.2%	107,838	229	0.2%
Cudahy City	28,902	59	0.2%	29,897	64	0.2%
Downey City	119,212	243	0.2%	121,499	258	0.2%
Hawaiian Gardens City	16,886	34	0.2%	17,205	37	0.2%
Huntington Park City	71,536	146	0.2%	73,589	156	0.2%
La Habra Heights City	7,967	16	0.2%	8,598	18	0.2%
La Mirada City	62,737	128	0.2%	67,313	143	0.2%
Lakewood City	85,265	174	0.2%	85,911	183	0.2%
Long Beach City	534,733	1,090	0.2%	549,162	1,167	0.2%
Lynwood City	78,592	160	0.2%	80,200	170	0.2%
Maywood City	30,783	63	0.2%	31,253	66	0.2%
Norwalk City	116,979	238	0.2%	119,603	254	0.2%
Paramount City	65,164	133	0.2%	68,582	146	0.2%
Pico Rivera City	71,384	145	0.2%	73,156	155	0.2%
Santa Fe Springs City	19,992	41	0.2%	20,796	44	0.2%
Signal Hill City	12,286	25	0.2%	13,099	28	0.2%
South Gate City	117,606	240	0.2%	121,721	259	0.2%
Unincorporated	387,998	791	0.2%	404,801	860	0.2%
Vernon City	97	0	0.0%	98	0	0.0%
Whittier City	91,244	186	0.2%	92,669	197	0.2%
Total Subregion	2,287,811	4,662	0.2%	2,355,435	5,004	0.2%

NEPA Impact Determination

The additional housing units would comprise only 0.2 percent of the total number of housing units in the region, less than the 0.5 percent threshold criterion (Tables 3.12-29 and 3.12-30). Therefore, impacts on housing demands in the Gateway Cities subregion would be less than significant under NEPA.

Mitigation Measures

As impacts on housing would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on housing would be less than significant.

3.12.2.5 Alternative 3 – Landside Improvements Alternative

Alternative 3 would redevelop existing terminal areas on Piers E and F and convert underutilized land north of the Gerald Desmond Bridge and Ocean Boulevard within the Project site to a container yard. No in-water activities, including dredging, filling Slip 1 and the East Basin, new wharf construction, wharf upgrades, or channel and berth deepening would occur.

Construction Impacts

Impact SOCIO-1.1: Alternative 3 would not increase employment in the five-county region by 0.5 percent or more.

Construction of the Landside Improvements Alternative would generate temporary jobs in the construction industry in the five-county region. The share of additional employment for the five-county region was estimated using the construction employment projections for the benchmark years 2010 and 2015. Employment projections for each county were provided by SCAG in five-year intervals.

Table 3.12-27. Estimated Effects on Housing Demand, CEQA Baseline, Alternative 2, 2005-2015, Gateway Cities Subregion

	2005			2010			2015		
City	CEQA Baseline Housing Units	Baseline Port-Related Housing Units	Share of Housing Units	CEQA Baseline Housing Units	Additional Port Housing Units	Share of Housing Units	CEQA Baseline Housing Units	Additional Port Housing Units	Share of Housing Units
Artesia City	4,639	34	0.7%	4,723	4	0.1%	4,812	11	0.2%
Avalon City	1,962	14	0.7%	2,133	2	0.1%	2,337	6	0.2%
Bell City	9,294	68	0.7%	9,348	8	0.1%	9,552	23	0.2%
Bell Gardens City	9,814	72	0.7%	9,819	8	0.1%	9,978	24	0.2%
Bellflower City	24,701	181	0.7%	25,263	20	0.1%	25,827	61	0.2%
Cerritos City	15,910	116	0.7%	16,028	13	0.1%	16,151	38	0.2%
Commerce City	3,422	25	0.7%	3,435	3	0.1%	3,589	8	0.2%
Compton City	23,815	174	0.7%	23,847	19	0.1%	24,735	59	0.2%
Cudahy City	5,670	42	0.7%	5,834	5	0.1%	6,139	15	0.2%
Downey City	35,073	257	0.7%	35,545	29	0.1%	36,219	86	0.2%
Hawaiian Gardens City	3,718	27	0.7%	3,830	3	0.1%	3,933	9	0.2%
Huntington Park City	15,657	115	0.7%	16,244	13	0.1%	16,871	40	0.2%
La Habra Heights City	2,013	15	0.7%	2,210	2	0.1%	2,424	6	0.2%
La Mirada City	15,495	113	0.7%	16,887	14	0.1%	18,406	44	0.2%
Lakewood City	27,496	201	0.7%	28,001	23	0.1%	28,563	68	0.2%
Long Beach City	174,876	1,280	0.7%	180,748	146	0.1%	187,620	444	0.2%
Lynwood City	15,120	111	0.7%	15,298	12	0.1%	15,711	37	0.2%
Maywood City	6,711	49	0.7%	6,711	5	0.1%	6,834	16	0.2%
Norwalk City	27,898	204	0.7%	28,189	23	0.1%	28,616	68	0.2%
Paramount City	14,664	107	0.7%	14,729	12	0.1%	15,622	37	0.2%
Pico Rivera City	17,075	125	0.7%	17,657	14	0.1%	18,279	43	0.2%
Santa Fe Springs City	5,053	37	0.7%	5,304	4	0.1%	5,559	13	0.2%
Signal Hill City	4,101	30	0.7%	4,252	3	0.1%	4,540	11	0.2%
South Gate City	24,707	181	0.7%	25,579	21	0.1%	26,711	63	0.2%
Unincorporated	86,045	630	0.7%	90,832	73	0.1%	95,615	226	0.2%
Vernon City	26	0	0.0%	26	0	0.0%	26	0	0.0%
Whittier City	29,362	215	0.7%	30,109	24	0.1%	30,854	73	0.2%
Total Subregion	604,318	4,425	0.7%	622,584	502	0.1%	645,522	1,528	0.2%

CEQA Impact Determination

The additional employment from the construction at the Port associated with Alternative 3 would comprise a share of regional employment of approximately 0.001 percent in 2010 and 2015 as compared to the CEQA Baseline (Table 3.12-31). The additional employment created by construction spending would comprise less than 0.1 percent of total employment and would be a temporary addition to the total employment in the five-county region. Therefore, impacts on employment associated with Alternative 3 construction spending would be less than significant under CEQA.

Mitigation Measures

As impacts on employment would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on employment would be less than significant.

NEPA Impact Determination

Alternative 3 is equivalent to the NEPA Baseline because it includes only construction and operational activities that would not require issuance of federal permits. As no federal action or permit would be required, there would be no significance determination under NEPA for this alternative. No impacts on employment would occur.

Impact SOCIO-2.1: Alternative 3 would not increase population in the Gateway Cities subregion by 0.5 percent or more.

Population impacts were not considered in detail because it is likely that the labor force from within the region would be sufficient to complete the

Table 3.12-28. Estimated Effects on Housing Demand, CEQA Baseline, Alternative 2, 2020-2025, Gateway Cities Subregion

	2020			2025		
City	CEQA Baseline Housing Units	Additional Port Housing Units	Share of Housing Units	CEQA Baseline Housing Units	Additional Port Housing Units	Share of Housing Units
Artesia City	4,902	11	0.2%	4,995	12	0.2%
Avalon City	2,544	6	0.2%	2,745	7	0.2%
Bell City	9,761	23	0.2%	9,969	24	0.2%
Bell Gardens City	10,142	24	0.2%	10,305	25	0.2%
Bellflower City	26,408	61	0.2%	26,985	65	0.2%
Cerritos City	16,284	38	0.2%	16,418	40	0.2%
Commerce City	3,742	9	0.2%	3,894	9	0.2%
Compton City	25,641	60	0.2%	26,535	64	0.2%
Cudahy City	6,452	15	0.2%	6,758	16	0.2%
Downey City	36,908	86	0.2%	37,599	91	0.2%
Hawaiian Gardens City	4,041	9	0.2%	4,146	10	0.2%
Huntington Park City	17,509	41	0.2%	18,137	44	0.2%
La Habra Heights City	2,642	6	0.2%	2,857	7	0.2%
La Mirada City	19,945	46	0.2%	21,462	52	0.2%
Lakewood City	29,140	68	0.2%	29,713	72	0.2%
Long Beach City	194,624	452	0.2%	201,545	486	0.2%
Lynwood City	16,132	37	0.2%	16,553	40	0.2%
Maywood City	6,962	16	0.2%	7,089	17	0.2%
Norwalk City	29,057	68	0.2%	29,500	71	0.2%
Paramount City	16,527	38	0.2%	17,423	42	0.2%
Pico Rivera City	18,916	44	0.2%	19,543	47	0.2%
Santa Fe Springs City	5,815	14	0.2%	6,070	15	0.2%
Signal Hill City	4,830	11	0.2%	5,119	12	0.2%
South Gate City	27,863	65	0.2%	29,002	70	0.2%
Unincorporated	100,471	233	0.2%	105,258	254	0.2%
Vernon City	26	0	0.0%	26	0	0.0%
Whittier City	31,614	73	0.2%	32,370	78	0.2%
Total Subregion	668,897	1,554	0.2%	692,018	1,668	0.2%

construction without an influx of new workers and their families, and that relocation within the region would be minimal. Therefore, construction for Alternative 3 would not impact population in the region.

CEQA Impact Determination

It is likely that most of the construction workers involved would reside in the surrounding area and would not migrate to the area and impact population. Therefore, impacts on population would be less than significant under CEQA.

Mitigation Measures

As impacts on population would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on population would be less than significant.

NEPA Impact Determination

Alternative 3 is equivalent to the NEPA Baseline because it includes only construction and operational activities that would not require issuance of federal permits. As no federal action or permit would be required, there would be no significance determination under NEPA for this alternative. No impacts on population would occur.

Impact SOCIO-3.1: Alternative 3 would not increase the demand for housing units in the Gateway Cities subregion by 0.5 percent or more.

Housing impacts were not considered in detail because it is likely that the labor force from within the region would be sufficient to complete Alternative 3 construction without an influx of new workers and their families, and that relocation within the region would be minimal.

Table 3.12-29. Estimated Effects on Housing Demand, NEPA Baseline, Alternative 2, 2005-2015, Gateway Cities Subregion

	2005			2010			2015		
City	NEPA Baseline Housing Units	Baseline Port-Related Housing Units	Share of Housing Units	NEPA Baseline Housing Units	Additional Port Housing Units	Share of Housing Units	NEPA Baseline Housing Units	Additional Port Housing Units	Share of Housing Units
Artesia City	4,673	34	0.7%	4,728	4	0.1%	4,823	11	0.2%
Avalon City	1,976	14	0.7%	2,135	2	0.1%	2,343	6	0.2%
Bell City	9,362	68	0.7%	9,357	8	0.1%	9,574	23	0.2%
Bell Gardens City	9,886	72	0.7%	9,828	8	0.1%	10,001	24	0.2%
Bellflower City	24,882	181	0.7%	25,286	20	0.1%	25,886	61	0.2%
Cerritos City	16,027	116	0.7%	16,042	13	0.1%	16,188	38	0.2%
Commerce City	3,447	25	0.7%	3,438	3	0.1%	3,597	8	0.2%
Compton City	23,990	174	0.7%	23,868	19	0.1%	24,792	59	0.2%
Cudahy City	5,712	42	0.7%	5,839	5	0.1%	6,153	15	0.2%
Downey City	35,330	257	0.7%	35,577	29	0.1%	36,301	86	0.2%
Hawaiian Gardens City	3,745	27	0.7%	3,834	3	0.1%	3,942	9	0.2%
Huntington Park City	15,772	115	0.7%	16,259	13	0.1%	16,909	40	0.2%
La Habra Heights City	2,028	15	0.7%	2,212	2	0.1%	2,430	6	0.2%
La Mirada City	15,608	113	0.7%	16,902	14	0.1%	18,448	44	0.2%
Lakewood City	27,698	201	0.7%	28,026	23	0.1%	28,628	68	0.2%
Long Beach City	176,156	1,280	0.7%	180,909	146	0.1%	188,048	444	0.2%
Lynwood City	15,230	111	0.7%	15,311	12	0.1%	15,747	37	0.2%
Maywood City	6,760	49	0.7%	6,717	5	0.1%	6,849	16	0.2%
Norwalk City	28,103	204	0.7%	28,215	23	0.1%	28,681	68	0.2%
Paramount City	14,772	107	0.7%	14,742	12	0.1%	15,657	37	0.2%
Pico Rivera City	17,200	125	0.7%	17,673	14	0.1%	18,320	43	0.2%
Santa Fe Springs City	5,090	37	0.7%	5,309	4	0.1%	5,572	13	0.2%
Signal Hill City	4,131	30	0.7%	4,256	3	0.1%	4,550	11	0.2%
South Gate City	24,888	181	0.7%	25,602	21	0.1%	26,772	63	0.2%
Unincorporated	86,675	630	0.7%	90,913	73	0.1%	95,834	226	0.2%
Vernon City	26	0	0.0%	26	0	0.0%	26	0	0.0%
Whittier City	29,576	215	0.7%	30,136	24	0.1%	30,925	73	0.2%
Total Subregion	608,743	4,425	0.7%	623,138	502	0.1%	646,996	1,528	0.2%

CEQA Impact Determination

There would be no significant impact on housing in the region as a result of construction spending. The construction labor force in the region would be sufficient to complete the construction projects without workers migrating to the region. Therefore, the construction would not impact housing, and impacts would be less than significant under CEQA.

Mitigation Measures

As impacts on housing would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on housing would be less than significant.

NEPA Impact Determination

Alternative 3 is equivalent to the NEPA Baseline because it includes only construction and operational activities that would not require issuance of federal permits. As no federal action or permit would be required, there would be no significance determination under NEPA for this alternative. No impacts on housing would occur.

Operational Impacts

Impact SOCIO-1.2: Alternative 3 would not increase employment in the five-county region by 0.5 percent or more.

Alternative 3 would add 16,643 jobs by 2025, comprising 0.17 percent of total employment in the region in the same year, as compared to the CEQA Baseline (Table 3.12-32).

CEQA Impact Determination

There would be no significant impacts anticipated on employment from Alternative 3. At the height of its effect, Alternative 3 would generate additional employment comprising only 0.17 percent of total employment in the region (Table 3.12-32). As this

Table 3.12-30. Estimated Effects on Housing Demand, NEPA Baseline, Alternative 2, 2020-2025, Gateway Cities Subregion

City	2020			2025		
	NEPA Baseline Housing Units	Additional Port Housing Units	Share of Housing Units	NEPA Baseline Housing Units	Additional Port Housing Units	Share of Housing Units
Artesia City	4,914	11	0.2%	5,007	12	0.2%
Avalon City	2,550	6	0.2%	2,752	7	0.2%
Bell City	9,784	23	0.2%	9,995	24	0.2%
Bell Gardens City	10,166	24	0.2%	10,331	25	0.2%
Bellflower City	26,473	61	0.2%	27,053	65	0.2%
Cerritos City	16,323	38	0.2%	16,459	40	0.2%
Commerce City	3,751	9	0.2%	3,904	9	0.2%
Compton City	25,703	60	0.2%	26,603	64	0.2%
Cudahy City	6,467	15	0.2%	6,776	16	0.2%
Downey City	36,998	86	0.2%	37,695	91	0.2%
Hawaiian Gardens City	4,051	9	0.2%	4,156	10	0.2%
Huntington Park City	17,551	41	0.2%	18,183	44	0.2%
La Habra Heights City	2,648	6	0.2%	2,864	7	0.2%
La Mirada City	19,993	46	0.2%	21,516	52	0.2%
Lakewood City	29,211	68	0.2%	29,788	72	0.2%
Long Beach City	195,098	452	0.2%	202,055	486	0.2%
Lynwood City	16,171	37	0.2%	16,595	40	0.2%
Maywood City	6,979	16	0.2%	7,107	17	0.2%
Norwalk City	29,128	68	0.2%	29,575	71	0.2%
Paramount City	16,568	38	0.2%	17,467	42	0.2%
Pico Rivera City	18,962	44	0.2%	19,593	47	0.2%
Santa Fe Springs City	5,829	14	0.2%	6,086	15	0.2%
Signal Hill City	4,842	11	0.2%	5,132	12	0.2%
South Gate City	27,931	65	0.2%	29,075	70	0.2%
Unincorporated	100,716	233	0.2%	105,525	254	0.2%
Vernon City	26	0	0.0%	26	0	0.0%
Whittier City	31,691	73	0.2%	32,452	78	0.2%
Total Subregion	670,528	1,554	0.2%	693,770	1,668	0.2%

Table 3.12-31. Estimated Construction Employment Effects, CEQA Baseline, Alternative 3, 2010-2015, Five-County Region

	CEQA Baseline Estimated Regional Employment	Port-Related Employment[1]	Share of Regional Employment
2010	8,652,468	82	0.001%
2015	9,113,530	61	0.001%

Notes:

1. Port-related employment includes the labor required for all construction at the Port, including Alternative 3.

Table 3.12-32. Estimated Employment Effects, CEQA Baseline, Alternative 3, 2005-2025, Five-County Region

	CEQA Baseline Total Region Employment	Total Employment Related to Alternative 3	Net Effect on Employment	Share of Employment
2005	7,703,946	41,097	0	0.00%
2010	8,652,468	46,303	5,206	0.06%
2015	9,113,530	54,996	13,898	0.15%
2020	9,566,212	56,537	15,440	0.16%
2025	9,998,496	57,741	16,643	0.17%

effect on employment would be less than the significance criterion of 0.5 percent, impacts on employment would be less than significant under CEQA.

Mitigation Measures

As impacts on employment would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on employment would be less than significant.

NEPA Impact Determination

Alternative 3 is equivalent to the NEPA Baseline because it includes only construction and operational activities that would not require issuance of federal permits. As no federal action or permit would be required, there would be no significance determination under NEPA for this alternative. No impacts on employment would occur.

Impact SOCIO-2.2: Alternative 3 would not increase population in the Gateway Cities subregion by 0.5 percent or more.

The jobs created by Alternative 3 would increase the population in the area immediately surrounding the Port. The current Port-related population accounts for 0.6 percent of the population in the Gateway Cities subregion. Alternative 3 would add up to 5,255 people to the region between 2010 and 2025 (Tables 3.12-33 and 3.12-34), representing only 0.2 percent in 2025 for the CEQA Baseline.

Table 3.12-33. Estimated Population Effects, CEQA Baseline, Alternative 3, 2005-2015, Gateway Cities Subregion

	2005			2010			2015		
City	Population	Baseline Port Population	Share of Population	Population	Additional Port Population	Share of Population	Population	Additional Port Population	Share of Population
Artesia City	17,094	109	0.6%	17,235	13	0.1%	17,302	35	0.2%
Avalon City	3,493	22	0.6%	3,779	3	0.1%	4,183	8	0.2%
Bell City	38,626	245	0.6%	39,261	31	0.1%	39,963	80	0.2%
Bell Gardens City	46,355	294	0.6%	47,307	37	0.1%	47,894	96	0.2%
Bellflower City	77,151	490	0.6%	78,331	61	0.1%	80,731	161	0.2%
Cerritos City	54,433	346	0.6%	54,756	43	0.1%	54,936	110	0.2%
Commerce City	13,204	84	0.6%	13,251	10	0.1%	13,663	27	0.2%
Compton City	97,137	617	0.6%	97,378	76	0.1%	100,864	202	0.2%
Cudahy City	25,953	165	0.6%	26,761	21	0.1%	27,807	56	0.2%
Downey City	112,635	715	0.6%	114,177	89	0.1%	116,582	233	0.2%
Hawaiian Gardens City	15,806	100	0.6%	16,182	13	0.1%	16,519	33	0.2%
Huntington Park City	65,163	414	0.6%	67,094	52	0.1%	69,255	138	0.2%
La Habra Heights City	6,284	40	0.6%	6,631	5	0.1%	7,296	15	0.2%
La Mirada City	50,486	321	0.6%	53,028	41	0.1%	57,848	116	0.2%
Lakewood City	82,872	526	0.6%	83,747	65	0.1%	84,419	169	0.2%
Long Beach City	489,528	3,108	0.6%	503,450	391	0.1%	518,627	1,036	0.2%
Lynwood City	73,544	467	0.6%	75,067	58	0.1%	76,755	153	0.2%
Maywood City	29,368	186	0.6%	29,735	23	0.1%	30,227	60	0.2%
Norwalk City	109,673	696	0.6%	111,255	86	0.1%	114,009	228	0.2%
Paramount City	57,529	365	0.6%	57,879	45	0.1%	61,477	123	0.2%
Pico Rivera City	66,534	422	0.6%	67,523	52	0.1%	69,389	139	0.2%
Santa Fe Springs City	17,547	111	0.6%	18,263	14	0.1%	19,113	38	0.2%
Signal Hill City	10,388	66	0.6%	10,558	8	0.1%	11,415	23	0.2%
South Gate City	103,516	657	0.6%	108,757	85	0.1%	113,085	226	0.2%
Unincorporated	339,087	2,153	0.6%	352,027	274	0.1%	369,720	739	0.2%
Vernon City	94	1	0.6%	95	0	0.1%	96	0	0.2%
Whittier City	87,073	553	0.6%	88,085	68	0.1%	89,577	179	0.2%
Total Subregion	2,090,573	13,274	0.6%	2,141,612	1,664	0.1%	2,212,752	4,422	0.2%

Table 3.12-34. Estimated Population Effects, CEQA Baseline, Alternative 3, 2020-2025, Gateway Cities Subregion

	2020			2025		
City	Population	Additional Port Population	Share of Population	Population	Additional Port Population	Share of Population
Artesia City	17,370	37	0.2%	17,435	39	0.2%
Avalon City	4,582	10	0.2%	4,964	11	0.2%
Bell City	40,652	87	0.2%	41,313	92	0.2%
Bell Gardens City	48,473	104	0.2%	49,031	110	0.2%
Bellflower City	83,098	178	0.2%	85,364	191	0.2%
Cerritos City	55,112	118	0.2%	55,282	124	0.2%
Commerce City	14,068	30	0.2%	14,457	32	0.2%
Compton City	104,304	224	0.2%	107,597	241	0.2%
Cudahy City	28,840	62	0.2%	29,830	67	0.2%
Downey City	118,957	255	0.2%	121,228	271	0.2%
Hawaiian Gardens City	16,850	36	0.2%	17,167	38	0.2%
Huntington Park City	71,383	153	0.2%	73,425	164	0.2%
La Habra Heights City	7,950	17	0.2%	8,579	19	0.2%
Lakewood City	62,603	134	0.2%	67,163	150	0.2%
La Mirada City	85,083	182	0.2%	85,719	192	0.2%
Long Beach City	533,590	1,143	0.2%	547,937	1,225	0.2%
Lynwood City	78,424	168	0.2%	80,021	179	0.2%
Maywood City	30,717	66	0.2%	31,183	70	0.2%
Norwalk City	116,729	250	0.2%	119,336	267	0.2%
Paramount City	65,025	139	0.2%	68,429	153	0.2%
Pico Rivera City	71,231	153	0.2%	72,993	163	0.2%
Santa Fe Springs City	19,949	43	0.2%	20,750	46	0.2%
Signal Hill City	12,260	26	0.2%	13,070	29	0.2%
South Gate City	117,355	251	0.2%	121,449	272	0.2%
Unincorporated	387,168	830	0.2%	403,898	903	0.2%
Vernon City	97	0	0.2%	98	0	0.2%
Whittier City	91,049	195	0.2%	92,462	207	0.2%
Total Subregion	2,282,919	4,892	0.2%	2,350,180	5,255	0.2%

CEQA Impact Determination

The additional population from Alternative 3 would comprise 0.2 percent of the total population in the individual cities in the Gateway Cities subregion, which is less than the 0.5 percent criterion threshold. Therefore, impacts on population would be less than significant under CEQA.

Mitigation Measures

As impacts on population would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on population would be less than significant.

NEPA Impact Determination

Alternative 3 is equivalent to the NEPA Baseline because it includes only construction and operational activities that would not require issuance of federal permits. As no federal action or permit would be required, there would be no significance determination under NEPA for this alternative. No impacts on population would occur.

Impact SOCIO-3.2: Alternative 3 would not increase the demand for housing units in the Gateway Cities subregion by 0.5 percent or more.

The additional population would increase the demand for housing in the Gateway Cities subregion. In 2005, the estimated housing demand associated with the direct Port industry employment and the portion of the direct export manufacturer and import wholesaler employment assumed to reside in the Gateway Cities subregion was estimated as 4,425 housing units. This comprises 0.7 percent of the total number of housing units in the subregion.

CEQA Impact Determination

There would be no significant impact from the additional housing demand as a result of Alternative 3. The additional housing units that would be demanded in the Gateway Cities subregion would comprise at most 0.3 percent (in

2025) of the total number of housing units. Since housing demands would be less than the 0.5 percent threshold criterion (Tables 3.12-35 and 3.12-36), impacts would be less than significant under CEQA.

Mitigation Measures

As impacts on housing would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on housing would be less than significant.

NEPA Impact Determination

Alternative 3 is equivalent to the NEPA Baseline because it includes only construction and operational activities that would not require issuance of federal permits. As no federal action or permit would be required, there would be no significance determination under NEPA for this alternative. No impacts on housing would occur.

3.12.2.6 Alternative 4 — No Project Alternative

The No Project Alternative would not include construction of upland site improvements, including rail improvements and construction of the Pier E Substation, or in-water activities (i.e., dredging, filling of Slip 1 and the East Basin, and/or new wharf construction). However, forecasted increases in cargo would still occur under this alternative. Operational impacts associated with the following activities would occur: cargo ships that currently berth and load/unload at the terminal would continue to do so; terminal equipment would continue to handle cargo containers; and trucks would continue to transport containers to outlying distribution facilities.

Table 3.12-35. Estimated Effects on Housing Demand, CEQA Baseline, Alternative 3, 2005-2015, Gateway Cities Subregion

	2005			2010			2015		
City	CEQA Baseline Housing Units	Baseline Port-Related Housing Units	Share of Housing Units	CEQA Baseline Housing Units	Additional Port Housing Units	Share of Housing Units	CEQA Baseline Housing Units	Additional Port Housing Units	Share of Housing Units
Artesia City	4,639	34	0.7%	4,723	4	0.1%	4,812	11	0.2%
Avalon City	1,962	14	0.7%	2,133	2	0.1%	2,337	5	0.2%
Bell City	9,294	68	0.7%	9,348	8	0.1%	9,552	22	0.2%
Bell Gardens City	9,814	72	0.7%	9,819	9	0.1%	9,978	23	0.2%
Bellflower City	24,701	181	0.7%	25,263	23	0.1%	25,827	59	0.2%
Cerritos City	15,910	116	0.7%	16,028	14	0.1%	16,151	37	0.2%
Commerce City	3,422	25	0.7%	3,435	3	0.1%	3,589	8	0.2%
Compton City	23,815	174	0.7%	23,847	21	0.1%	24,735	56	0.2%
Cudahy City	5,670	42	0.7%	5,834	5	0.1%	6,139	14	0.2%
Downey City	35,073	257	0.7%	35,545	32	0.1%	36,219	83	0.2%
Hawaiian Gardens City	3,718	27	0.7%	3,830	3	0.1%	3,933	9	0.2%
Huntington Park City	15,657	115	0.7%	16,244	14	0.1%	16,871	39	0.2%
La Habra Heights City	2,013	15	0.7%	2,210	2	0.1%	2,424	6	0.2%
La Mirada City	15,495	113	0.7%	16,887	15	0.1%	18,406	42	0.2%
Lakewood City	27,496	201	0.7%	28,001	25	0.1%	28,563	65	0.2%
Long Beach City	174,876	1,280	0.7%	180,748	161	0.1%	187,620	428	0.2%
Lynwood City	15,120	111	0.7%	15,298	14	0.1%	15,711	36	0.2%
Maywood City	6,711	49	0.7%	6,711	6	0.1%	6,834	16	0.2%
Norwalk City	27,898	204	0.7%	28,189	25	0.1%	28,616	65	0.2%
Paramount City	14,664	107	0.7%	14,729	13	0.1%	15,622	36	0.2%
Pico Rivera City	17,075	125	0.7%	17,657	16	0.1%	18,279	42	0.2%
Santa Fe Springs City	5,053	37	0.7%	5,304	5	0.1%	5,559	13	0.2%
Signal Hill City	4,101	30	0.7%	4,252	4	0.1%	4,540	10	0.2%
South Gate City	24,707	181	0.7%	25,579	23	0.1%	26,711	61	0.2%
Unincorporated	86,045	630	0.7%	90,832	81	0.1%	95,615	218	0.2%
Vernon City	26	0	0.7%	26	0	0.1%	26	0	0.2%
Whittier City	29,362	215	0.7%	30,109	27	0.1%	30,854	70	0.2%
Total Subregion	604,318	4,425	0.7%	622,584	555	0.1%	645,522	1,474	0.2%

Table 3.12-36. Estimated Effects on Housing Demand, CEQA Baseline, Alternative 3, 2020-2025, Gateway Cities Subregion

	2020			2025		
City	CEQA Baseline Housing Units	Additional Port Housing Units	Share of Housing Units	CEQA Baseline Housing Units	Additional Port Housing Units	Share of Housing Units
Artesia City	4,902	12	0.2%	4,995	13	0.3%
Avalon City	2,544	6	0.2%	2,745	7	0.3%
Bell City	9,761	24	0.2%	9,969	25	0.3%
Bell Gardens City	10,142	25	0.2%	10,305	26	0.3%
Bellflower City	26,408	64	0.2%	26,985	68	0.3%
Cerritos City	16,284	40	0.2%	16,418	42	0.3%
Commerce City	3,742	9	0.2%	3,894	10	0.3%
Compton City	25,641	63	0.2%	26,535	67	0.3%
Cudahy City	6,452	16	0.2%	6,758	17	0.3%
Downey City	36,908	90	0.2%	37,599	95	0.3%
Hawaiian Gardens City	4,041	10	0.2%	4,146	10	0.3%
Huntington Park City	17,509	43	0.2%	18,137	46	0.3%
La Habra Heights City	2,642	6	0.2%	2,857	7	0.3%
La Mirada City	19,945	49	0.2%	21,462	54	0.3%
Lakewood City	29,140	71	0.2%	29,713	75	0.3%
Long Beach City	194,624	474	0.2%	201,545	510	0.3%
Lynwood City	16,132	39	0.2%	16,553	42	0.3%
Maywood City	6,962	17	0.2%	7,089	18	0.3%
Norwalk City	29,057	71	0.2%	29,500	75	0.3%
Paramount City	16,527	40	0.2%	17,423	44	0.3%
Pico Rivera City	18,916	46	0.2%	19,543	49	0.3%
Santa Fe Springs City	5,815	14	0.2%	6,070	15	0.3%
Signal Hill City	4,830	12	0.2%	5,119	13	0.3%
South Gate City	27,863	68	0.2%	29,002	73	0.3%
Unincorporated	100,471	245	0.2%	105,258	266	0.3%
Vernon City	26	0	0.2%	26	0	0.3%
Whittier City	31,614	77	0.2%	32,370	82	0.3%
Total Subregion	668,897	1,631	0.2%	692,018	1,752	0.3%

Construction Impacts

Impact SOCIO-1.1: Alternative 4 would not increase employment in the five-county region by 0.5 percent or more.

The No Project Alternative would only include the current level of activity at the Port. There would be no construction projects during the benchmark years.

CEQA Impact Determination

As the No Project Alternative would not generate any construction activities, there would be no additional construction employment in the five-county region. Therefore, no impacts on employment during construction would occur under CEQA.

Mitigation Measures

As impacts on employment would not occur, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on employment would not occur.

NEPA Impact Determination

As the No Project Alternative would not generate any construction activities, there would be no additional construction employment in the five-county region. Therefore, no impacts on employment during construction would occur under NEPA.

Mitigation Measures

As impacts on employment would not occur, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on employment would not occur.

Impact SOCIO-2.1: Alternative 4 would not increase population in the Gateway Cities subregion by 0.5 percent or more.

Additional construction employment would not be generated under the No Project Alternative; therefore, no corresponding increase in population would result.

CEQA Impact Determination

The No Project Alternative would not result in an increase in population as there would be no related construction activities. Therefore, no impacts on population during construction would occur under CEQA.

Mitigation Measures

As impacts on population would not occur, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on population would not occur.

NEPA Impact Determination

The No Project Alternative would not result in an increase in population as there would be no related construction activities. Therefore, no impacts on population during construction would occur under NEPA.

Mitigation Measures

As impacts on population would not occur, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on population would not occur.

Impact SOCIO-3.1: Alternative 4 would not increase the demand for housing units in the Gateway Cities subregion by 0.5 percent or more.

There would be no additional housing units required as there would be no Project-related construction activities, and no associated increase in population within the region.

CEQA Impact Determination

As no additional demands on housing units would occur under the No Project Alternative, no impacts on housing would occur under CEQA.

Mitigation Measures

As impacts on housing would not occur, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on housing would not occur.

NEPA Impact Determination

As no additional demands on housing units would occur under the No Project Alternative, no impacts on housing would occur under NEPA.

Mitigation Measures

As impacts on housing would not occur, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on housing would not occur.

Operational Impacts

Impact SOCIO-1.2: Alternative 4 would not increase employment in the five-county region by 0.5 percent or more.

The number of jobs related to Middle Harbor container terminal operations is estimated based on container throughput; due to projected increases in throughput under the No Project Alternative, the number of jobs would increase by 10,492 jobs (Table 3.12-37).

CEQA Impact Determination

Under Alternative 4, jobs would increase by 10,492 in the five-county region by 2025 (Table 3.12-37), representing a 0.10 percent increase over CEQA Baseline levels (i.e., would not reach the significance criterion of 0.5 percent). In other analysis years, employment increases would represent an even lower fraction of baseline employment. Therefore, impacts on regional employment would be less than significant under CEQA.

Mitigation Measures

As impacts on employment would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on employment would be less than significant.

NEPA Impact Determination

Under Alternative 4, jobs would increase by 10,492 in the five-county region by 2025 (Table 3.12-37), representing a 0.10 percent increase over NEPA Baseline levels (i.e., would not reach the significance criterion of 0.5 percent). In other analysis years,

Table 3.12-37. Estimated Employment Effects, CEQA Baseline and NEPA Baseline, Alternative 4, 2005-2025, Five-County Region				
	CEQA Baseline Total Region Employment	**Total Employment Related to Alternative 4**	**Net Effect on Employment**	**Share of Employment**
2005	7,703,946	41,097	0	0.00%
2010	8,652,468	43,812	2,714	0.03%
2015	9,113,530	46,990	5,893	0.06%
2020	9,566,212	50,708	9,610	0.10%
2025	9,998,496	51,590	10,492	0.10%
	NEPA Baseline Total Region Employment	**Total Employment Related to Alternative 4**	**Net Effect on Employment**	**Share of Employment**
2005	7,703,946	41,097	0	0.00%
2010	8,657,674	43,812	2,714	0.03%
2015	9,127,428	46,990	5,893	0.06%
2020	9,581,652	50,708	9,610	0.10%
2025	10,015,139	51,590	10,492	0.10%

employment increases would represent an even lower fraction of baseline employment. Therefore, impacts on regional employment would be less than significant under NEPA.

Mitigation Measures

As impacts on employment would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on employment would be less than significant.

Impact SOCIO-2.2: Alternative 4 would not increase population in the Gateway Cities subregion by 0.5 percent or more.

Because the growth in container throughput under Alternative 4 would result in some increased employment, this alternative would also result in increased population. In 2005, the estimated population associated with the direct Port employment accounted for 0.6 percent for the population within the Gateway Cities subregion (Table 3.12-38).

CEQA Impact Determination

The additional population in the Gateway Cities subregion would comprise at most 0.1 percent of the total population in each individual city (Tables 3.12-38 and 3.12-39). Therefore, the additional population would not comprise 0.5 percent or more of the region's population, and impacts on population would be less than significant under CEQA.

Mitigation Measures

As impacts on population would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on population would be less than significant.

NEPA Impact Determination

Increased population in the Gateway Cities subregion would comprise at most 0.1 percent of the total population in each individual city (Tables 3.12-40 and 3.12-41). Therefore, the additional population would not comprise 0.5 percent or more of the region's population, and impacts would be less than significant under NEPA.

Mitigation Measures

As impacts on population would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on population would be less than significant.

Impact SOCIO-3.2: Alternative 4 would not increase the demand for housing units in the Gateway Cities subregion by 0.5 percent or more.

The increased employment due to growth in container throughput under Alternative 4 would also result in some increased demand for housing. In 2005, the estimated demand for housing associated with Port employment accounted for 0.7 percent of the housing demand within the Gateway Cities subregion (Table 3.12-42).

Table 3.12-38. Estimated Population Effects, CEQA Baseline, Alternative 4, 2005-2015, Gateway Cities Subregion

	2005			2010			2015		
City	Population	Baseline Port Population[1]	Share of Population	Population	Additional Port Population[1]	Share of Population	Population	Additional Port Population[1]	Share of Population
Artesia City	17,094	109	0.6%	17,235	7	0.0%	17,302	15	0.1%
Avalon City	3,493	22	0.6%	3,779	2	0.0%	4,183	4	0.1%
Bell City	38,626	245	0.6%	39,261	16	0.0%	39,963	34	0.1%
Bell Gardens City	46,355	294	0.6%	47,307	19	0.0%	47,894	41	0.1%
Bellflower City	77,151	490	0.6%	78,331	32	0.0%	80,731	68	0.1%
Cerritos City	54,433	346	0.6%	54,756	22	0.0%	54,936	47	0.1%
Commerce City	13,204	84	0.6%	13,251	5	0.0%	13,663	12	0.1%
Compton City	97,137	617	0.6%	97,378	39	0.0%	100,864	85	0.1%
Cudahy City	25,953	165	0.6%	26,761	11	0.0%	27,807	24	0.1%
Downey City	112,635	715	0.6%	114,177	46	0.0%	116,582	99	0.1%
Hawaiian Gardens City	15,806	100	0.6%	16,182	7	0.0%	16,519	14	0.1%
Huntington Park City	65,163	414	0.6%	67,094	27	0.0%	69,255	59	0.1%
La Habra Heights City	6,284	40	0.6%	6,631	3	0.0%	7,296	6	0.1%
La Mirada City	50,486	321	0.6%	53,028	21	0.0%	57,848	49	0.1%
Lakewood City	82,872	526	0.6%	83,747	34	0.0%	84,419	72	0.1%
Long Beach City	489,528	3,108	0.6%	503,450	204	0.0%	518,627	439	0.1%
Lynwood City	73,544	467	0.6%	75,067	30	0.0%	76,755	65	0.1%
Maywood City	29,368	186	0.6%	29,735	12	0.0%	30,227	26	0.1%
Norwalk City	109,673	696	0.6%	111,255	45	0.0%	114,009	97	0.1%
Paramount City	57,529	365	0.6%	57,879	23	0.0%	61,477	52	0.1%
Pico Rivera City	66,534	422	0.6%	67,523	27	0.0%	69,389	59	0.1%
Santa Fe Springs City	17,547	111	0.6%	18,263	7	0.0%	19,113	16	0.1%
Signal Hill City	10,388	66	0.6%	10,558	4	0.0%	11,415	10	0.1%
South Gate City	103,516	657	0.6%	108,757	44	0.0%	113,085	96	0.1%
Unincorporated	339,087	2,153	0.6%	352,027	143	0.0%	369,720	313	0.1%
Vernon City	94	1	0.6%	95	0	0.0%	96	0	0.1%
Whittier City	87,073	553	0.6%	88,085	36	0.0%	89,577	76	0.1%
Total Subregion	2,090,573	13,274	0.6%	2,141,612	868	0.0%	2,212,752	1,875	0.1%

Note:
1. Includes direct port industry and the portion of direct export manufacturers and import wholesaling employment assumed to live in the Gateway Cities subregion.

Source: SCAG 2004b.

CEQA Impact Determination

The additional housing demand in the Gateway Cities subregion would comprise at most 0.2 percent of the housing demand in each individual city (Tables 3.12-42 and 3.12-43). Therefore, the additional population would not comprise 0.5 percent or more of the region's housing demand, and impacts on housing demands associated with increased throughout would be less than significant under CEQA.

Mitigation Measures

As impacts on housing would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on housing would be less than significant.

NEPA Impact Determination

The additional housing demand in the Gateway Cities subregion would comprise at most 0.2 percent of the housing demand in each individual city (Tables 3.12-44 and 3.12-45). Therefore, the additional population would not comprise 0.5 percent or more of the region's housing demand, and impacts on housing demands associated with increased throughout would be less than significant under NEPA.

Mitigation Measures

As impacts on housing would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on housing would be less than significant.

Table 3.12-39. Estimated Population Effects, CEQA Baseline, Alternative 4, 2020-2025, Gateway Cities Subregion

	2020			2025		
City	Population	Additional Port Population[1]	Share of Population	Population	Additional Port Population[1]	Share of Population
Artesia City	17,370	23	0.1%	17,435	25	0.1%
Avalon City	4,582	6	0.1%	4,964	7	0.1%
Bell City	40,652	54	0.1%	41,313	58	0.1%
Bell Gardens City	48,473	65	0.1%	49,031	69	0.1%
Bellflower City	83,098	111	0.1%	85,364	120	0.1%
Cerritos City	55,112	74	0.1%	55,282	78	0.1%
Commerce City	14,068	19	0.1%	14,457	20	0.1%
Compton City	104,304	139	0.1%	107,597	152	0.1%
Cudahy City	28,840	38	0.1%	29,830	42	0.1%
Downey City	118,957	159	0.1%	121,228	171	0.1%
Hawaiian Gardens City	16,850	22	0.1%	17,167	24	0.1%
Huntington Park City	71,383	95	0.1%	73,425	103	0.1%
La Habra Heights City	7,950	11	0.1%	8,579	12	0.1%
La Mirada City	62,603	83	0.1%	67,163	95	0.1%
Lakewood City	85,083	113	0.1%	85,719	121	0.1%
Long Beach City	533,590	712	0.1%	547,937	772	0.1%
Lynwood City	78,424	105	0.1%	80,021	113	0.1%
Maywood City	30,717	41	0.1%	31,183	44	0.1%
Norwalk City	116,729	156	0.1%	119,336	168	0.1%
Paramount City	65,025	87	0.1%	68,429	96	0.1%
Pico Rivera City	71,231	95	0.1%	72,993	103	0.1%
Santa Fe Springs City	19,949	27	0.1%	20,750	29	0.1%
Signal Hill City	12,260	16	0.1%	13,070	18	0.1%
South Gate City	117,355	157	0.1%	121,449	171	0.1%
Unincorporated	387,168	516	0.1%	403,898	569	0.1%
Vernon City	97	0	0.1%	98	0	0.1%
Whittier City	91,049	121	0.1%	92,462	130	0.1%
Total Subregion	2,282,919	3,045	0.1%	2,350,180	3,313	0.1%

Note:
1. Includes direct port industry and the portion of direct export manufacturers and import wholesaling employment assumed to live in the Gateway Cities subregion.

Source: SCAG 2004b.

3.12.3 Cumulative Impacts

There would be no significant impacts from the incremental effect of the proposed Project actions in conjunction with the current and reasonably foreseeable actions at the POLB and the POLA.

Many of the current and foreseeable projects (Section 2.1.2.1) involve construction or renovation of port facilities. These construction projects would increase the number of jobs in the construction industry. However, the effects of the additional construction jobs would be temporary and would last only the term of the construction. Also, individual construction workers may be able to work on multiple construction projects at the Port. The incremental effect of the construction employment from proposed Project construction activities would be minimal given the estimated number of jobs that would be created as a result of Project construction and the number of construction jobs in the five-county region.

Other current and foreseeable projects to occur at the POLB and the POLA would involve an increase in operations, such as the Pier 300 APL Container Terminal Expansion Project at the POLA, or an increase in the amount of commercial and retail activity in the areas surrounding the ports, such as the redevelopment of the Cabrillo Way Marina, Phase II, also at the POLA. These projects have the potential to create new jobs in the region, particularly in the Gateway Cities subregion; however, specific information on the estimated number of jobs that would be created is not available. The incremental effects, however, of the operations from the proposed Project actions would not be significant given the minimal effects of the additional employment, population, and

Table 3.12-40. Estimated Population Effects, NEPA Baseline, Alternative 4, 2005-2015, Gateway Cities Subregion

	2005			2010			2015		
City	NEPA Baseline Population	Baseline Port Population[1]	Share of Population	NEPA Baseline Population	Additional Port Population[1]	Share of Population	NEPA Baseline Population	Additional Port Population[1]	Share of Population
Artesia City	17,094	109	0.6%	17,248	7	0.04%	17,337	15	0.1%
Avalon City	3,493	22	0.6%	3,782	2	0.04%	4,191	4	0.1%
Bell City	38,626	245	0.6%	39,292	16	0.04%	40,043	34	0.1%
Bell Gardens City	46,355	294	0.6%	47,344	19	0.04%	47,990	41	0.1%
Bellflower City	77,151	490	0.6%	78,392	32	0.04%	80,892	68	0.1%
Cerritos City	54,433	346	0.6%	54,799	22	0.04%	55,046	47	0.1%
Commerce City	13,204	84	0.6%	13,261	5	0.04%	13,690	12	0.1%
Compton City	97,137	617	0.6%	97,454	39	0.04%	101,066	85	0.1%
Cudahy City	25,953	165	0.6%	26,782	11	0.04%	27,863	24	0.1%
Downey City	112,635	715	0.6%	114,266	46	0.04%	116,815	99	0.1%
Hawaiian Gardens City	15,806	100	0.6%	16,195	7	0.04%	16,552	14	0.1%
Huntington Park City	65,163	414	0.6%	67,146	27	0.04%	69,393	59	0.1%
La Habra Heights City	6,284	40	0.6%	6,636	3	0.04%	7,311	6	0.1%
La Mirada City	50,486	321	0.6%	53,069	21	0.04%	57,964	49	0.1%
Lakewood City	82,872	526	0.6%	83,812	34	0.04%	84,588	72	0.1%
Long Beach City	489,528	3,108	0.6%	503,841	204	0.04%	519,663	439	0.1%
Lynwood City	73,544	467	0.6%	75,125	30	0.04%	76,908	65	0.1%
Maywood City	29,368	186	0.6%	29,758	12	0.04%	30,287	26	0.1%
Norwalk City	109,673	696	0.6%	111,341	45	0.04%	114,237	97	0.1%
Paramount City	57,529	365	0.6%	57,924	23	0.04%	61,600	52	0.1%
Pico Rivera City	66,534	422	0.6%	67,575	27	0.04%	69,528	59	0.1%
Santa Fe Springs City	17,547	111	0.6%	18,277	7	0.04%	19,151	16	0.1%
Signal Hill City	10,388	66	0.6%	10,566	4	0.04%	11,438	10	0.1%
South Gate City	103,516	657	0.6%	108,842	44	0.04%	113,311	96	0.1%
Unincorporated	339,087	2,153	0.6%	352,301	143	0.04%	370,459	313	0.1%
Vernon City	94	1	0.6%	95	0	0.04%	96	0	0.1%
Whittier City	87,073	553	0.6%	88,153	36	0.04%	89,756	76	0.1%
Total Subregion	2,090,573	13,274	0.6%	2,143,276	868	0.04%	2,217,174	1,875	0.1%

Note:
1. Includes direct port industry and the portion of direct export manufacturers and import wholesaling employment assumed to live in the Gateway Cities subregion.

demand for housing on the five-county region and the Gateway Cities subregion. Therefore, the proposed Project's contribution to cumulative impacts on socioeconomics would be less than significant under NEPA and CEQA.

3.12.4 Mitigation Monitoring Program

As no mitigation measures are required to address impacts on socioeconomics, no mitigation monitoring program is required.

Table 3.12-41. Estimated Population Effects, NEPA Baseline, Alternative 4, 2020-2025, Gateway Cities Subregion

	2020			2025		
City	NEPA Baseline Population	Additional Port Population[1]	Share of Population	NEPA Baseline Population	Additional Port Population[1]	Share of Population
Artesia City	17,407	23	0.1%	17,474	25	0.1%
Avalon City	4,592	6	0.1%	4,975	7	0.1%
Bell City	40,739	54	0.1%	41,405	58	0.1%
Bell Gardens City	48,577	65	0.1%	49,141	69	0.1%
Bellflower City	83,276	111	0.1%	85,555	120	0.1%
Cerritos City	55,230	74	0.1%	55,406	78	0.1%
Commerce City	14,098	19	0.1%	14,489	20	0.1%
Compton City	104,528	139	0.1%	107,838	152	0.1%
Cudahy City	28,902	38	0.1%	29,897	42	0.1%
Downey City	119,212	159	0.1%	121,499	171	0.1%
Hawaiian Gardens City	16,886	22	0.1%	17,205	24	0.1%
Huntington Park City	71,536	95	0.1%	73,589	103	0.1%
La Habra Heights City	7,967	11	0.1%	8,598	12	0.1%
La Mirada City	62,737	83	0.1%	67,313	95	0.1%
Lakewood City	85,265	113	0.1%	85,911	121	0.1%
Long Beach City	534,733	712	0.1%	549,162	772	0.1%
Lynwood City	78,592	105	0.1%	80,200	113	0.1%
Maywood City	30,783	41	0.1%	31,253	44	0.1%
Norwalk City	116,979	156	0.1%	119,603	168	0.1%
Paramount City	65,164	87	0.1%	68,582	96	0.1%
Pico Rivera City	71,384	95	0.1%	73,156	103	0.1%
Santa Fe Springs City	19,992	27	0.1%	20,796	29	0.1%
Signal Hill City	12,286	16	0.1%	13,099	18	0.1%
South Gate City	117,606	157	0.1%	121,721	171	0.1%
Unincorporated	387,998	516	0.1%	404,801	569	0.1%
Vernon City	97	0	0.1%	98	0	0.1%
Whittier City	91,244	121	0.1%	92,669	130	0.1%
Total Subregion	2,287,811	3,045	0.1%	2,355,435	3,313	0.1%

Note:

1. Includes direct port industry and the portion of direct export manufacturers and import wholesaling employment assumed to live in the Gateway Cities subregion.

Table 3.12-42. Estimated Effects on Housing Demand, CEQA Baseline, Alternative 4, 2005-2015, Gateway Cities Subregion

	2005			2010			2015		
City	Housing Units	Baseline Port-Related Housing Units	Share of Housing Units	Housing Units	Additional Port Housing Units	Share of Housing Units	Housing Units	Additional Port Housing Units	Share of Housing Units
Artesia City	4,639	34	0.7%	4,723	2	0.046%	4,812	5	0.1%
Avalon City	1,962	14	0.7%	2,133	1	0.046%	2,337	2	0.1%
Bell City	9,294	68	0.7%	9,348	4	0.046%	9,552	9	0.1%
Bell Gardens City	9,814	72	0.7%	9,819	5	0.046%	9,978	10	0.1%
Bellflower City	24,701	181	0.7%	25,263	12	0.046%	25,827	25	0.1%
Cerritos City	15,910	116	0.7%	16,028	7	0.046%	16,151	16	0.1%
Commerce City	3,422	25	0.7%	3,435	2	0.046%	3,589	3	0.1%
Compton City	23,815	174	0.7%	23,847	11	0.046%	24,735	24	0.1%
Cudahy City	5,670	42	0.7%	5,834	3	0.046%	6,139	6	0.1%
Downey City	35,073	257	0.7%	35,545	17	0.046%	36,219	35	0.1%
Hawaiian Gardens City	3,718	27	0.7%	3,830	2	0.046%	3,933	4	0.1%
Huntington Park City	15,657	115	0.7%	16,244	8	0.046%	16,871	16	0.1%
La Habra Heights City	2,013	15	0.7%	2,210	1	0.046%	2,424	2	0.1%
La Mirada City	15,495	113	0.7%	16,887	8	0.046%	18,406	18	0.1%
Lakewood City	27,496	201	0.7%	28,001	13	0.046%	28,563	28	0.1%
Long Beach City	174,876	1,280	0.7%	180,748	84	0.046%	187,620	182	0.1%
Lynwood City	15,120	111	0.7%	15,298	7	0.046%	15,711	15	0.1%
Maywood City	6,711	49	0.7%	6,711	3	0.046%	6,834	7	0.1%
Norwalk City	27,898	204	0.7%	28,189	13	0.046%	28,616	28	0.1%
Paramount City	14,664	107	0.7%	14,729	7	0.046%	15,622	15	0.1%
Pico Rivera City	17,075	125	0.7%	17,657	8	0.046%	18,279	18	0.1%
Santa Fe Springs City	5,053	37	0.7%	5,304	2	0.046%	5,559	5	0.1%
Signal Hill City	4,101	30	0.7%	4,252	2	0.046%	4,540	4	0.1%
South Gate City	24,707	181	0.7%	25,579	12	0.046%	26,711	26	0.1%
Unincorporated	86,045	630	0.7%	90,832	42	0.046%	95,615	93	0.1%
Vernon City	26	0	0.7%	26	0	0.046%	26	0	0.1%
Whittier City	29,362	215	0.7%	30,109	14	0.046%	30,854	30	0.1%
Total Subregion	604,318	4,425	0.7%	622,584	289	0.046%	645,522	625	0.1%

Table 3.12-43. Estimated Effects on Housing Demand, CEQA Baseline, Alternative 4, 2020-2025, Gateway Cities Subregion

	2020			2025		
City	Housing Units	Additional Port Housing Units	Share of Housing Units	Housing Units	Additional Port Housing Units	Share of Housing Units
Artesia City	4,902	7	0.2%	4,995	8	0.2%
Avalon City	2,544	4	0.2%	2,745	4	0.2%
Bell City	9,761	15	0.2%	9,969	16	0.2%
Bell Gardens City	10,142	15	0.2%	10,305	16	0.2%
Bellflower City	26,408	40	0.2%	26,985	43	0.2%
Cerritos City	16,284	25	0.2%	16,418	26	0.2%
Commerce City	3,742	6	0.2%	3,894	6	0.2%
Compton City	25,641	39	0.2%	26,535	42	0.2%
Cudahy City	6,452	10	0.2%	6,758	11	0.2%
Downey City	36,908	56	0.2%	37,599	60	0.2%
Hawaiian Gardens City	4,041	6	0.2%	4,146	7	0.2%
Huntington Park City	17,509	27	0.2%	18,137	29	0.2%
La Habra Heights City	2,642	4	0.2%	2,857	5	0.2%
La Mirada City	19,945	30	0.2%	21,462	34	0.2%
Lakewood City	29,140	44	0.2%	29,713	47	0.2%
Long Beach City	194,624	295	0.2%	201,545	322	0.2%
Lynwood City	16,132	24	0.2%	16,553	26	0.2%
Maywood City	6,962	11	0.2%	7,089	11	0.2%
Norwalk City	29,057	44	0.2%	29,500	47	0.2%
Paramount City	16,527	25	0.2%	17,423	28	0.2%
Pico Rivera City	18,916	29	0.2%	19,543	31	0.2%
Santa Fe Springs City	5,815	9	0.2%	6,070	10	0.2%
Signal Hill City	4,830	7	0.2%	5,119	8	0.2%
South Gate City	27,863	42	0.2%	29,002	46	0.2%
Unincorporated	100,471	152	0.2%	105,258	168	0.2%
Vernon City	26	0	0.2%	26	0	0.2%
Whittier City	31,614	48	0.2%	32,370	52	0.2%
Total Subregion	668,897	1,015	0.2%	692,018	1,104	0.2%

Table 3.12-44. Estimated Effects on Housing Demand, NEPA Baseline, Alternative 4, 2005-2015, Gateway Cities Subregion

	2005			2010			2015		
City	NEPA Baseline Housing Units	Baseline Port-Related Housing Units	Share of Housing Units	NEPA Baseline Housing Units	Additional Port Housing Units	Share of Housing Units	NEPA Baseline Housing Units	Additional Port Housing Units	Share of Housing Units
Artesia City	4,673	34	0.7%	4,728	2	0.046%	4,823	5	0.1%
Avalon City	1,976	14	0.7%	2,135	1	0.046%	2,343	2	0.1%
Bell City	9,362	68	0.7%	9,357	4	0.046%	9,574	9	0.1%
Bell Gardens City	9,886	72	0.7%	9,828	5	0.046%	10,001	10	0.1%
Bellflower City	24,882	181	0.7%	25,286	12	0.046%	25,886	25	0.1%
Cerritos City	16,027	116	0.7%	16,042	7	0.046%	16,188	16	0.1%
Commerce City	3,447	25	0.7%	3,438	2	0.046%	3,597	3	0.1%
Compton City	23,990	174	0.7%	23,868	11	0.046%	24,792	24	0.1%
Cudahy City	5,712	42	0.7%	5,839	3	0.046%	6,153	6	0.1%
Downey City	35,330	257	0.7%	35,577	17	0.046%	36,301	35	0.1%
Hawaiian Gardens City	3,745	27	0.7%	3,834	2	0.046%	3,942	4	0.1%
Huntington Park City	15,772	115	0.7%	16,259	8	0.046%	16,909	16	0.1%
La Habra Heights City	2,028	15	0.7%	2,212	1	0.046%	2,430	2	0.1%
La Mirada City	15,608	113	0.7%	16,902	8	0.046%	18,448	18	0.1%
Lakewood City	27,698	201	0.7%	28,026	13	0.046%	28,628	28	0.1%
Long Beach City	176,156	1,280	0.7%	180,909	84	0.046%	188,048	182	0.1%
Lynwood City	15,230	111	0.7%	15,311	7	0.046%	15,747	15	0.1%
Maywood City	6,760	49	0.7%	6,717	3	0.046%	6,849	7	0.1%
Norwalk City	28,103	204	0.7%	28,215	13	0.046%	28,681	28	0.1%
Paramount City	14,772	107	0.7%	14,742	7	0.046%	15,657	15	0.1%
Pico Rivera City	17,200	125	0.7%	17,673	8	0.046%	18,320	18	0.1%
Santa Fe Springs City	5,090	37	0.7%	5,309	2	0.046%	5,572	5	0.1%
Signal Hill City	4,131	30	0.7%	4,256	2	0.046%	4,550	4	0.1%
South Gate City	24,888	181	0.7%	25,602	12	0.046%	26,772	26	0.1%
Unincorporated	86,675	630	0.7%	90,913	42	0.046%	95,834	93	0.1%
Vernon City	26	0	0.7%	26	0	0.046%	26	0	0.1%
Whittier City	29,576	215	0.7%	30,136	14	0.046%	30,925	30	0.1%
Total Subregion	608,743	4,425	0.7%	623,138	289	0.046%	646,996	625	0.1%

Table 3.12-45. Estimated Effects on Housing Demand, NEPA Baseline, Alternative 4, 2020-2025, Gateway Cities Subregion

	2020			2025		
City	NEPA Baseline Housing Units	Additional Port Housing Units	Share of Housing Units	NEPA Baseline Housing Units	Additional Port Housing Units	Share of Housing Units
Artesia City	4,914	7	0.2%	5,007	8	0.2%
Avalon City	2,550	4	0.2%	2,752	4	0.2%
Bell City	9,784	15	0.2%	9,995	16	0.2%
Bell Gardens City	10,166	15	0.2%	10,331	16	0.2%
Bellflower City	26,473	40	0.2%	27,053	43	0.2%
Cerritos City	16,323	25	0.2%	16,459	26	0.2%
Commerce City	3,751	6	0.2%	3,904	6	0.2%
Compton City	25,703	39	0.2%	26,603	42	0.2%
Cudahy City	6,467	10	0.2%	6,776	11	0.2%
Downey City	36,998	56	0.2%	37,695	60	0.2%
Hawaiian Gardens City	4,051	6	0.2%	4,156	7	0.2%
Huntington Park City	17,551	27	0.2%	18,183	29	0.2%
La Habra Heights City	2,648	4	0.2%	2,864	5	0.2%
La Mirada City	19,993	30	0.2%	21,516	34	0.2%
Lakewood City	29,211	44	0.2%	29,788	47	0.2%
Long Beach City	195,098	295	0.2%	202,055	322	0.2%
Lynwood City	16,171	24	0.2%	16,595	26	0.2%
Maywood City	6,979	11	0.2%	7,107	11	0.2%
Norwalk City	29,128	44	0.2%	29,575	47	0.2%
Paramount City	16,568	25	0.2%	17,467	28	0.2%
Pico Rivera City	18,962	29	0.2%	19,593	31	0.2%
Santa Fe Springs City	5,829	9	0.2%	6,086	10	0.2%
Signal Hill City	4,842	7	0.2%	5,132	8	0.2%
South Gate City	27,931	42	0.2%	29,075	46	0.2%
Unincorporated	100,716	152	0.2%	105,525	168	0.2%
Vernon City	26	0	0.2%	26	0	0.2%
Whittier City	31,691	48	0.2%	32,452	52	0.2%
Total Subregion	670,528	1,015	0.2%	693,770	1,104	0.2%

3.13 UTILITIES AND SERVICE SYSTEMS

3.13.1 Environmental Setting

3.13.1.1 Area of Influence

The area of influence for utilities/service systems includes existing physical utility corridors containing electric, telephone, sewer, water, wastewater, and stormwater within the Project site vicinity. In addition to these physical disturbance areas on the ground, the capacity of regional services such as landfill waste disposal, electrical grid, natural gas supplies, and potable water are considered.

3.13.1.2 Setting

Existing utility systems include several municipal services provided by the City of Long Beach.

Water Services

Water service is provided to the POLB and the Project area by the City of Long Beach Water Department (LBWD). The LBWD is responsible for supplying, treating, and distributing water and treating sewage for a population of 492,000 people. There are two sources of potable (drinking) water utilized by the LBWD: groundwater; and water purchased from Metropolitan Water District of Southern California (MWD). Approximately half of the water supply comes from groundwater wells located within the City. Groundwater is pumped from 26 wells and is then sent to a groundwater treatment plant. The other portion of the City's potable water comes from MWD.

The Long Beach Conjunctive Use Project is designed to improve water supply and storage in Long Beach by maximizing use of the City's underlying groundwater basin. The installation of four new Aquifer Storage and Recovery (ASR) wells give the City the ability to store and extract up to 13,000 acre feet (af) of imported water. This Project is a partnership between the MWD, the Water Replenishment District of Southern California, and the California Department of Water Resources.

The LBWD is also in the construction planning phase of another conjunctive use project that is a partnership between the Cities of Long Beach and Lakewood, and MWD. This project would allow for storage of up to 3,600 af of imported water, increasing potential supply during drought or other emergency conditions.

Most of the water distribution system associated with the proposed Project would be relocated and replaced with new pipelines and valves due to their physical locations and conditions, the exception being the system in Pier E Slip 2 Area that was developed a few years ago per the latest design standard. As part of this Project, approximately 36,000 LF of existing water pipes in various sizes and materials would be demolished, and approximately 45,000 LF of new water lines in different sizes and materials would be constructed along with fire hydrants per LBFD. The system would be designed to maximize the efficiency of the system and minimize the number of meters.

Wastewater

The LBWD operates and maintains nearly 765 miles of sanitary sewer line that delivers over 40 million gallons per day (MGD) to Los Angeles County Sanitation District (LACSD) facilities located on the north and south sides of the City. Treated wastewater from these facilities is used in one of three ways: (1) irrigating parks, golf courses, cemeteries, and athletic fields; (2) groundwater basin recharge; or (3) pumping into the Pacific Ocean.

The majority of the City's wastewater is delivered to and treated at LACSD's Joint Water Pollution Control Plant (JWPCP). The remaining portion of the City's wastewater is sent to LACSD's Long Beach Water Reclamation Plant for treatment. The JWPCP is the largest of the LACSD treatment plants and provides advanced primary and partial secondary treatment for 350 MGD, serving most of the 460,000 residents of the City of Long Beach. The Long Beach Water Reclamation Plant provides primary, secondary, and tertiary treatment for 25 MGD; approximately five MGD of the treated water from the Long Beach Water Reclamation Plant is reused at over 40 reuse sites.

The LBWD is in the preliminary stages of implementing its Recycled Water System Expansion Project. It is designed to expand the use of recycled water in Long Beach from 4,000 to 9,000 acre feet per year (afy). When fully implemented, this Project would meet 12 percent of the City's total water demand. Part of the Project includes the use of 1,100 af of recycled water for Long Beach Harbor oil companies drilling offshore to repressurize oil-bearing strata, saving 1,100 af of potable water in the process. In addition, the last phases of the Project would provide connections to recycled water for use by large industrial entities at the Port.

The existing sewer system serving the Project area is linked to the LACSD sewer system. LACSD plans to demolish approximately 8,000 LF of sewer lines and to construct 5,000 LF of new sewer line to serve new buildings and maintenance facilities in its service area.

Storm Drainage

The existing storm drainage on the Project site directs runoff to the Long Beach Harbor. The storm drainage system, including 16,000 LF of storm drains of various sizes and approximately 50 catch basins, predate the Port-wide NPDES Phase II requirements for storm water pollution control, which includes a Storm Water Quality Mitigation Plan (SWQMP). The SWQMP is based on BMPs directed at minimizing the transport of petrochemicals (e.g., oils and grease), and heavy metals that collect on paved surfaces.

Solid Waste

The existing Middle Harbor facilities are subject to federal, state, and local regulations and codes pertaining to solid waste disposal. Codes include Chapter 8.6 of the City of Long Beach Municipal Code, Solid Waste, Recycling, and Litter Prevention.

Solid waste generated at the Project site consists generally of non-hazardous materials, such as food and beverage containers, paper products, and other miscellaneous personal trash disposed of by onsite staff.

Port tenants usually contract with private waste haulers for solid waste disposal. Non-hazardous solid waste is currently disposed of at the Southeast Resource Recovery Facility (SERRF). The SERRF has a permitted daily capacity of 2,240 tons per day. As of November 2007, SERRF was at 62 percent capacity, resulting in a remaining capacity of 38 percent (personal communication, Charlie Tripp 2007).

Hazardous materials, such as contaminated soils and petroleum byproducts generated at the Project site, are hauled to a Class I landfill that accepts hazardous waste for disposal. The closest Class I landfill is the Kettleman Hills facility in Kings County, which has capacity limitations, but is the only such facility currently operating in southern California.

Power

SCE provides electricity to the Port. SCE maintains a network of power stations that supply electricity throughout southern California and the Port. The estimated existing electrical underground infrastructure consists of: 42,256 feet of electrical duct banks; 16,957 feet of telephone duct banks; and 305 manholes and pull boxes. Existing SCE facilities, including SCE's Arco, Pico, and Tidelands substations/circuits, are located within the Port (Figure 1.6-5).

Existing gas lines providing the Project site are fed by the Long Beach Energy Department.

Table 3.13-1 summarizes the estimated existing power demands and consumption for the Project areas/components. Existing power demand for Pier E and Pier F primarily support the crane power, reefers, buildings, and lighting systems.

Table 3.13-2 summarizes the measured maximum peak demand as well as average daily consumption for Pier E and Pier F.

Table 3.13-1. Estimated Existing Power Demand and Energy Consumption for Pier E and Pier F

	Existing Power Demand	Existing Energy Consumption
Pier E	8.97 MW	124.46 MWH
Pier F	4.84 MW	67.37 MWH
Pier E and Pier F	13.81 MW	192.24 MWH
Notes: MW = megawatt MWH= megawatt-hour		

Table 3.13-2. Measured Maximum Peak Demand and Average Daily Consumption for Pier E and Pier F

	Measured Maximum Peak Demand	Average Daily Consumption
Pier E	10.07 MVA	140.14 MWH
Pier F	5.49 MVA	76.42 MWH
Notes: MVA = megavolt ampere MWH= megawatt-hour		

3.13.1.3 Regulatory Setting

Each public utility agency and private utility provider, including the LBWD, Southern California Gas Company (SCGC), SCE, and LACSD, are directed by internal standards and policies that guide the provision of service to their customers. Specific to the SCE and SCGC, the California Energy Commission (CEC) regulates the provision of natural gas and electricity within the state.

California Urban Water Management Planning 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. The LBWD would be the water supplier, and as such, the Project would be under the jurisdiction of the LBWD Urban Water Management Plan, prepared pursuant to the California Urban Water Management Planning Act.

LBWP Urban Water Management Plan

Consistent with the California Urban Water Management Planning Act, LBWD has prepared an Urban Water Management Plan (UWMP) to describe how water resources are used and to present strategies that would 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 LBWD 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 five years.

California Solid Waste Reuse and Recycling Access Act

The California Solid Waste Reuse and Recycling Access Act of 1991 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 939: California Integrated Waste Management Act

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 percent of all solid waste from landfills and transformation facilities by 1995, and 50 percent by year 2000.

3.13.2 Impacts and Mitigation Measures

3.13.2.1 Significance Criteria

The following significance criteria are identified in the POLB Environmental Protocol (POLB 2006) and the CEQA Guidelines *Appendix G* Environmental Checklist. The Project would have a significant impact on utilities and service systems if it would:

UTIL-1: Require or result in the construction or expansion of water, wastewater, storm drains, natural gas, or electrical utility lines or infrastructure; or

UTIL-2: Exhaust or exceed existing water, wastewater, or landfill capacities.

3.13.2.2 Methodology

All utility service providers were contacted to obtain current information regarding their existing and projected service capacity, as well as the projected impacts that could result upon implementation of the Project.

Quantifications of utility demands were based on factors provided by the applicable agencies, as shown in Tables 3.13-3 through 3.13-5. Water supply impacts were evaluated by estimating water consumption factors associated with the number of employees expected under proposed operations. The LBWD maintains a water demand factor of 0.4 af per dwelling unit per year. In order to utilize this factor for non-residential projects, the LBWD maintains a dwelling unit conversion of two employees per one dwelling unit. Therefore, the applicable water demand factor for the proposed Project is 0.4 af per two employees per year. Additionally, the LBWD UWMP was reviewed to analyze the potential effect of Project implementation on the long-term plans for water service in the area. Pursuant to the California Urban Water Management Planning Act, water suppliers develop water management plans

Table 3.13-3. Water Demand

	CEQA Baseline	NEPA Baseline	345-Acre Alternative	315-Acre Alternative	Landside Improvements Alternative	No Project Alternative
Total Employees[1]	625	2,595	2,961	2,559	2,595	2,595
Dwelling Unit (DU) Conversion (2 persons = 1 DU)	2	2	2	2	2	2
Dwelling Unit Equivalent	312.5	1,297.5	1,480.5	1,279.5	1,297.5	1,297.5
Water Demand Factor (0.4 acre-feet/ DU/year)	0.4	0.4	0.4	0.4	0.4	0.4
Total Water Demand (acre-feet/year)	**125.0**	**519.0**	**592.2**	**511.8**	**519.0**	**519.0**
Water Supply (acre feet)	75,104	86,600	86,600	86,600	86,600	86,600
Percent of Supply	**0.17**	**0.60**	**0.68**	**0.59**	**0.60**	**0.60**

Note:
1. The year 2005 employee number is used for the CEQA Baseline. Year 2030 employee numbers are used for the NEPA Baseline and all alternatives, as these represent the maximum capacity level of operation.

Sources: Personal communication, Matthew Lyons 2007; LBWD 2007

Table 3.13-4. Wastewater Generation

	CEQA Baseline	NEPA Baseline	345-Acre Alternative	315-Acre Alternative	Landside Improvements Alternative	No Project Alternative
Total Area (acres)[1]	294	294	345	315	294	294
Total Area (1,000 square feet)	12,806.64	12,806.64	15,028.20	13,721.40	12,806.64	12,806.64
Generation Factor (gallons/day/1,000 square feet)	25	25	25	25	25	25
Total Waste (gallons/day)	320,166	320,166	375,705	343,035	320,166	320,166
Total Waste (million gallons/day)	**0.32**	**0.32**	**0.38**	**0.34**	**0.32**	**0.32**
Existing Flow (million gallons/day)	310.90	310.90	310.90	310.90	310.90	310.90
Percent of Existing Flow	**0.103**	**0.103**	**0.121**	**0.110**	**0.103**	**0.103**
Plant Capacity (million gallons/day)	400.00	400.00	400.00	400.00	400.00	400.00
Percent of Plant Capacity	**0.08**	**0.08**	**0.09**	**0.09**	**0.08**	**0.08**

Note:
1. The year 2005 site gross acreage is used for the CEQA Baseline. Year 2030 site gross acreages are used for the NEPA Baseline and all alternatives, as these represent the maximum capacity level of operation.

Source: Personal communication, Charlie Tripp 2007

Table 3.13-5. Solid Waste Generation

	CEQA Baseline	NEPA Baseline	345-Acre Alternative	315-Acre Alternative	Landside Improvements Alternative	No Project Alternative
Total Employees[1]	625	2,595	2,961	2,559	2,595	2,595
Generation Factor (pounds/person/day)[2]	9	9	9	9	9	9
Total Solid Waste (pounds/day)	**5625**	**23355**	**26649**	**23031**	**23355**	**23355**
Total Solid Waste (tons/day)	2.813	11.678	13.325	11.516	11.678	11.678
Existing Solid Waste Flow (tons/day)[3]	1,389	1,389	1,389	1,389	1,389	1,389
Percent of Existing Flow	**0.202**	**0.841**	**0.959**	**0.829**	**0.841**	**0.841**
Daily Capacity (tons/day)	2,240	2,240	2,240	2,240	2,240	2,240
Percent of Daily Capacity	**0.1256**	**0.5213**	**0.5948**	**0.5141**	**0.5213**	**0.5213**

Notes:
1. The year 2005 employee number is used for the CEQA Baseline, and year 2030 employee numbers are used for the NEPA Baseline and all alternatives as these represent the maximum capacity level of operation.
2. As the City of Long Beach does not maintain solid waste generation rates for industrial land uses, a generation rate was determined based off of the CIWMB estimated solid waste generation rates for industrial establishments.
3. The SERRF would handle solid waste generated by the proposed Project.

Sources: Personal communication, Charlie Tripp 2007; CIWMB 2008.

every five years. The LBWD currently has a 2005 UWMP that provides information on the current and future water supply and demand for the LBWD service area. Table 3.13-3 shows the water demand and the percent of water supply represented by this demand under baseline, proposed Project, and alternatives conditions.

Impacts on sewers or wastewater treatment systems were evaluated by estimating wastewater generation rates associated with the proposed Project site area. The LASCD maintains a wastewater generation factor of 25 gallons per day per 1,000 square feet of industrial space. To ensure a conservative analysis, the gross site acreage was used to determine wastewater generation. Table 3.13-4 shows the total wastewater that would be generated under baseline, proposed Project, and alternatives conditions, and the percent these generations would contribute to the existing flow and JWPCP capacity.

Solid waste facility impacts were evaluated by estimating solid waste generation rates associated with the number of employees expected under proposed operations. As the City of Long Beach does not maintain solid waste generation rates for industrial land uses, a generation rate was determined based on the California Integrated Waste Management Board (CIWMB) estimated solid waste generation rates for industrial projects (CIWMB 2008). Accordingly, solid waste generation was calculated at nine pounds per employee per day. Table 3.13-5 shows the total solid waste that would be generated under baseline, proposed Project, and alternatives conditions, and the percent these generations would contribute to the existing flow and SERRF capacity.

In addition, the assessment of impacts is based on the following environmental control that would be included as part of contract specifications for the Project. As part of the Project, the Port would require that all construction contractors implement and adhere to the following during construction activities (Section 1.7.3):

- *Beneficial Reuse and Recycling of Construction-Generated Materials* – To the extent feasible, the Project would reuse suitable dredge and excavated materials from the Project site and other sites within the Harbor District as fill material. Material reuse would be consistent with the Port's Import Soil-Material Quality Requirements (dated March 29, 2006). Pursuant to City of Long Beach ordinance, recyclable waste materials (i.e., concrete and asphalt) would be processed for reuse by the Project within the Harbor District. Asphalt and concrete would be recycled at the Port's crusher site and other recyclable waste would be taken to accredited recycling centers, thereby diverting waste from landfills. Materials would be separated onsite for reuse, recycling, or proper disposal. During construction, separate bins for recycling of construction materials would be provided onsite.

3.13.2.3 Alternative 1 – 345-Acre Alternative (the Project)

Construction Impacts

Impact UTIL-1.1: Project construction activities would result in the extension of new utility line connections to Project sites.

Demolition of existing utility infrastructure would be required to construct Project site improvements. Demolition and construction of new underground utility mains and lines would be conducted in a manner designed to ensure that services to the adjacent tenants would remain uninterrupted. Further, demolition activities would be phased to avoid interfering with adjacent Port operations.

Most of the water distribution system would be relocated and replaced with new pipelines and valves, with the exception of the system in Pier E Slip 2 Area, which has been developed recently per the most recent POLB design standards. As part of the Project, approximately 36,000 LF of existing water pipes in various sizes and materials would be demolished, and approximately 45,000 LF of new water lines in various sizes and materials would be constructed. This system would be designed to maximize the efficiency of the system and minimize the number of meters, while providing enough capacity to serve the Project area.

Based on the proposed locations of new buildings in the terminals, sewer lines would either be replaced or extended to accommodate new buildings. Further studies would be conducted to determine the size of the pipes and the need for lift stations. At least one existing lift station on Pier E would be demolished as part of the proposed Project. Approximately 8,000 LF of sewer line would be demolished and 5,000 LF of new sewer line would be constructed to serve new buildings and maintenance facilities.

Much of the existing storm drain system would be removed, demolished, or abandoned-in-place. However, some of the existing system, including approximately 1,500 LF of trench drain in Pier E Slip 2 area and two main trunk lines, would be protected and would remain in place. Approximately 16,000 LF of storm drain in various sizes and 50 catch basins would be demolished. Approximately 12,500 LF of 12-foot wide trench drains and 15,000 LF of storm drain pipes in different sizes would be constructed to serve the newly graded terminal. The storm drain system would be designed in accordance with the POLB standards that currently require gravity storm drain systems to be designed for 10-year and 50-year storms for pump station systems. The POLB standard 12-foot wide trench drain would be constructed to collect the runoff at the valleys in the pavement surface. Reinforced concrete pipes would be installed as a lateral system from the trench drains to the outfalls. Storm water treatment units would be constructed at strategic locations in the storm water collection system. These systems would be sized to treat the first 0.75 inches of rainfall and would remove sand, oil, and screen debris from the storm water before being discharged into Middle Harbor waters.

There are various owners of the different oil lines throughout the Project site. Most of the oil lines would be demolished or relocated by the owners of the lines. Approximately 42,000 LF of oil related pipelines have been identified. Some of these lines would be removed, along with oil wells located in the Project site.

Approximately 7,000 LF of existing Long Beach Energy Department gas lines would be demolished. Four thousand LF of new gas lines would be constructed in conformance with the Long Beach Energy Department standards to serve the Project structures.

A new 66/12 kV (Pier E Substation) would be constructed onsite to provide power to support the proposed Middle Harbor container terminal and future power needs for other Port facilities. This would include related terminal electrical distribution systems to provide electrical power to support proposed Middle Harbor container terminal operations, including supplying shore-to-ship power ("cold-ironing") during periods when vessels are at berth. In addition, electrical power service lines from the proposed Pier E Substation would also be installed with connections to buildings and other wharf structures (i.e., lighting). The Pier E Substation would be constructed on an approximately one acre site located north of Ocean Boulevard and east of the Project's northeastern boundary (Figure 1-5.2).

The Pier E Substation would be constructed in a 140-foot by 350-foot area that would be enclosed with an eight-foot high fence. The Pier E Substation would be equipped with a 20-foot high, 22-foot wide electrical switchrack. A new segment of 66 kV subtransmission power line would be required to electrically serve the new Pier E Substation. This would be constructed by splitting SCE's existing Hinson-ARCO-Pico-Tidelands 66 kV circuit to form the Hinson-ARCO-Pier E 66 kV circuit and the Pico-Pier E-Tidelands 66 kV circuit. Subtransmission construction would require installing five tubular steel poles, two wood poles with pole top switches, and approximately 0.25 miles (1,320 feet) of double circuit conductor to provide a loop electrical feed to the proposed new Pier E Substation. The subtransmission power line (0.25 miles) would be installed above-ground and would connect the proposed Pier E Substation to the existing nearby Tidelands substation, located on the southeast corner of Pier E Street/Pico Avenue intersection (Figure 1-5.2).

In the unlikely event that the Hinson-ARCO-Pico – Tidelands loop circuit extension would not provide the necessary electrical service, SCE would construct up to 6.5 circuit-miles of new sub-transmission conductor that would carry 66 kV from the SCE Hinson Substation, located south of the 405 freeway between South Santa Fe Avenue and South Alameda Street, to the Project site. The sub-transmission line alignment would follow existing SCE overhead lines adjacent to the 710 Freeway and would be mounted on new and existing wood, steel, and concrete poles and towers. Construction of the new 66 kV sub-transmission line would require installation of a variety of electrical equipment at the Hinson Substation and the Pier E Substation.

A final Method of Service agreement that details final design plans for electric services facilities between SCE and the Port would be required to initiate electrical services for the proposed Project.

CEQA Impact Determination

As all demolition of existing utility infrastructure and construction of new infrastructure would be conducted in a manner designed to prevent service interruptions for adjacent tenants, and new construction would be in conformance to current design standards, impacts on utilities/service systems would be less than significant under CEQA.

Mitigation Measures

As impacts on utilities/service systems would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on utilities/service systems would be less than significant.

NEPA Impact Determination

All demolition of existing utility infrastructure and construction of new infrastructure associated with in-water construction activities would be conducted in a manner designed to prevent service interruptions for adjacent tenants. New construction would be in conformance to current design standards, impacts on utilities/service systems would be less than significant under NEPA.

Mitigation Measures

As impacts on utilities/service systems would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on utilities/service systems would be less than significant.

Impact UTIL-2.1: Proposed Project construction activities would not exceed existing water supply, wastewater, or landfill capacities.

Water would be used, as necessary, to control fugitive dust and to wash streets as a supplement to street sweeping.

Construction workers would create increased demands on water supply, solid waste disposal, and wastewater treatment; portable chemical toilets would be used for onsite wastewater collection. However, as utility demands during Project construction would be intermittent and temporary, these amounts would be considered a nominal percentage of the total demand on municipal utility capacities. Therefore, Project construction worker activities would not substantially contribute to impacts on utilities/service systems.

Construction and demolition activities would generate debris that would require disposal in a landfill. Construction debris is one of the greatest individual contributors to solid waste capacity. Demolition of existing structures would be required to accommodate proposed site improvements. In general, existing container yard infrastructure to be removed would include fences, guard posts, buildings/structures, reefer systems, rail road tracks, light posts, oil wells and piping, and asphalt pavement. Wharf materials that would be removed or demolished include concrete deck and beams (capping and transverse), piles (timber, concrete, and steel pipe), fender systems, bollards, gangways, floating docks, and steel sheet pile walls. Site improvements necessary for terminal expansion would also require demolition of underground utility mains and lines (including storm drains, sewer, water, electrical/telephone, and gas) within the proposed Project area.

The following environmental controls would be implemented during Project construction activities (Section 1.7.3): dredged and excavated materials generated during construction would be reused within the proposed Project site as fill during subsequent construction phases; recyclable waste materials (i.e., concrete and asphalt) would be processed for reuse by the Project or other construction activities within the Port; and non-recyclable material accumulated during the demolition activities would be transported to an appropriate disposal site (i.e., SERRF). Though not quantifiable, the volume of construction waste associated with proposed Project construction would be substantially reduced with implementation of the proposed environmental controls requiring adherence to waste reduction measures throughout proposed construction activities.

CEQA Impact Determination

The proposed Project would result in minimal demands on municipal utilities/service systems during construction activities, including water services, wastewater, and solid waste. Therefore, impacts on utilities/service systems would be less than significant under CEQA.

Mitigation Measures

As impacts on utilities/service systems would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on utilities/service systems would be less than significant.

NEPA Impact Determination

The proposed Project would result in minimal demands on municipal utilities/service systems during in-water construction activities including water, wastewater, and solid waste. Therefore,

impacts on utilities/service systems would be less than significant under NEPA.

Mitigation Measures

As impacts on utilities/service systems would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on utilities/service systems would be less than significant.

Operational Impacts

Impact UTIL-1.2: Project operations would result in the extension of new utility line connections to the Project site.

As previously discussed under **Impact UTIL-1.1**, utility lines and infrastructure for water, wastewater, storm drains, oil, natural gas, and electrical service would be demolished and replaced as part of the proposed Project. Construction of new utility lines and infrastructure would be in conformance with current design standards and would be able to adequately accommodate Project demands. Proposed container terminal employees would create minimal demands for water, wastewater, storm drains, oil, natural gas, and electrical services. The new utility lines and infrastructure would be designed and constructed to accommodate these utility demands.

The estimated power and energy Project demand is summarized in Table 3.13-6.

The estimated maximum peak demand and estimated average daily consumption for the Project are presented in Table 3.13-7. The estimate for the Project is very conservative and typically the actual usage is a fraction of this ultimate estimate.

The new 66/12 kV Pier E Substation, providing electrical power to support proposed Middle Harbor container terminal operations, including shore-to-ship power ("cold-ironing") and connections to buildings and other wharf structures (i.e., lighting), would increase demands on electricity during Project operations by approximately 600 percent. Though extensive, this increased demand would not be substantial relative to the existing and projected regional electrical supply.

CEQA Impact Determination

As the number of new Project employees and increased terminal electrical demand would not be substantial relative to the existing and projected regional electrical supply, impacts on utilities/service systems would be less than significant under CEQA.

Mitigation Measures

As impacts on utilities/service systems would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on utilities/service systems would be less than significant.

NEPA Impact Determination

As the number of new Project employees and increased terminal electrical demand associated with new wharf infrastructure would not be substantial relative to the existing and projected regional electrical supply, impacts on utilities/service systems would be less than significant under NEPA.

Mitigation Measures

As impacts on utilities/service systems would be less than significant, no mitigation is required.

Table 3.13-6. Estimated Power and Energy Consumption for the Project (Includes Pier D)

	Power Consumption	Energy Consumption
Project	70.84 MW	986.09 MWH

Notes:
MW = megawatt MWH= megawatt-hour

Table 3.13-7. Estimated Maximum Peak Demand and Estimated Average Daily Consumption for the Project

	Estimated Maximum Peak Demand	Estimated Average Daily Consumption
Project	65 MVA	1,248 MWH

Notes:
MVA = megavolt ampere MWH= megawatt-hour

Significance of Impacts after Mitigation

Impacts on utilities/service systems would be less than significant.

Impact UTIL-2.2: Project operations would not exceed existing water supply, wastewater, or landfill capacities.

Implementation of the Project would generate increased demands for water services, wastewater treatment, and solid waste disposal. Based on water demand factors provided by the LBWD (Table 3.13-3), Project operations would result in a water demand of approximately 592.2 afy. The UWMP projects that water demand in 2030 will be 86,600 af, for which the LBWD forecasts sufficient water supplies (LBWD 2007). The UWMP must be updated every five years, and future water demand and supply planning for the City, including the POLB, would occur at regular intervals. At the full-capacity level of operation, the proposed Project water demand would represent 0.68 percent of total projected water demand. This increase in water demand would not exceed the existing or projected water supplies.

Container terminal operations would primarily consist of container loading and storage activities that would not generate substantial demands on wastewater treatment services. Proposed Project operations would generate approximately 0.38 MGD of wastewater, or 0.121 percent of the existing flow and 0.09 percent of the JWPCP daily capacity. The minimal amount of wastewater generated by the Project would not significantly affect existing or future capacity at the JWPCP, and/or exceed the capacity of the sewer trunk lines in the Project area.

The Project would comply with federal, state, and local regulations and codes pertaining to solid waste disposal. Solid waste would largely be composed of food wrappers, paper products, and personal waste. Other waste, such as oil coated rags, and miscellaneous non-hazardous trash would be collected onsite in containers and transported from the site periodically by approved methods (Section 3.10, Hazards and Hazardous Materials includes a discussion of hazardous waste). Project operations would primarily consist of container loading and storage activities that would not generate substantial amounts of solid waste requiring disposal in a landfill. Based on the solid waste generation factor of nine pounds per person per day (CIWMB 2008), the proposed Project would generate 26,649 pounds per day, or 13.3 tons per day that would require transportation to the SERRF. This amount represents 0.96 percent of the existing solid waste flow, and 0.59 percent of the SERRF daily capacity. The SERRF is currently operating at 62 percent capacity and, therefore, would be able to accommodate the minimal amounts of solid waste generated by the Project operations.

CEQA Impact Determination

Project operations would represent minimal increases in demands on water supply, wastewater treatment, and solid waste disposal as compared to CEQA Baseline conditions (Tables 3.13-3 through 3.13-5). The proposed Project would increase the demand of water by 467.2 afy over CEQA Baseline conditions. Additionally, wastewater generation would increase by 0.06 MGD, and solid waste generation would increase by 10.5 tons per day. As these increases are considered nominal, impacts on utilities/service systems would be less than significant under CEQA.

Mitigation Measures

As impacts on utilities/service systems would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on utilities/service systems would be less than significant.

NEPA Impact Determination

Project operations would represent minimal increases in demands on water supply, wastewater treatment, and solid waste disposal as compared to NEPA Baseline conditions (Tables 3.13-3 through 3.13-5). The proposed Project would increase the demand of water by 73.2 afy over NEPA Baseline conditions. Additionally, wastewater generation would increase by 0.06 MGD, and solid waste generation would increase by 1.6 tons per day. As these increases are considered nominal, impacts on utilities/service systems would be less than significant under NEPA.

Mitigation Measures

As impacts on utilities/service systems would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on utilities/service systems would be less than significant.

3.13.2.4 Alternative 2 – 315-Acre Alternative

Alternative 2 would add 24.7 net acres of newly created land to the existing 294-acre Project site by filling Slip 1 between Piers E and F (Berths E12-E14 and F1-F4). Under this alternative, the proposed East Basin would not be filled.

CEQA Impact Determination

Under this alternative, impacts on utilities/service systems would be similar in nature to, but slightly less than those described under **Impact UTIL-1.1 through UTIL-2.1** for the Project, as construction and operational impacts would be reduced with the elimination of the fill of the East Basin (and structures and functions that would occupy this area operationally). **Impact UTIL-2.2** would also be slightly less than described for the proposed Project as operational water, wastewater, and solid waste generations would decrease. Alternative 2 would reduce potable demands by 80.4 afy when compared to the proposed Project, and would increase demands by 386.8 afy over CEQA Baseline conditions. Wastewater generations would be decreased by 0.04 MGD when compared to the proposed Project, and increased by 0.02 afy over CEQA Baseline conditions. Similarly, Alternative 2 would generate 1.8 tons per day of solid waste fewer than the proposed Project, and 8.7 tons per day greater than CEQA Baseline conditions. As with the Project, implementation of this alternative would result in less than significant impacts on utilities/service systems under CEQA.

NEPA Impact Determination

Under this alternative, impacts on utilities/service systems would be similar in nature to, but slightly less than those described under **Impact UTIL-1.1 through UTIL-2.1** for the Project, as construction and operational impacts would be reduced with the elimination of the fill of the East Basin (and structures and functions that would occupy this area operationally). **Impact UTIL-2.2** would also be slightly less than described for the proposed Project since operational water, wastewater, and solid waste generations would decrease. Alternative 2 would reduce water demands by 80.4 afy when compared to the proposed Project, and would decrease demands by 7.2 afy under NEPA Baseline conditions. Wastewater generations would be decreased by 0.04 MGD when compared to the proposed Project, and increased by 0.02 afy over NEPA Baseline conditions. Similarly, Alternative 2 would generate 1.8 tons per day of solid waste fewer than the proposed Project, and 0.1 tons per day fewer than NEPA Baseline conditions. As with the Project, implementation of this alternative would result in less than significant impacts on utilities/service systems under NEPA.

3.13.2.5 Alternative 3 – Landside Improvements Alternative

Alternative 3 would redevelop existing terminal areas on Piers E and F and convert underutilized land north of the Gerald Desmond Bridge and Ocean Boulevard within the Project site to a container yard. No in-water activities, including dredging, filling Slip 1 and the East Basin, new wharf construction, wharf upgrades, or channel and berth deepening would occur.

CEQA Impact Determination

Under this alternative, impacts on utilities/service systems would be similar in nature to, but slightly less than those described under **Impact UTIL-1.1 through UTIL-2.1** for the Project, because no in-water construction activities would occur. **Impact UTIL-2.2** would also be slightly less than described for the proposed Project as operational water, wastewater, and solid waste demands would decrease. Alternative 3 would reduce water demands by 73.2 afy when compared to the proposed Project, and would increase demands by 394 afy over CEQA Baseline conditions. Wastewater demands would be decreased by 0.06 MGD when compared to the proposed Project, and would be the same as CEQA Baseline conditions. Similarly, Alternative 3 would generate 1.6 tons per day of solid waste fewer than the proposed Project, and 8.9 tons per day greater than CEQA Baseline conditions. As with the Project, implementation of this alternative would result in less than significant impacts on utilities/service systems under CEQA.

NEPA Impact Determination

Alternative 3 is equivalent to the NEPA Baseline because it only includes construction and operational activities that would not require issuance of federal permits. As no federal action or permit would be required, there would be no significance determination under NEPA for this alternative. No impacts on utilities/service systems would occur.

3.13.2.6 Alternative 4 – No Project Alternative

The No Project Alternative would not include construction of upland site improvements or in-water activities (i.e., dredging, filling of Slip 1 and the East Basin, and/or new wharf construction). However, forecasted increases in cargo would still occur under this alternative. Operational impacts associated with the following activities would occur: cargo ships that currently berth and load/unload at the terminal would continue to do so; terminal equipment would continue to handle cargo containers; and trucks would continue to transport containers to outlying distribution facilities.

CEQA Impact Determination

Under this alternative, impacts on utilities/service systems would be similar in nature to, but slightly less than those described under **Impact UTIL-1.1 through UTIL-2.1** for the Project, because no construction (i.e., dredging, filling, new wharf construction, and infrastructure improvements) would occur. Operational impacts would not significantly affect impacts on utilities/service systems. **Impact UTIL-2.2** would also be slightly less than described for the proposed Project as operational water, wastewater, and solid waste demands would decrease. The No Project Alternative would reduce water demands by 73.2 afy when compared to the proposed Project, and would increase demands by 394 afy over CEQA Baseline conditions. Wastewater demands would be decreased by 0.06 MGD when compared to the proposed Project, and would be the same as CEQA Baseline conditions. Similarly, this alternative would generate 1.6 tons per day of solid waste fewer than the proposed Project, and 8.9 tons per day greater than CEQA Baseline conditions. As with the Project, implementation of this alternative would result in less than significant impacts on utilities/service systems under CEQA.

NEPA Impact Determination

Under this alternative, no in-water construction activities and, consequently, no construction-related impacts would occur. At maximum capacity, the No Project Alternative would result in 2,600,000 TEUs, or 310,000 fewer than the NEPA Baseline. Therefore, the No Project Alternative would result in no construction or operational impacts on utilities/service systems under NEPA.

3.13.3 Cumulative Impacts

Cumulative utilities and service systems impacts would result from the combined demand of the proposed Project in combination with related projects on utilities and service systems. As shown in Table 2.1-1, both the POLB and POLA have proposed several reasonably foreseeable related projects in addition to the proposed Project that could result in a significant increase in demand on utilities/service systems.

Many of the related projects involve relocation of existing facilities from within the POLB and POLA, or do not involve expansion of existing operations and would not, therefore, result in an increased demand on public resources. However, several of the related projects listed in Table 2.1-1 would generate additional temporary and permanent employees that would result in additional demand on utilities and service systems, including increased generation of solid waste and wastewater treatment, or through consumption of water, electricity, or natural gas. Specifically, projects such as the Berths 97-109 Container Terminal, Pier T Hanjin Terminal, and Pasha Marine Terminal Improvements would generate increased vessel and truck traffic. Projects such as the POLB Administration Building Replacement Project, San Pedro Waterfront Promenade, and the Shoreline Gateway Project would increase public visitation to the POLB, therefore increasing demands on utilities and service systems. Due to the number of related projects that would place an additional demand on utilities and service systems, potentially significant cumulative impacts on utilities and service systems would result.

The proposed Project's contribution to these cumulative impacts would be less than significant, because it would not result in a substantial percentage increase of the demand for utilities and service systems associated with the reasonably foreseeable related projects identified in Table 2.1-1. Therefore, the Project's contribution to cumulative impacts on utilities and service systems would be less than significant under NEPA and CEQA.

3.13.4 Mitigation Monitoring Program

As no mitigation measures are required to address impacts on utilities and service systems, no mitigation monitoring program is required.

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3.14 CULTURAL RESOURCES

3.14.1 Environmental Setting

3.14.1.1 Area of Influence

The area of influence for cultural and paleontological resources consists of the areas within the Project site that could be affected by dredging, demolition, or ground disturbance within natural landforms (i.e., excluding modern Port in-fill development) and in water where there may be submerged prehistoric remains and/or where there is evidence that historical maritime activity could have occurred.

3.14.1.2 Setting

Prehistoric Resources

It is generally accepted that there has been a human presence in southern California for at least 10,000 years. A number of chronological schemes have been proposed for subdividing that time span into developmental periods (Dillon 1994; King 1981; Wallace 1955; Warren 1968). In broadest outline, they describe the Early Period from 8000 to 6000 BC; the Millingstone Period from 6000 to 1000 BC; the Intermediate Period from 1000 BC to AD 1000; the Late Prehistoric Period from AD 1000 to 1771; and the Historic Period from AD 1782 to the present. Occasionally, the period from AD 1542 (the date of initial European contact with California Native Americans) to AD 1771 (the date of the founding of the Mission San Gabriel) is designated Protohistoric, in recognition of the effects resulting from the intermittent contact Native American populations had with European explorers, and the associated influences on their indigenous culture.

Ethnographic Resources

Ethnographic resources include sites, areas, and materials important to Native Americans for religious, spiritual, or traditional uses. These can encompass the sacred character of physical locations (mountain peaks, springs, and burial sites) or particular native plants, animals, or minerals that are gathered for use in traditional ritual activities. All prehistoric archaeological sites including villages, burials, rock art, rock features, and traditional hunting, gathering, or fishing sites are generally considered by contemporary Native Californians as important elements of their heritage.

Native Americans who prehistorically inhabited the Port region at the time of Spanish contact are known as the Gabrieliño, as many were baptized at Mission San Gabriel. These people occupied a vast area extending through the watersheds of the Los Angeles, San Gabriel, and Santa Ana rivers, and several streams in the Santa Monica and Santa Ana mountains, through the Los Angeles Basin, along the Pacific Coast from Aliso Creek to Topanga Creek, and on San Clemente, San Nicholas, and Santa Catalina islands (Bean and Smith 1978). As the population was distributed over diverse environmental habitats, strategies for food collection were varied, including hunting, fishing, and plant gathering.

The Gabrieliño were, as a group, extremely wealthy and populous due to their access to a variety of natural resources; their influence through trade extended as far as the San Joaquin Valley, the Colorado River, and Baja California. In particular, their use of shell inlay in asphaltum, use of rare minerals, stone carvings, and rock paintings are considered of exceptional quality. Their steatite (soapstone) carvings of animals, pipes, and other ritual ornaments are cultural trademarks (Bean and Smith 1978).

With the establishment of the mission system at Mission San Gabriel in 1771, the Gabrieliño peoples were forcibly baptized and integrated into the economic sphere of the Mission. Villages were abandoned, hunting and gathering activities were disrupted as newly introduced agricultural practices altered the landscape, and large segments of the native population were decimated by European diseases. By the time Mission lands were secularized in 1834, there were approximately 1,000 converts (neophytes) living at Mission San Gabriel; however, the ancestral Gabrieliño lifestyle had been destroyed.

A succession of administrators subsequently liquidated Mission holdings. By the time the United States annexed California in 1848, most of the Native American population had fled. The smallpox epidemic of 1862-1863, other introduced diseases, starvation, and violence devastated the remaining Native Californian population. By 1900, there were only a few scattered Gabrieliño survivors (Bean and Smith 1978).

Historic Resources

The Los Angeles Dock and Terminal Company began development of Long Beach Harbor in 1909 by purchasing 800 acres of mudflats at the mouth of the Los Angeles River. This area would later become the Inner Harbor. The Port was officially

founded on June 24, 1911. In 1916, the Los Angeles Dock and Terminal Company declared bankruptcy and turned over the harbor dredging projects to the City of Long Beach. The City of Long Beach completed dredging of channels and a turning basin.

In 1926, the Port attained "deep water" port status and began construction of additional piers, wharves, and facilities in 1928. Pier 1 was reconstructed, renamed "Municipal Wharf," and equipped with a new transit shed. Piers A and B were started in the Outer Harbor.

A 3.5-mile extension to the San Pedro Bay breakwater was authorized in 1930 (the breakwater was originally constructed in 1899). Then, in 1932, construction began on the middle section of the San Pedro Bay breakwater. Oil was discovered in the Harbor in 1936, and the first oil well was brought in 1938. Also in 1938, the first transit shed on Pier A, in the Outer Harbor, was completed.

The U.S. Navy acquired 100 acres on Terminal Island from the City of Long Beach in 1940 and established a naval station. Construction on the 2.5-mile eastern leg of the San Pedro Bay breakwater began in 1941. Construction was suspended in 1943 due to World War II, resumed in 1946, and was completed in 1949. The first clear-span transit sheds were completed at Pier F in 1946 and established Long Beach as a "modern" port. In 1948 Pierpoint Landing opened on Pier F and grew to become one of the world's largest sportfishing operations, attracting millions of anglers annually. Pier E was completed in 1949, adding 36 acres to the Outer Harbor, and Pier B doubled in size.

The period between World War II and the early 1960s was transformative for the Port. New fireproof wharves, transit sheds, and many other facilities were built in a period of development that laid the groundwork for the success of the modern port. At the same time that the Port was planning and building enormous clear span transit sheds in modern and fireproof concrete, Port architects were also creating standardized designs for smaller, wooden, often easily portable structures, to fulfill functions including longshoreman's shelters (or "smoke houses"), toilet facilities, and small office buildings. In the early 1950s, the Long Beach Harbor Department embarked on a massive program of reconstruction. The primary goal of the program was to enable the POLB to compete more effectively with the POLA for tenants and business. The centerpiece of this building campaign was the construction of nine new, huge, clear-span transit sheds. By the 1960s, total cargo tonnage had quadrupled; the construction of these transit sheds enabled the Port to handle the soaring traffic.

Construction on Pier F and Pier J began in 1962. Pier F was completed in 1965, adding 310 acres of landfill to Long Beach. Pier F also incorporated the containerization cargo handling system pioneered at the Sea-Land Services Pier G container terminal in 1962.

In 1979, the Port completed a $20 million project that converted Pier E outmoded breakbulk terminals to a modern multipurpose cargo facility. The facility was operated by CUT and handled containers, roll on/roll off, and break-bulk commodities. In 1986, Long Beach Container Terminal opened an 88-acre facility on Pier F.

This summary indicates that existing container terminal facilities within the Project site date from 1962 to present.

Paleontological Resources

Paleontological resources, or fossils, are the remains, imprints, or traces of once-living organisms preserved in rocks and sediments. These fossils include mineralized, partially mineralized, or unmineralized bones and teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains. Any rock material that contains fossils has the potential to yield fossils that are unique or significant to science. Paleontologists consider geological formations that have the potential to contain vertebrate fossils as being more "sensitive" than those likely to contain only invertebrate fossils. Invertebrate fossils found in marine sediments are usually not considered by paleontologists to be significant resources, because geological contexts in which they are encountered are widespread and fairly predictable. Further, invertebrate fossil species are usually abundant and well-preserved, such that they are not unique. In contrast, vertebrate fossils are much rarer than invertebrate fossils, and are often poorly preserved. Therefore, when found in a complete state, vertebrate fossils are more likely to be a more significant resource than are invertebrate fossils. Vertebrate fossil sites are usually found in non-marine, upland deposits. Occasionally, vertebrate marine fossils such as whale, porpoise, seal, or sea lion can be found in marine rock units such as the Miocene Monterey Formation and the Pliocene Sisquoc Formations known to occur throughout central and southern California. Vertebrate fossils of continental material are usually rare, sporadic, and localized.

3.14.1.3 Site-Specific Setting

Archaeological Resources

The Project area is located on artificial fill material. Soils located between Pier F Avenue and Ocean Boulevard are generally underlain by fill material to a depth of approximately 30 feet below ground surface (Parsons-HNTB 2005). Borings drilled on Middle Harbor, adjacent to Slip 3, encountered artificial fill to a depth of 30 to 40 feet below ground surface. As they do not represent landforms that existed during the time of Native American occupation of the area, soils in the Project area do not have the potential to contain intact, potentially significant prehistoric or historic archaeological resources.

The majority of the Middle Harbor area, including the areas adjacent to Middle Harbor, has been historically dredged to provide deeper channels and turning basins to allow for larger container vessels to call at the Port. Therefore, it is reasonable to assume that any intact submerged shipwrecks or other historic material within these dredged areas would have been previously removed or severely disturbed.

Historic Architectural Resources

An inventory of the standing structures within and adjacent to the Project area has been completed. The four standing structures within the Project area include two structures that may qualify as historically significant based on their age and uniqueness: two Smoke Houses/Offices built in 1953 (CH2M Hill 2006) (Figures 3.14-1 and 3.14-2). Both structures are located above the high water line and are not located within designated waters of the U.S.

The two 1953 Smoke Houses/Offices are small, one story, hipped roof structures clad in shiplap wood siding with exposed rafter tails. The two 1953 Smoke Houses/Offices, built to standardized Port plans, generally exhibit historic integrity. Although they may have been moved within the Project site since their original construction, this does not impair their integrity because it appears they were designed to be moved as needed to adapt to the changing needs of the Port. These buildings qualify as a discontiguous thematic grouping (i.e., composed of a series of discrete, unconnected, pieces of land on which the identified buildings sit) and historic district under National Register of Historic Places (NRHP) Criterion A and California Register of Historical Places (CRHP) Criterion 1. These buildings exemplify the industrial vernacular architecture that made possible the day to day functioning of the Port during the period between World War II and the early 1960s.

The large metal shed located in the Project area does not qualify as historically significant. This building is a corrugated metal shed that represents common industrial design. This building does not have unique or important architectural features, functional purposes, or association with historical events that make them eligible individually for NRHP listing under Criterion A and California Register of Historical Resources (CRHR) listing under Criterion 1.

Paleontological Resources

The Project area is located on artificial fill material and the majority of the Middle Harbor area has been historically dredged. Due to the rarity of encountering vertebrate fossils, the extensive depth of artificial fill within the Project area, and previous dredging activities with the Middle Harbor, the Project area is not expected to contain intact, significant non-marine or marine vertebrate paleontological resources.

3.14.1.4 Regulatory Setting

Federal Regulations

Archaeological and Historic Architectural Resources

The National Historic Preservation Act (NHPA) establishes national policy for protecting significant cultural resources that are defined as “historic properties” under 36 CFR 60.4. NHPA Section 106 (36 CFR §800) requires that federal agencies consider and evaluate the effect that federal projects may have on historic properties under their jurisdiction. Only historic properties are potentially subject to adverse effects under a federal action. Archaeological sites and historic structures that are not historic properties are categorically considered not significant.

The federal significance of an archaeological site or an architectural structure is defined in the NHPA implementing regulations (36 CFR §60.4). These criteria state that a resource must be at least 50 years old, and meet the following:

- The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and

objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- Is associated with events that have made a significant contribution to the broad patterns of history;
- Is associated with the lives of persons significant in the past;
- Embodies the distinctive characteristics of a type, period, or method of construction, represents the work of a master, possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; or
- Has yielded, or may be likely to yield, information important in prehistory or history.

If a particular resource meets one of these criteria, it is considered as an eligible "historic property" for NRHP listing.

In addition to the NHPA, cultural resources are protected by the Archaeological Resources Protection Act of 1979 (ARPA) (16 USC §§ 469-469c). The ARPA describes the requirements that must be met before federal authorities can issue a permit to excavate or remove any archeological resource on federal or Indian lands. Requirements for curation of artifacts, other materials excavated or removed, and the records related to the artifacts and materials are described. The act provides detailed descriptions of prohibited activities including damage, defacement, and unpermitted excavation or removal of cultural resources on federal lands. Selling, purchasing, and other trafficking activities of cultural resources either within the United States or internationally is prohibited. ARPA also identifies stiff penalties that can be levied against convicted violators.

Ethnographic Resources

As prehistoric archaeological sites, artifacts, and human remains are considered important components of contemporary Native American heritage, the following two federal statutes apply:

- The American Indian Religious Freedom Act of 1978 (AIRFA) (42 USC §§ 1996-1996a) requires that locations identified as central to Native American religious practice be protected; and
- The Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) (25 USC §§ 3001-3013) requires that prehistoric human remains and burial-related artifacts of individuals recovered during ground disturbances be provided to those contemporary Native Americans who are recognized as descendants.

Paleontological Resources

There is no federal legislation designed specifically for the management and protection of paleontological resources on federal lands.

State Regulations

Archaeological and Historic Architectural Resources

CEQA Guidelines Section 15064.5(a.3) and PRC Section 21084.1 define the following criteria used to determine the significance of cultural resources, characterized as "historic resources."

> *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 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, Title 14 CCR, Section 4852).*

CEQA Guidelines Section 15064.5(b) (revised October 26, 1998) states that "a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment."

1. Substantial adverse change in the significance of a historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired.
2. The significance of a historical resource is materially impaired when a project:
   A. Demolishes or materially alters in an adverse manner those physical characteristics of a

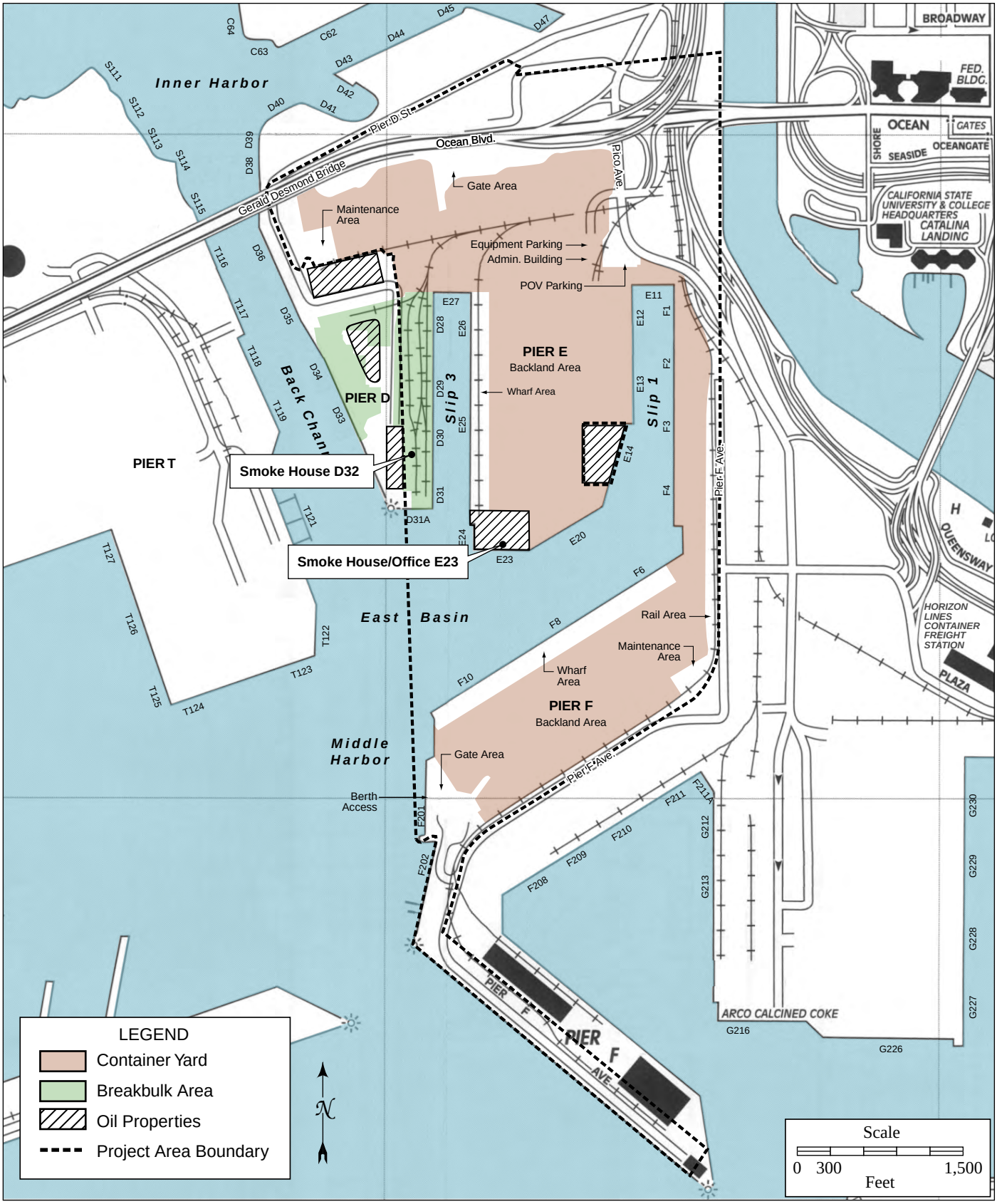

Figure 3.14-1. Location of Historic Structures

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Smoke House D32

Smoke House/Office E23

Source: CH2M Hill, 2006

Figure 3.14-2. Photographs of Historic Structures

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historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in the CRHR;

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 a 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 CRHR as determined by a lead agency for purposes of CEQA.

When an archaeological resource is listed in, or is eligible to be listed in, the CRHR, PRC Section 21084.1 requires that any substantial adverse effect to that resource be considered a significant environmental effect. PRC Sections 21083.2 and 21084.1 operate independently to ensure that potential effects on archaeological resources are considered as part of the environmental analysis for a project. Either of these benchmarks may indicate that a proposal may have a potential adverse effect on archaeological resources.

CEQA Guidelines Sections 15064.5 and 15126.4 guide the evaluation of impacts to 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.

Other state-level requirements for cultural resources management are written into the California PRC, Chapter 1.7, Section 5097.5 (Archaeological, Paleontological, and Historical Sites).

Ethnographic Resources

The disposition of Native American burials is governed by Section 7050.5 of the California Health and Safety Code, and Sections 5097.94 and 5097.98 of the Public Resources Code, 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.

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.

Paleontological Resources

Section 5097.5 of the California PRC 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." Section 30244 requires reasonable mitigation of adverse impacts to 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) shall be removed from any natural geologically formed cavity or cave.

3.14.2 Impacts and Mitigation Measures

3.14.2.1 Significance Criteria

The following significance criteria are derived from relevant federal and state regulations related to the identification of significant cultural resources and substantial adverse effects on those resources. Pursuant to the POLB Environmental Protocol (POLB 2006) and consistent with CEQ regulations and CEQA Guidelines *Appendix G* Environmental Checklist, an impact on cultural or paleontological resources would be considered significant if a project would:

CR-1: Adversely affect a resource listed in or eligible for listing in the NRHP, the CRHR, or otherwise considered a unique or important archaeological resource under CEQA.

An adverse effect on a cultural resource is defined as:

- Demolition, physically damaged, or altered;
- Relocation that would isolate the resource from its original context; or
- Conversion, rehabilitation, or alteration that does not conform to the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings.

CR-2: Result in the permanent loss of, or loss of access to a paleontological resource of regional or statewide significance.

Federal Criteria

Title 36 CFR Part 800 defines effects and adverse effects on historic resources as follows:

- *Section 800.9(a)* – Criterion of Effect indicates that an undertaking has an effect on a historic property when the undertaking may alter characteristics of the property that may qualify it for inclusion in the NRHP. For the purpose of determining effect, alteration of features of a property's location, setting, or use may be relevant depending on a property's significant characteristics.
- *Section 800.9(b)* – Criteria of Adverse Effect indicates an undertaking is considered to have an adverse effect when the impact on a historic property may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects on historic properties include, but are not limited to:
  - Physical destruction, damage, or alteration of all or part of the property;
  - Isolation of the property from, or alteration of the character of the property's setting when that character contributes to the property's qualification for the NRHP;
  - Introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting;
  - Neglect of a property resulting in its deterioration or destruction; and
  - Transfer, lease, or sale of the property without adequate provisions to protect historic integrity.

State Criteria

CEQA Guidelines Section 15064.5 (revised October 26, 1998) indicates that a project may have a significant environmental effect if it causes "substantial adverse change" in the significance of a "historical resource" or a "unique archaeological resource," as defined or referenced in CEQA Guidelines Section 15064.5 (b, c). Such changes include "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired" (CEQA Guidelines 1998 Section 15064.5 [b]).

3.14.2.2 Methodology

Impacts on cultural resources from the proposed Project and alternatives were evaluated by determining whether dredging, 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, the CRHR, or would otherwise be considered a unique or important archaeological resource.

3.14.2.3 Alternative 1 – 345-Acre Alternative (the Project)

Construction Impacts

Impact CR-1.1: Project ground disturbances would not impact potentially significant archaeological resources.

As the proposed terminal area is located on artificial fill material to a depth of approximately 30 feet below ground surface, no intact prehistoric or historic archaeological or cultural resources would be expected within the Project area. Additionally, since the majority of the Middle Harbor area has been historically dredged to provide deeper channels and turning basins, it is reasonable to assume that any intact submerged shipwrecks or other historic material within these dredged areas would have been removed or severely disturbed.

CEQA Impact Determination

Project construction would not reasonably be expected to disturb, damage, or degrade unknown, intact, potentially significant archaeological resources. As the potential for damaging unknown prehistoric remains is remote, potential impacts on ethnographic resources considered significant to contemporary Native Americans are also not reasonably expected. Based on the above analysis,

proposed construction activities would result in less than significant impacts on cultural resources under CEQA.

Mitigation Measures

Although the potential for damaging unknown prehistoric remains is remote, the following mitigation measure would further reduce impacts on unexpected discoveries during construction:

CR-1.1.1: In the unlikely event that any archaeological material is discovered during construction, all work must be halted within the vicinity of the archaeological discovery until an assessment of the significance by a qualified archaeologist is completed. If the resources are found to be significant, they shall be avoided or shall be mitigated consistent with State Historic Preservation Office (SHPO) Guidelines. Treatment plans must be developed in consultation with the County, SHPO, and local Native Americans.

If human remains are encountered, the Los Angeles County Coroner shall be contacted immediately. If the remains appear to be Native American, the coroner shall contact the Native American Heritage Commission who will appoint the Most Likely Descendent. Additionally, if the human remains are determined to be Native American, a plan will be developed regarding the treatment of human remains and associated burial objects, and the plan will be implemented under the direction of the Most Likely Descendent.

Significance of Impacts after Mitigation

Implementation of **Mitigation Measure CR-1.1.1** would ensure that impacts on archaeological resources would be less than significant.

NEPA Impact Determination

Project construction would not reasonably be expected to adversely affect, damage, or degrade unknown, intact, potentially significant in-water (marine) archaeological resources, as in-water sediments have continuously been disturbed during Port maintenance. As the potential for damaging unknown marine cultural remains is remote, potential impacts on subsurface archaeological sites considered significant to contemporary Native Americans are also not reasonably expected. Therefore, no significant impacts on cultural resources would occur under NEPA.

Mitigation Measures

As impacts on archaeological resources would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on archaeological resources would be less than significant.

Impact CR-1.2: Construction activities would adversely impact potentially significant historic architectural resources.

CEQA Impact Determination

Two potentially significant historic architectural resources, including the two 1953 Smoke Houses/ Offices, are located within the proposed terminal area. Both resources would be relocated during Project construction. This would be a significant impact on historic resources.

Mitigation Measures

CR-1.2.1: The two historic architectural resources shall be temporarily moved during construction and then relocated to another suitable location within the Project area subsequent to construction under the direction of a qualified Architectural Historian. A survey shall be conducted after the relocation to document, identify, and describe any internal and external cracking, condition of walls, and other elements as a result of their movement. The survey shall be undertaken under the direction of a qualified Architectural Historian and shall be in accordance with accepted standard methods. A written report documenting conditions after Project completion shall be prepared under the supervision and approval of a qualified Architectural Historian. The report shall provide any necessary measures to address stabilization and repair of areas that have been disturbed during relocation, including photo-documentation. The repairs shall be undertaken by the Port in a timely manner.

Significance of Impacts after Mitigation

The two Smoke Houses were designed to be moved as needed, so relocating them within the Project area would not result in a loss of their historical context. Therefore, impacts on historic architectural structures would be less than significant with implementation of **Mitigation Measure CR-1.2.1**.

NEPA Impact Determination

There are no historic architectural resources located within USACE's scope of analysis under NEPA because the upland areas would be redeveloped as part of the NEPA Baseline. Proposed Project construction, therefore, would not disturb, damage, or degrade any historic architectural resources. No significant impacts on cultural resources would occur under NEPA.

Mitigation Measures

As impacts on cultural resources would not occur, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on cultural resources would not occur.

Impact CR-2.1: The Project would not result in the permanent loss of, or loss of access to, a paleontological resource.

The artificial fill material within the upland portion of the Project area has no potential to contain intact vertebrate fossils. Any fossils potentially encountered in the artificial fill material would not be significant paleontological resources, as their context would be unknown and it is highly unlikely they would be intact.

The majority of the Middle Harbor in-water area, including the areas adjacent to Middle Harbor has been historically dredged to provide deeper channels and turning basins. It is reasonable to assume that any intact vertebrate fossils within these dredged areas would have been removed or severely disturbed.

CEQA Impact Determination

Project construction would not result in the permanent loss of, or loss of access to, a paleontological resource. Implementation of the Project would have no impact on paleontological resources under CEQA.

Mitigation Measures

As impacts on paleontological resources would not occur, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on paleontological resources would not occur.

NEPA Impact Determination

No paleontological resources are expected within the in-water portions of the Project site, as described above. Project construction, therefore, would not result in the permanent loss of, or loss of access to, a paleontological resource. No impacts on potentially significant paleontological resources would occur under NEPA.

Mitigation Measures

As impacts on paleontological resources would not occur, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on paleontological resources would not occur.

Operational Impacts

Operations would have no effect on archaeological cultural resources, or paleontological resources because no further ground disturbances with the potential to encroach within these resources would occur.

Impact CR-1.3: Industrial reuse of the three potentially relocated historic properties would be consistent with their original Port-related function.

CEQA Impact Determination

If the two historic properties (i.e., 1953 Smoke Houses/Offices) were relocated within the Port and reused for similar industrial activities, they would be consistent with their original function. Therefore, impacts on cultural resources would be less than significant under CEQA. If the structures were used for other interpretive purposes illustrating the development of the Port after World War II, this use would also be consistent with their historic significance under CEQA.

Mitigation Measures

As impacts on cultural resources would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on cultural resources would be less than significant.

NEPA Impact Determination

As no in-water cultural resources would be impacted by the Project, no impacts on cultural

resources would occur during Project operation under NEPA.

Mitigation Measures

As impacts on cultural resources would not occur, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on cultural resources would not occur.

3.14.2.4 Alternative 2 – 315-Acre Alternative

Alternative 2 would add 24.7 net acres of newly created land to the existing 294-acre Project site by filling Slip 1 between Piers E and F (Berths E12-E14 and F1-F4). Under this alternative, the East Basin would not be filled.

CEQA Impact Determination

Under this alternative, impacts on cultural resources would be similar in nature to, but slightly less than those described under **Impacts CR-1.1 through CR-1.3 and Impact CR-2.1** for the Project because the extent of construction activity causing short-term impacts and extent of in-water ground disturbances would be reduced with the elimination of the East Basin fill. As with the Project, implementation of this alternative would result in significant impacts on cultural resources under CEQA that would be reduced to less than significant with implementation of **Mitigation Measure CR-1.2.1**.

NEPA Impact Determination

Under this alternative, impacts on cultural resources would be similar in nature to, but slightly less than those described under **Impacts CR-1.1 through CR-1.3 and Impact CR-2.1** for the Project because the extent of construction activity causing short-term impacts and extent of in-water ground disturbances would be reduced with the elimination of the East Basin fill. As with the Project, implementation of this alternative would result in no significant impacts on in-water cultural resources under NEPA.

3.14.2.5 Alternative 3 – Landside Improvements Alternative

Alternative 3 would redevelop existing terminal areas on Piers E and F and convert underutilized land north of the Gerald Desmond Bridge and Ocean Boulevard within the Project site to a container yard. No in-water activities, including dredging, filling Slip 1 and the East Basin, new wharf construction, wharf upgrades, or channel and berth deepening would occur.

CEQA Impact Determination

Under this alternative, impacts on cultural resources would be similar in nature to, but slightly less than those described under **Impacts CR-1.1 through CR-1.3 and Impact CR-2.1** for the Project because in-water ground disturbances would be eliminated. As with the Project, implementation of this alternative would result in significant impacts on cultural resources under CEQA that would be reduced to less than significant with implementation of **Mitigation Measure CR-1.2.1**.

NEPA Impact Determination

Alternative 3 is equivalent to the NEPA Baseline because it only includes construction and operational activities that would not require issuance of federal permits. As no federal action or permit would be required, there would be no significance determination under NEPA for this alternative. No impacts on archaeological, architectural, and/or paleontological resources would occur.

3.14.2.6 Alternative 4 – No Project Alternative

The No Project Alternative would not include construction of upland site improvements or in-water activities (i.e., dredging, filling of Slip 1 and the East Basin, and/or new wharf construction). However, forecasted increases in cargo would still occur under this alternative. Operational impacts associated with the following activities would occur: cargo ships that currently berth and load/unload at the terminal would continue to do so; terminal equipment would continue to handle cargo containers; and trucks would continue to transport containers to outlying distribution facilities.

CEQA Impact Determination

As construction of upland site improvements would not occur, removal of existing container yard infrastructure and wharf materials, including the two potentially significant historic architectural resources (i.e., the two 1953 Smoke Houses/Offices) would not occur. Consequently, there would be no impacts on archaeological, architectural, and/or paleontological resources under CEQA. Operational activities under the No Project Alternative also would not cause disturbances that would impact

historic architectural resources, and there would be no impacts on archaeological, architectural, and/or paleontological resources. Therefore, no impacts would occur under CEQA.

NEPA Impact Determination

Under this alternative, no construction or construction-related impacts would occur and operational activities would not cause impacts on archaeological, architectural, and/or paleontological resources under NEPA.

3.14.3 Cumulative Impacts

The geographic region of analysis for cumulative effects on archaeological, architectural, and paleontological resources related to port projects consists of the areas at the POLB and POLA (on land or submerged) that could be affected by dredging, demolition, or ground disturbance. Thus, planned and foreseeable future development that would contribute to cumulative impacts on cultural resources includes projects that would have the potential for ground disturbance within natural landforms (i.e., excluding modern port in-fill development) and in water where there may be submerged prehistoric remains and/or where there is evidence that historical maritime activity could have occurred.

Construction activities (i.e., excavation, dredging, and land filling) associated with future port projects, several at the POLA, would potentially require excavation. These activities would be in areas of historical estuary habitats and recent landfills, and therefore would not be within the landforms inhabited by Native American populations or in areas with potentially significant vertebrate paleontological resources. There is the potential for other related projects in upland areas (i.e., the Southern California International Gateway Project, Shoreline Gateway Project, and Pacific Corridors Redevelopment Project) to disturb unknown prehistoric or historic archaeological resources, or to require removal of significant historical architectural resources. These disturbances may represent cumulatively significant impacts on cultural resources. However, due to the extent of disturbed soils and historic fill in the proposed Project area, the Project would not contribute to any cumulatively significant impacts on archaeological, ethnographic, and paleontological resources.

The Project would, however, result in disturbances to historic architectural resources and would represent a cumulatively considerable contribution to a cumulatively significant impact on these cultural resources. However, implementation of proposed Project **Mitigation Measure CR-1.2.1** would reduce the proposed Project's individual impacts to less than significant. Therefore, the proposed Project would represent a less than considerable contribution to cumulative impacts on historic architectural resources.

3.14.4 Mitigation Monitoring Program

Implementation of **Mitigation Measure CR-1.2.1** would be required to reduce impacts on historic architectural structures. These mitigation measures and monitoring requirements are summarized in Table 3.14-1.

Table 3.14-1. Mitigation Monitoring Program

Mitigation Measure	Responsible Party	Timing/ Frequency
CR-1.1.1; In the unlikely event that any archaeological material is discovered during construction, all work must be halted within the vicinity of the archaeological discovery until an assessment of the significance by a qualified archaeologist is completed. If the resources are found to be significant, they shall be avoided or shall be mitigated consistent with SHPO Guidelines. Treatment plans must be developed in consultation with the County, SHPO, and local Native Americans. If human remains are encountered, the Los Angeles County Coroner shall be contacted immediately. If the remains appear to be Native American, the coroner shall contact the Native American Heritage Commission who will appoint the Most Likely Descendent. Additionally, if the human remains are determined to be Native American, a plan will be developed regarding the treatment of human remains and associated burial objects, and the plan will be implemented under the direction of the Most Likely Descendent.	POLB	During proposed Project construction.
CR-1.2.1: The two historic architectural resources shall be temporarily moved during construction and then relocated to another suitable location within the Project area subsequent to construction under the direction of a qualified Architectural Historian. A survey shall be conducted after their relocation to document, identify, and describe any internal and external cracking, condition of walls, and other elements as a result of their movement. The survey shall be undertaken under the direction of a qualified Architectural Historian and shall be in accordance with accepted standard methods. A written report documenting conditions after Project completion shall be prepared under the supervision and approval of a qualified Architectural Historian. The report shall provide any necessary measures to address stabilization and repair of areas that have been disturbed during relocation, including photo-documentation. The repairs shall be undertaken by the Port in a timely manner.	POLB	Prior to proposed Project construction.

3.15 ENVIRONMENTAL JUSTICE

3.15.1 Environmental Setting

The environmental justice analysis identifies minority and low-income populations in the Project area and determines the potential for the Project to cause disproportionate public health and environmental effects on minority and low-income populations. The terms "minority population" and "low-income population" defined below are consistent with federal environmental justice guidance (CEQ 1997), the POLB Environmental Protocol (POLB 2006), and the race and ethnicity categories used in the 2000 Census.

Minority populations are defined as persons of Hispanic or Latino origin of any race; plus, persons who are Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; some other race; or persons of two or more races (without double-counting persons of Hispanic or Latino origin who are also contained in the latter groups).

Low-income populations are defined as persons living below the poverty level, which is $18,104 for a family of four in 1999 and varies depending on family size, as reported in the 2000 Census.

3.15.1.1 Area of Influence

The EIS/EIR was reviewed to identify potentially significant Project impacts so that the area of influence for environmental justice could be defined. Based on these considerations and on guidelines in the POLB Environmental Protocol (POLB 2006), the following area of influence was identified for the Project:

- Census block groups within one mile of the POLB planning area; and
- Other areas added below to the area of influence to address potential impacts beyond the one-mile vicinity of the Port:
  - Census block groups within a one-mile corridor along the I-710 (one-half mile on each side) up to SR-91 to address local transportation/traffic, health risk, and noise impacts.
  - If outside the one-mile radius of the Port, areas within a one-mile corridor of the rail line up to but not including the Alameda Corridor, to address noise, vibration, and health risk. Potential impacts associated with the Alameda Corridor Project have been previously evaluated in the Alameda Corridor EIR (Alameda Corridor Transportation Authority 1993). Therefore, these impacts are not addressed in this EIS/EIR.

3.15.1.2 Setting

Minority and Low-Income Populations

Data on minority and low-income populations within the area of influence are described below. Data were compiled from the 2000 Census (U.S. Census Bureau 2000).

Table 3.15-1 identifies minority populations and low-income populations in Los Angeles County and, for comparison, in the state and the City of Long Beach. Los Angeles County's population was 69.1 percent minority and 17.9 percent low-income in 2000.

Figure 3.15-1 shows minority data, and Figure 3.15-2 shows poverty data, for census block groups within one mile of the POLB planning area and within a one-mile corridor along the I-710 (one-half mile on each side) up to SR-91. Areas within a one-mile corridor of the rail line, up to but not including the Alameda Corridor, are contained within the above area and, therefore, do not add any new census block groups. The population in most of the block groups analyzed exceeds 80 percent minority and also exceeds the percent minority for Los Angeles County, which is 69.1 percent. The population in most of the block groups analyzed exceeds 10 percent

Table 3.15-1 Minority Populations and Populations Below Poverty Level in 2000

Area	Total Population	% Minority	% Below Poverty
City of Long Beach	461,522	66.9	22.8
Los Angeles County	9,519,338	69.1	17.9
California	33,871,648	53.4	14.2

Note:
As indicated in the text, minority and poverty data for individual block groups in the area of influence are presented in Appendix D.
Source: U.S. Census Bureau 2000 [Summary File 1 Table P4; Summary File 3 Table P87].

low-income and many also exceed the percent poverty data for Los Angeles County, which is 17.9 percent. In cases where live-aboard populations are living at marinas, they are included in census data and therefore, are reflected in the minority and low-income percentages presented for individual block groups. Appendix D presents minority and poverty statistics for each census block group in the area of influence.

3.15.1.3 Regulatory Setting

Federal

EO 12898 requires federal agencies to address environmental justice issues affecting minority and low-income populations, using all the statutory and regulatory authorities that already exist. The USACE has not issued specific policy or guidance related to environmental justice, although the Environmental Desk Reference (USACE 1996), intended to serve as a desktop reference on environmental statutes and executive policies and orders, provides users with the full text of EO 12898.

EO 12898 created an Interagency Work Group on Environmental Justice. It also directed federal agencies to take several specific steps, including to make achieving environment justice part of their mission; to develop an agency wide environmental justice strategy; to not exclude populations from participation in programs and activities or deny benefits or subject populations to discrimination based on race, color, or national origin; to attempt to address multiple and cumulative exposures in research; to collect and disseminate information assessing disproportionately high and adverse human health and environmental effects on minority and low income populations; and to promote public participation in decision-making and access to information.

The U.S. Council on Environmental Quality's *Environmental Justice Guidance Under NEPA* (CEQ 1997) provides an overview of EO 12898; summarizes its relationship to NEPA; recommends methods for the integration of environmental justice into NEPA compliance; and incorporates definitions, established by the Interagency Work Group on Environmental Justice, of key terms and concepts contained in EO 12898. CEQ guidance identifies minority populations where the percent minority is greater than 50 percent, or "meaningfully greater" than that of the general population (usually the next larger geographic unit relevant for a specific impact with a specific geographic scope; for this analysis, the general population is usually Los Angeles County). "Meaningfully greater" is not defined in CEQ (1997) guidance; for this analysis, "meaningfully greater" is interpreted to mean simply "greater," which provides for a conservative analysis. CEQ guidance identifies low-income populations where the percent low-income is meaningfully greater than the general population.

State and Local

California Government Code Section 65040.12 defines environmental justice as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation and enforcement of environmental laws and policies. While there is no requirement under CEQA to address environmental justice, a handful of state legislation has been signed into law since 1999. Legislative and executive actions relating to environmental justice in California have largely been procedural, including, but not limited to, formation of environmental justice advisory committees and assigning coordinating roles and responsibilities to the Governor's Office of Planning and Research and the Cal-EPA.

Although there is no specific state law requiring the Port to assess environmental justice issues, Port projects may trigger the jurisdiction of two state agencies, CSLC and ARB, which have adopted environmental justice review requirements.

The CSLC adopted an Environmental Justice Policy on October 1, 2002. In its policy, the CSLC pledges to continue and enhance its processes, decisions, and programs with environmental justice as an essential 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, the CSLC has not issued any guidance to implement the policy, although environmental justice is addressed in CSLC environmental documents.

ARB was one of the first state entities to adopt an environmental justice policy (ARB 2007e). ARB has taken various steps to implement the

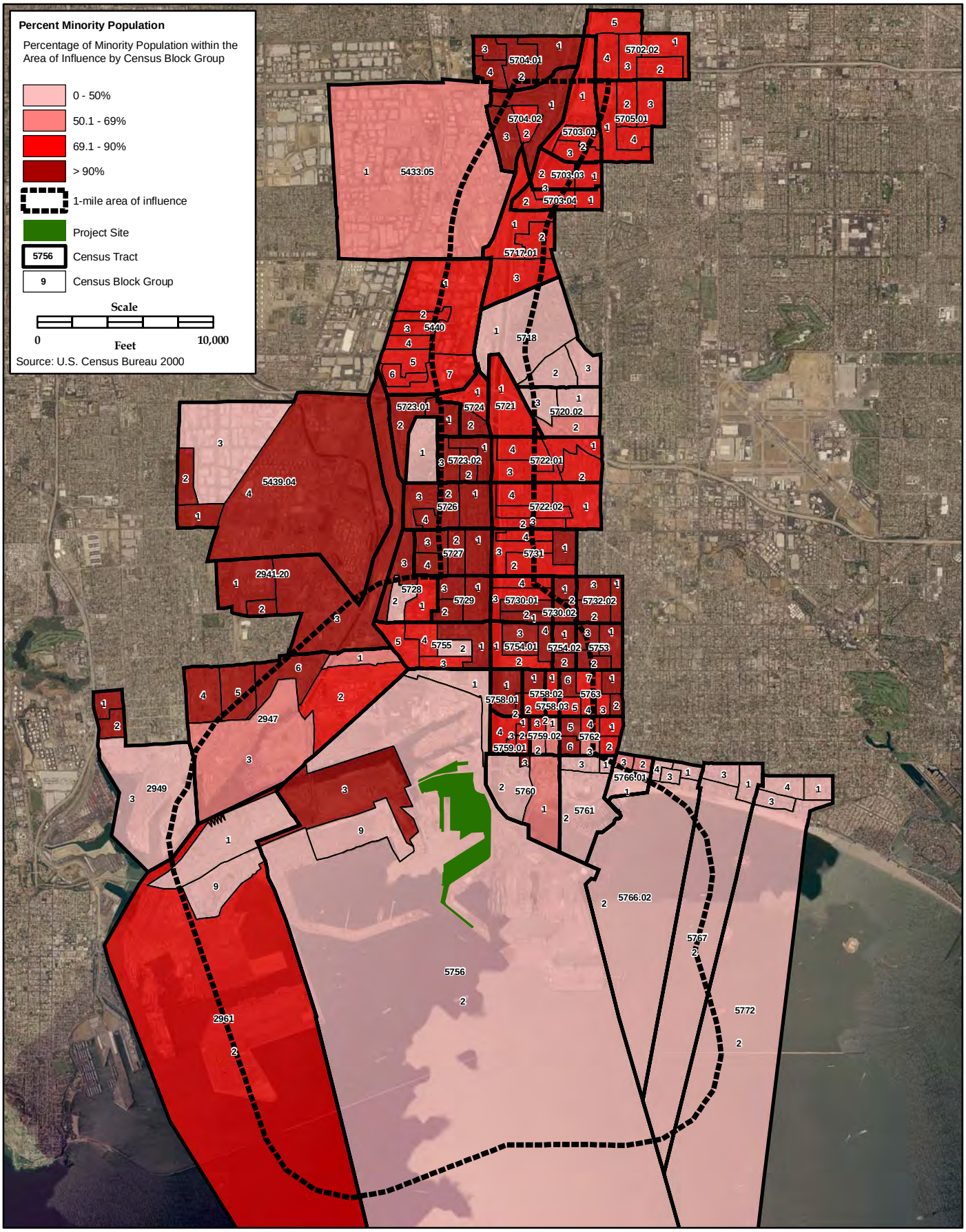

Figure 3.15-1. Minority Populations Within Project Area of Influence

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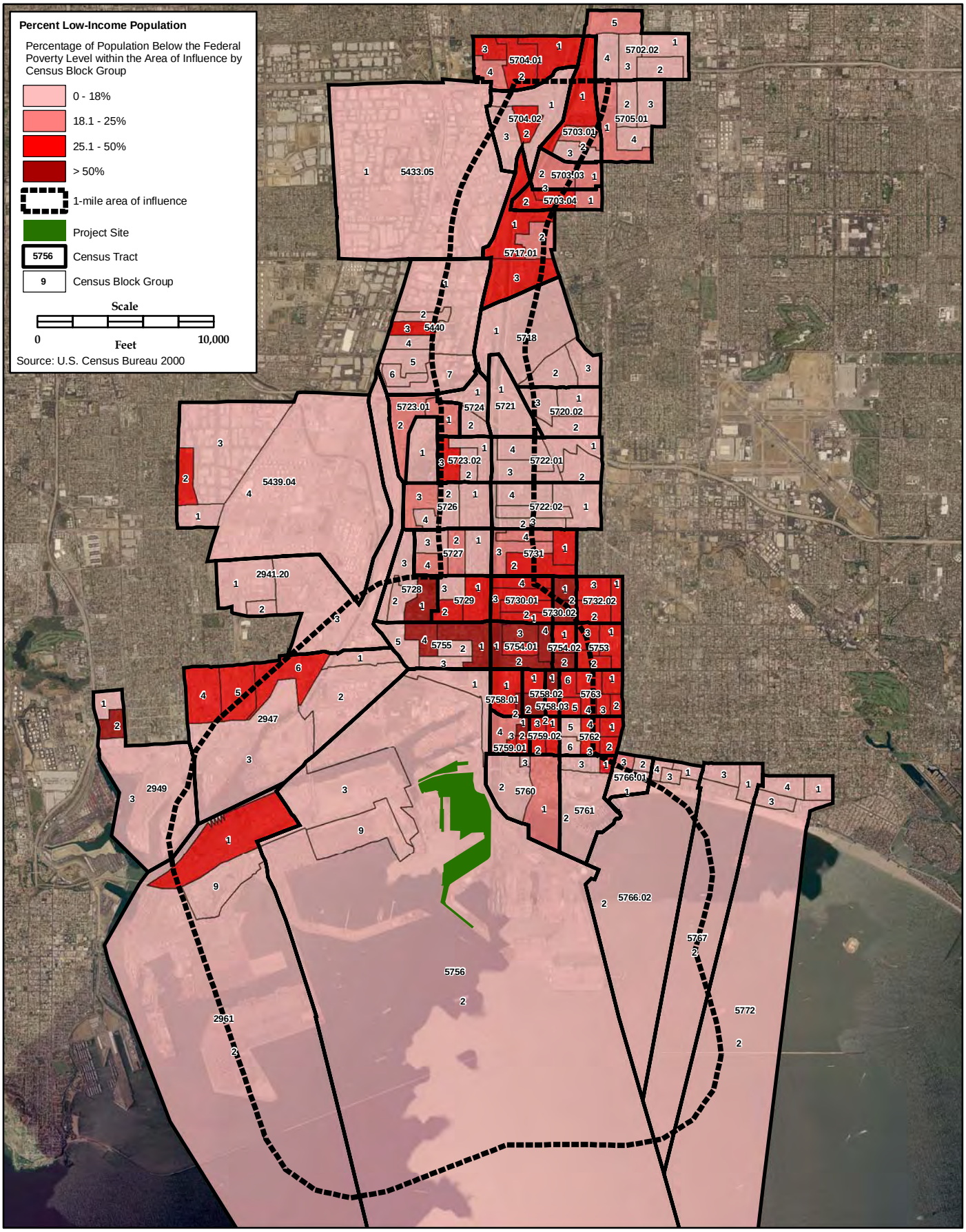

Figure 3.15-2. Low-Income Populations Within Project Area of Influence

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policy, such as publishing a public participation handbook for agencies in both English and Spanish, developing an air quality handbook on land use, and convening a multi-stakeholder environmental justice group to serve as a forum to discuss its environmental justice program.

In 1997, the SCAQMD adopted a set of guiding principles of environmental justice to ensure environmental equity. The principles address, for example, the right of residents to live and work in an environment of clean air free of airborne health threats; the obligation of government to protect the public health; the right of public and private sectors to be informed about scientific findings concerning hazardous and toxic emission levels; and other principles.

The City of Long Beach has not adopted policies related to environmental justice.

3.15.2 Impacts and Mitigation Measures

3.15.2.1 Significance Criteria

No formal, commonly accepted significance criteria have been adopted; however, application of EO 12898, CEQ guidance (CEQ 1997), and POLB Environmental Protocol (POLB 1996) suggests three questions should be examined:

- Is the proposed project a federal project with significant adverse environmental impacts being proposed in a community composed largely of minority or low-income persons?
- Would any significant adverse human health or environmental effects of the project disproportionately affect minority or low-income persons?
- Would the percent minority and percent low-income in areas affected by significant impacts exceed the corresponding percentages for the general population, considered to be Los Angeles County in most cases?

3.15.2.2 Methodology

An overview of impacts to the general population was determined based on a review of resource impacts in Chapter 3 describing, for the Project and all alternatives, the nature of the impact, the significance level, the mitigations, and the significance level of residual impacts.

This analysis considers all unavoidable significant effects (i.e., those that are still significant after application of all feasible mitigation measures) for the potential to be disproportionate upon minority and/or low-income populations. As feasible and depending on the location and specificity of significant impacts, such as the availability of mapped cancer risk isopleths, populations exposed to significant adverse effects were estimated using GIS tools applied to 2000 Census data for minority and low-income populations.

In cases where adversely affected populations could be estimated, the composition of the significantly affected population was compared to data for the "general population," which is a term used in CEQ guidance (CEQ 1997) and the POLB Environmental Protocol (POLB 2006). For this analysis, Los Angeles County and the City of Long Beach are used as comparison populations to determine whether effects are disproportionate. This analysis also considers benefits of the proposed Project as part of the evaluation of residual environmental justice impacts.

This section also presents a summary of public outreach, focusing on efforts to provide information and meaningful opportunities for participation to potentially affected minority and low-income populations. The public outreach process summary includes information about public meetings, use of translators for persons whose first language is not English, and a summary of how information about the proposed Project was disseminated (e.g., local media, posted public notices, and web site access).

3.15.2.3 Alternative 1 – 345-Acre Alternative (the Project)

The proposed Project's individual and cumulative impacts are described for each resource in the corresponding sections in Chapter 3. This section provides analysis of each impact that is significant and unavoidable with mitigation and considers the potential for these impacts to constitute disproportionately high and adverse effects on minority and low-income populations. Significant unavoidable impacts from the proposed Project would occur for air quality, biota and habitat, ground transportation, and noise.

Air Quality

The proposed Project would result in several significant and unavoidable impacts (after mitigation) related to air quality, including the following:

Impact AQ-1: Proposed Project construction would produce emissions of VOCs, CO, NOx, PM_{10}, and $PM_{2.5}$ that would exceed SCAQMD daily emission significance thresholds. These emissions would be significant under NEPA and CEQA and also would contribute to a cumulatively significant impact.

Impact AQ-2: Proposed Project construction would result in offsite ambient air pollutant concentrations (one-hour NO_2 and 24-hour PM_{10}) that would exceed SCAQMD thresholds of significance. This impact would be significant under NEPA and CEQA and would also contribute to a cumulatively significant impact.

Impact AQ-3: Compared to the NEPA Baseline, operation of the proposed Project would result in annual average daily emissions of VOCs (in 2020 and thereafter) and NOx (in all analysis years) that would exceed SCAQMD daily emission significance thresholds. Also, compared to the NEPA Baseline, operation of the proposed Project would result in peak daily emissions that would exceed the VOCs, CO, NOx, and $PM_{2.5}$ SCAQMD daily emission significance thresholds for all Project years. These emissions also would contribute to significant cumulative impacts.

Impact AQ-4: Proposed Project operations would result in offsite ambient concentrations of one-hour and annual NO_2 that would exceed SCAQMD thresholds of significance. The increase in ambient concentrations would be significant under NEPA and CEQA. These impacts would also contribute to significant cumulative impacts.

Impact AQ-5: Project operational activities would generate air pollutants from the combustion of diesel fuels. Some individuals may sense that diesel combustion emissions are objectionable in nature, although quantifying the odorous impacts of these emissions to the public is difficult. Since the Port contains a large number of diesel emission sources and residents (sensitive receptors) adjacent to Port operations, odorous emissions in the Project region are cumulatively significant.

In future years, unmitigated Project operations would reduce diesel combustion products and associated odors compared to existing conditions. As a result, unmitigated Project operations would produce less than cumulatively considerable contributions to ambient odor levels under CEQA. In all future years, however, mitigated Project operations would increase diesel combustion products and associated odors compared to NEPA Baseline levels. As a result, mitigated Project operations would produce cumulatively considerable contributions to ambient odor levels under NEPA.

Impact AQ-6: Under NEPA, the proposed Project would produce less than significant Project-specific impacts of TACs. However, due to the existing and future elevated health risk levels within the Project region, these impacts would contribute to significant cancer and non-cancer risks under NEPA. These significant cumulative impacts would affect residential, occupational, and sensitive receptors.

Impact AQ-8: The proposed Project would produce GHG emissions that would exceed the CEQA threshold. Annual CO_2e emissions would increase relative to the CEQA Baseline in each Project construction phase/stage and future year of operation. As Project CO_2e emissions would increase relative to baseline levels, GHG impacts would remain significant and unavoidable under CEQA. Annual Project operational CO_2e emissions would exceed those estimated for the NEPA Baseline. However, because no NEPA significance threshold has been established, no determination of significance has been made for this impact.

Impacts AQ-1 (daily construction emissions) **and AQ-3** (daily operational emissions) would not represent disproportionately high and adverse impacts on minority and low-income populations because they relate to conflicts with regulatory standards and would not be associated with a specific location or dependent on the presence of sensitive receptors or uses. However, **Impacts AQ-2 and AQ-4**, as discussed below, represent the impacts of emissions concentrations associated with **Impacts AQ-1 and AQ-3**, respectively. Therefore, emissions experienced by populations in affected communities are evaluated for these regulatory conflicts under **Impacts AQ-2 and AQ-4**.

Impacts AQ-2 and AQ-4 also would not represent disproportionately high and adverse impacts on minority and low-income populations. The criteria pollutant dispersion model indicates that significant concentrations of one-hour and annual NO_2, would be almost entirely within industrial areas both within the Port and outside Port boundaries; outside the Port, significant impacts cluster around the I-710 and, in the early years of the proposed Project, there would also be significant hourly NO_2 impacts immediately

northwest of the Port in the industrial area at the east edge of Wilmington, west edge of Long Beach, and portions of southeast Carson. Ambient concentrations generally decrease with distance from the terminal. Due to the setback of residential areas from the Port, ambient concentrations from either construction or operation would not significantly affect concentrations of residences, rather, four to five residential units in 2010, but not in later milestone years. Therefore, this impact would not represent disproportionately high and adverse effects on minority and/or low-income populations. Cumulative NO_2 impacts would be regional in nature and would not result in disproportionate effects.

For **Impact AQ-5**, relative to NEPA, mitigated Project operations would increase diesel combustion products and associated odors and as a result, would produce cumulatively considerable contributions to ambient odor levels under NEPA. Because the populations in closest proximity to the Port, where effects are likely to be the greatest, are predominantly minority (Figure 3.15-1) and disproportionately low-income (Figure 3.15-2), this cumulative odor impact would represent a disproportionately high and adverse impact on minority and low-income populations.

For **Impact AQ-6** relative to the CEQA Baseline, cancer and non-cancer impacts would be reduced by the proposed Project. The proposed Project also would make a less than significant contribution to cumulative cancer risk and non-cancer (chronic and acute) effects.

For **Impact AQ-6** relative to the NEPA Baseline, the Project-specific cancer and non-cancer impacts would be less than significant. However, the proposed Project would produce cumulatively considerable impacts to cancer risk and chronic and acute non-cancer health effects and represents a disproportionately high and adverse impact on minority and low-income populations. While the SCAB includes many areas that do not constitute minority and low-income populations, in the *Diesel Particulate Matter Exposure Assessment Study for the POLA and the POLB*, ARB estimates that elevated levels of cancer risks due to operational emissions from the POLB and the POLA occur within and in proximity to the two ports. Chronic and acute non-cancer effects due to concentrations of DPM would also occur within and in proximity to the two ports. Because the populations in closest proximity to the Port are predominantly minority (Figure 3.15-1) and disproportionately low-income (Figure 3.15-2), this elevated cumulative risk would represent a disproportionately high and adverse impact on minority and low-income populations.

For **Impact AQ-8,** the proposed Project would produce GHG emissions that would exceed the CEQA threshold of significance and would result in significant and unavoidable impacts and contribute to a significant cumulative impact. The potential ecological damage and damage to human populations from global climate change would affect people globally, including all people in California and the U.S. These effects would have consequences for all people, and therefore would not affect low-income and minority populations disproportionately.

Biota and Habitat

Operation of the Project facilities has the potential, even though of low probability, to result in the introduction of non-native species into the harbor via ballast water or vessel hulls, thereby substantially disrupting local biological communities. The impact would be significant and unavoidable under CEQA and would also contribute to a significant unavoidable cumulative impact (**Impact BIO-5.3**). Project-related vessel strikes to blue whales would be unlikely to occur (**Impact BIO-1.1**); however, any that did occur would make a cumulatively considerable contribution to significant and unavoidable cumulative impacts associated with vessel strikes to that species. This impact would be a significant unavoidable cumulative impact. Because these impacts would affect marine biological communities, they would not result in a disproportionately high and adverse impact on minority and low-income populations.

Ground Transportation

Additional traffic generated by construction (**Impact TRANS-2.1**) and operations (**Impact TRANS-2.2**) would create significant and unavoidable ground transportation impacts and would contribute to significant cumulative impacts on highway segments in the study area, including portions of I-405, I-710, and SR-91 relative to CEQA and portions of I-405 and SR-91 relative to NEPA (refer to Section 3.5.2 for more information on the location of specific highway segements, the Project's share of future traffic on these segments, directional effects, and other details). Because these highways are part of the regional highway system and

represent major regional access routes, the impacts would be borne by regional commuters and commercial traffic in addition to residents of neighborhoods adjacent to these corridors. Therefore, this impact would not represent a disproportionately high and adverse effect on minority and low-income populations.

Noise

The noise analysis identifies two impacts that are significant and unavoidable (**Impacts NOI-1.1 and NOI-2.1**). The proposed Project would also contribute to significant cumulative noise impacts during construction. Per **Impact NOI-1.1**, pile driving would result in significant, unavoidable construction noise impacts under NEPA and CEQA at the West Coast Long Beach Hotel, located on Queensway Drive immediately east of the Port property. The increase in noise levels would be about three to five dBA during Project pile driving activities. However, this impact would not be disproportionately high and adverse on minority and low-income populations, as the West Coast Long Beach Hotel is a commercial site and is not near residential land uses.

Relative to **Impact NOI-2.1** for CEQA and NEPA, the proposed Project would result in activities during the construction phase that would exceed LBMC maximum noise levels at the West Coast Long Beach Hotel and the Long Beach Hilton Hotel. While both sites are commercial, the latter site is representative of condominium and apartment buildings south of Ocean Boulevard. These buildings are located in Census Tract 5760, which contained 445 people in the 2000 Census; 60.4 percent of people were minority, and 21.9 percent were low-income. This tract constitutes a low-income population when compared to the general population (Los Angeles County). While the tract has a lower percent of minority residents than Los Angeles County, the percent minority exceeds 50 percent and, therefore, is considered a “minority population” as defined by CEQ (1997) guidance. Therefore, this impact would represent a disproportionately high and adverse impact on minority and low-income populations.

The proposed Project would not have a significant and unavoidable impact on construction noise at any of the other locations analyzed in the noise analysis, including those that are near residential land uses.

3.15.2.4 Alternative 2 – 315-Acre Alternative

Alternative 2 would add 24.7 net acres of newly created land to the existing 294-acre Project site by filling Slip 1 between Piers E and F (Berths E12-E14 and F1-F4). Under this alternative, the East Basin would not be filled.

The impacts of Alternative 2 are described for each resource in the corresponding section in Chapter 3. This section provides analysis of each impact that is significant and unavoidable with mitigation and considers the potential for these impacts to constitute disproportionately high and adverse effects on minority and low-income populations. Significant unavoidable impacts from this alternative would occur for air quality, biota and habitat, ground transportation, and noise.

Air Quality

Alternative 2 would result in several significant and unavoidable impacts (after mitigation) related to air quality, including the following:

Impact AQ-1: Construction would produce emissions of VOCs, CO, NOx, PM_{10}, and $PM_{2.5}$ that would exceed SCAQMD daily emission significance thresholds. These emissions would be significant under NEPA and CEQA and also would contribute to significant cumulative impacts.

Impact AQ-2: Construction would result in offsite ambient air pollutant concentrations (one-hour NO_2 and 24-hour PM_{10}) that would exceed SCAQMD thresholds of significance. This impact would be significant under NEPA and CEQA and would also contribute to a cumulatively significant impact.

Impact AQ-3: Compared to the NEPA Baseline, operation of Alternative 2 would result in annual average daily emissions of NOx in 2015 and 2030 that would exceed the SCAQMD daily emission significance threshold. Also, compared to the NEPA Baseline, operation of Alternative 2 would result in peak daily emissions that would exceed the following SCAQMD daily emission significance thresholds: (1) VOCs and NOx for all project years; (2) CO between 2010 and 2020; and (3) $PM_{2.5}$ between 2010 and 2015. These emissions would be significant under NEPA and also would contribute to significant cumulative impacts.

Impact AQ-4: Operations would result in offsite ambient concentrations of one-hour and annual NO_2 that would exceed SCAQMD thresholds of

significance. The increase in ambient concentrations would be significant under NEPA and CEQA for one-hour and annual NO_2. These impacts also would contribute to significant cumulative impacts.

Impact AQ-6: Under NEPA, Alternative 2 would produce less than significant Project-specific impacts of TACs. However, due to the existing and future elevated health risk levels within the Project region, these impacts would contribute to significant cancer and non-cancer risks under NEPA. These significant cumulative impacts would affect residential, occupational, and sensitive receptors.

Impact AQ-8: Alternative 2 would produce GHG emissions that would exceed the CEQA threshold. Annual CO_2e emissions would increase relative to the CEQA Baseline in each construction phase/stage and future year of operation. As Alternative 2 CO_2e emissions would increase relative to baseline levels, GHG impacts would remain significant and unavoidable under CEQA. Annual operational CO_2e emissions would exceed those estimated for the NEPA Baseline. However, because no NEPA significance threshold has been established, no determination of significance has been made for this impact.

Impacts AQ-1 and AQ-3 would not represent disproportionately high and adverse impacts on minority and low-income populations because they relate to conflicts with regulatory standards and would not be associated with a specific location or dependent on the presence of sensitive receptors or uses.

Impacts AQ-2 and AQ-4 also would not represent disproportionately high and adverse impacts on minority and low-income populations. Similar to Alternative 1, the criteria pollutant dispersion model indicates that significant concentrations of one-hour and annual NO_2, would be almost entirely within industrial areas both within the Port and outside the Port boundaries. As in Alternative 1, significant impacts in off-Port areas cluster around the I-710; in the early years after 2010, there would also be significant hourly NO_2 impacts immediately northwest of the Port in the industrial area bordering Wilmington, Long Beach, and Carson. Ambient concentrations generally decrease with distance from the terminal. Due to the setback of residential areas from the Port, ambient concentrations from either construction or operation would not significantly affect concentrations of residences, rather, four to five residential units in 2010, but not in later milestone years. The impact would not represent disproportionately high and adverse effects on minority and/or low-income populations. Cumulative NO_2 impacts would be regional in nature and would not result in disproportionate effects.

For **Impact AQ-6** relative to the CEQA Baseline, cancer and non-cancer impacts would be reduced by Alternative 2. Alternative 2 would also make a less than significant contribution to cumulative cancer risk and non-cancer (chronic and acute) effects.

For **Impact AQ-6** relative to the NEPA Baseline, the Project-specific cancer and non-cancer impacts would be less than significant. However, Alternative 2 would produce cumulatively considerable impacts to cancer risk and chronic and acute non-cancer health effects and represents a disproportionately high and adverse impact on minority and low-income populations. While the SCAB includes many areas that do not constitute minority and low-income populations, in the *Diesel Particulate Matter Exposure Assessment Study for the POLA and the POLB*, ARB estimates that elevated levels of cancer risks due to operational emissions from the POLB and the POLA occur within and in proximity to the two ports. Chronic and acute non-cancer effects due to concentrations of DPM would also occur within and in proximity to the two ports. Because the populations in closest proximity to the Port are predominantly minority (Figure 3.15-1) and disproportionately low-income (Figure 3.15-2), this elevated cumulative risk would represent a disproportionately high and adverse impact on minority and low-income populations.

For **Impact AQ-8,** Alternative 2 would produce GHG emissions that would exceed the CEQA threshold of significance and would result in significant and unavoidable impacts and contribute to a significant cumulative impact. The potential ecological damage and damage to human populations from global climate change would affect people globally, including all people in California and the U.S. These effects would have consequences for all people, and therefore would not affect low-income and minority populations disproportionately.

Biota and Habitat

Operation of Alternative 2 facilities has the potential, even though of low probability, to result in the introduction of non-native species into the harbor via ballast water or vessel hulls, thereby substantially disrupting local biological communities. The impact would be significant and unavoidable under CEQA (**Impact BIO-5.3**). Because the impact would affect marine biological communities, it would not result in a disproportionately high and adverse impact on minority and low-income populations.

Ground Transportation

Implementation of Alternative 2 would result in significant unavoidable impacts on selected segments of the I-405, I-710, I-110, and SR-91 (as discussed in Section 3.5.2). The impacts would be borne by regional commuters and commercial traffic in addition to residents of the neighborhoods immediately adjacent to these corridors. Therefore, this impact would not represent a disproportionately high and adverse effect on minority and low-income populations.

Noise

The noise analysis identified two impacts that are significant and unavoidable (**Impacts NOI-1.1 and NOI-2.1**). Per **Impact NOI-1.1**, pile driving would result in significant and unavoidable construction noise impacts under NEPA and CEQA at the West Coast Long Beach Hotel, located on Queensway Drive immediately east of the Port property. The increase in noise levels would be about three to five dBA during pile driving activities. However, this impact would not be disproportionately high and adverse on minority and low-income populations, as the West Coast Long Beach Hotel is a commercial site and is not located adjacent to residential land uses.

For **Impact NOI-2.1**, Alternative 2 would result in activities during the construction phase that would exceed LBMC maximum noise levels at the West Coast Long Beach Hotel and the Long Beach Hilton Hotel. While both sites are commercial, the latter site is representative of condominium and apartment buildings south of Ocean Boulevard. These buildings are located in Census Tract 5760, which contained 445 people in the 2000 Census; 60.4 percent of people were minority, and 21.9 percent were low-income. This tract constitutes a low-income population when compared to the general population (Los Angeles County). While the tract has a lower percent of minority residents than Los Angeles County, the percent minority exceeds 50 percent and, therefore, is considered a "minority population" as defined by CEQ (1997) guidance. Therefore, this impact would represent a disproportionately high and adverse impact on minority and low-income populations.

Alternative 2 would not have a significant and unavoidable impact on construction noise at any of the other locations analyzed in the noise analysis, including those that are near residential land uses.

3.15.2.5 Alternative 3 – Landside Improvements Alternative

Alternative 3 would redevelop existing terminal areas on Piers E and F and convert underutilized land north of the Gerald Desmond Bridge and Ocean Boulevard within the Project site to a container yard. No in-water activities, including dredging, filling Slip 1 and the East Basin, new wharf construction, wharf upgrades, or channel and berth deepening would occur.

The impacts of Alternative 3 are described for each resource in the corresponding section in Chapter 3. This section provides analysis of each impact that is significant and unavoidable with mitigation and considers the potential for these impacts to constitute disproportionately high and adverse effects on minority and low-income populations. Significant unavoidable impacts from this alternative would occur for air quality, biota and habitat, ground transportation, and noise.

Air Quality

Alternative 3 would result in the following significant and unavoidable impacts (after mitigation):

Impact AQ-1: Construction would produce emissions of NOx, PM_{10}, and $PM_{2.5}$ that would exceed SCAQMD daily emission significance thresholds. These emissions would be significant under CEQA and also would contribute to significant cumulative impacts.

Impact AQ-2: Construction would result in offsite ambient air pollutant concentrations of 24-hour PM_{10} that would exceed the SCAQMD threshold of significance. This impact would be significant under CEQA and would also contribute to a cumulatively significant impact.

Impact AQ-4: Operations would result in offsite ambient concentrations of one-hour and annual NO_2 that would exceed SCAQMD thresholds of significance. The increase in ambient concentrations would be significant under CEQA for one-hour and annual NO_2. These impacts also would contribute to significant cumulative impacts.

Impact AQ-8: Alternative 3 would produce GHG emissions that would exceed the CEQA threshold. Annual CO_2e emissions would increase relative to the CEQA Baseline in each construction phase/ stage and future year of operation. As Alternative 3 CO_2e emissions would increase relative to baseline levels, GHG impacts would remain significant and unavoidable under CEQA.

Impact AQ-1 would not represent disproportionately high and adverse impacts on minority and low-income populations because they relate to conflicts with regulatory standards and would not be associated with a specific location or dependent on the presence of sensitive receptors or uses.

Impacts AQ-2 and AQ-4 also would not represent disproportionately high and adverse impacts on minority and low-income populations. Similar to Alternative 1, the criteria pollutant dispersion model indicates that significant concentrations of one-hour and annual NO_2, would be almost entirely within industrial areas both within the Port and outside Port boundaries. Like Alternative 1, significant impacts in off-Port areas cluster around the I-710; there would also be significant hourly NO_2 impacts immediately northwest of the Port in the industrial area bordering Wilmington, Long Beach, and Carson. Ambient concentrations generally decrease with distance from the terminal. Due to the setback of residential areas from the Port, ambient concentrations from either construction or operation would not significantly affect concentrations of residences. The impact would not represent disproportionately high and adverse effects on minority and/or low-income populations. Cumulative NO_2 impacts would be regional in nature and would not result in disproportionate effects.

For **Impact AQ-8,** Alternative 3 would produce GHG emissions that would exceed the CEQA threshold of significance and would result in significant and unavoidable impacts. The potential ecological damage and damage to human populations from global climate change would affect people globally, including all people in California and the U.S. These effects would have consequences for all people, and therefore would not affect low-income and minority populations disproportionately.

Biota and Habitat

Operation of Alternative 3 has the potential, even though of low probability, to result in the introduction of non-native species into the harbor via ballast water or vessel hulls, thereby substantially disrupting local biological communities. The impact would be significant and unavoidable under CEQA (**Impact BIO-5.3**). Because the impact would affect marine biological communities, it would not result in a disproportionately high and adverse impact on minority and low-income populations.

Ground Transportation

Relative to CEQA only (i.e., Alternative 3 is equal to the NEPA Baseline), implementation of Alternative 3 would result in significant and unavoidable impacts on certain highway segments, including the I-405, I-710, I-110, and SR-91. The impacts would be borne by regional commuters and commercial traffic in addition to residents of the neighborhoods immediately adjacent to these corridors. Therefore, this impact would not represent a disproportionately high and adverse effect on minority and low-income populations.

Noise

The noise analysis identified one impact that is significant and unavoidable, **Impact NOI-2.1**. Several landside construction activities (i.e., redevelopment and backlands expansion, rail improvements, construction of the Pier E Substation, and construction of shore-to-ship infrastructure) would result in significant and unavoidable noise impacts under CEQA, which would exceed LBMC maximum noise levels at West Coast Long Beach Hotel, a 195-room hotel with rates in the $200 range, located on Queensway Drive immediately east of the Port property. However, this impact would not be disproportionately high and adverse on minority and low-income populations, as the West Coast Long Beach Hotel is a commercial site and is not located adjacent to residential land uses.

3.15.2.6 Alternative 4 – No Project Alternative

The No Project Alternative would not include construction of upland site improvements, including rail improvements and construction of the Pier E Substation, or in-water activities (i.e., dredging, filling of Slip 1 and the East Basin, and/or new wharf construction). However, forecasted increases in cargo would still occur under this alternative. Operational impacts associated with following activities would occur: cargo ships that currently berth and load/unload at the terminal would continue to do so; terminal equipment would continue to handle cargo containers; and trucks would continue to transport containers to outlying distribution facilities.

The impacts of Alternative 4 are described for each resource in the corresponding section in Chapter 3. This section provides analysis of each impact that is significant and unavoidable with mitigation and considers the potential for these impacts to constitute disproportionately high and adverse effects on minority and low-income populations. Significant unavoidable impacts from this alternative would occur for air quality, biota and habitat, and ground transportation.

Air Quality

Alternative 4 would result in two significant impacts related to air quality. For **Impact AQ-4**. operations would result in offsite ambient concentrations of one-hour and annual NO_2 compared to the CEQA Baseline that would exceed a SCAQMD threshold of significance. Note that since the No Project Alternative would not require any approvals for new uses, mitigation measures are not applicable. For **Impact AQ-8**, Alternative 4 would produce GHG emissions that would exceed the CEQA threshold of significance and would result in significant and unavoidable impacts.

Impacts AQ-2 and AQ-4 also would not represent disproportionately high and adverse impacts on minority and low-income populations. Similar to Alternative 1, the criteria pollutant dispersion model indicates that significant concentrations of one-hour and annual NO_2, would be almost entirely within industrial areas both within the Port and outside Port boundaries. Similar to Alternative 1, significant impacts in off-Port areas cluster around the I-710; there would also be significant hourly NO_2 impacts immediately northwest of the Port in the industrial area bordering Wilmington, Long Beach, and Carson. Ambient concentrations generally decrease with distance from the terminal. Due to the setback of residential areas from the Port, ambient concentrations from either construction or operation would not significantly affect concentrations of residences. The impact would not represent disproportionately high and adverse effects on minority and/or low-income populations. Cumulative NO_2 impacts would be regional in nature and would not result in disproportionate effects.

For **Impact AQ-8**, the potential ecological damage and damage to human populations from global climate change would affect people globally, including all people in California and the U.S. These effects would have consequences for all people, and therefore would not affect low-income and minority populations disproportionately.

Biota and Habitat

Operation of Alternative 4 has the potential to result in the introduction of non-native species into the harbor via ballast water or vessel hulls, thereby substantially disrupting local biological communities. The impact would be significant and unavoidable under CEQA (**Impact BIO-5.3**). Because the impact would affect marine biological communities, it would not result in a disproportionately high and adverse impact on minority and low-income populations.

Ground Transportation

The transportation analysis for Alternative 4 determined that there would be significant and unavoidable impacts on highway segments, inlcuding the I-710 under CEQA and the I-405 and SR-91 under NEPA. Since highway segments represent major thoroughfares, the impacts would be borne by regional commuters and commercial traffic in addition to residents of the neighborhoods immediately adjacent to these corridors. Therefore, this impact would not represent a disproportionately high and adverse effect on minority and low-income populations.

3.15.3 Summary of Disproportionate Effects on Minority and Low-Income Populations

Table 3.15-2 summarizes the effects of the proposed Project and alternatives with respect to disproportionately high and adverse effects on minority and low-income populations. Significant

unavoidable air quality and noise impacts would constitute disroportionate effects. All other resource impacts would either be less than significant or if significant, would be limited to the proposed Project site, would not affect the public, would be mitigated to less than significant, or would otherwise not have disproportionately high and adverse effects on minority and low-income populations.

3.15.4 Public Outreach

EO 12898 directs agencies to ensure minority and low-income populations have access to information and opportunities for meaningful participation. Therefore, additional information was collected to support the Port's public outreach program including Census data on factors such as age, disability status, language spoken at home, and housing occupancy. The data address Los Angeles County and the Gateway Cities Subregion, which includes Long Beach and 26 other cities.

USACE and the Port conducted a joint public scoping meeting on January 30, 2006, at the Long Beach City Council Chambers. The Port conducted a second public scoping meeting on February 6, 2006, at the Cabrillo High School. During these meetings, the Port presented information on the Project and solicited public input on issues to be addressed in the EIS/EIR.

Several copies of the Draft EIS/EIR were distributed to various government agencies, organizations, and individuals during the 80-day public review period. Two public meetings were held during the public review period on June 11, 2008 at the Long Beach City Council Chambers and on June 28, 2008 at Silverado Park. The Draft EIS/EIR was also made available for review at various libraries and online at both the USACE and POLB website. Copies of the Draft EIS/EIR in CD-ROM format were also made available to any interested parties.

During the public review period, 66 comment letters were received, and a total of 81 people spoke at the two public meetings. The comment letters and responses to comments are located in Chapter 10 of the Final EIS/EIR. Revisions resulting from issues identified during the public review period have been incorporated into the Final EIS/EIR.

Table 3.15-2 Summary of Disproportionate Effects on Minority and Low-Income Populations from the Proposed Project and Alternatives

Alternative	Air Quality	Noise	Additional Considerations
Alternative 1 – 345-Acre Alternative (the Project)	Significant unavoidable cumulative odor impacts under NEPA from Project operations due to increased diesel combustion products and associated odors (**Impact AQ-5**) would produce disproportionately high and adverse impacts on minority and low-income populations. Significant unavoidable cumulative impacts to cancer risk and chronic and acute non-cancer health effects under NEPA from Project operations (**Impact AQ-6**) would result in disproportionately high and adverse impacts on minority and low-income populations.	Significant unavoidable construction noise impacts under NEPA and CEQA to condominium and apartment buildings south of Ocean Boulevard (**Impact NOI-2.1**) would produce a disproportionately high and adverse impact to minority and low-income populations.	Creation of economic benefits from additional jobs and income.
Alternative 2 – 315-Acre Alternative	Same as the Project for cumulative **Impact AQ-6.**	Same as the Project.	Benefits similar to but less than the Project.
Alternative 3 – Landside Improvements Alternative	No disproportionately high and adverse air quality impacts to minority and low-income populations.	No disproportionately high and adverse impacts to minority and low-income populations.	Benefits similar to but less than the Project.
Alternative 4 – No Project Alternative	No disproportionately high and adverse air quality impacts to minority and low-income populations.	No disproportionately high and adverse impacts to minority and low-income populations.	Benefits similar to but less than the Project.

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3.16 AESTHETICS/VISUAL RESOURCES

Visual Resources

Aesthetic and visual resources are generally defined as the natural and built features of the landscape visible from public views that contribute to an area's visual quality. This section describes the existing visual environment and changes resulting from Project buildout in order to characterize the aesthetic condition of the Project site, including all onsite structures and facilities, and assess how the condition would be potentially affected by implementation of the Project.

The evaluation of visual resources in the context of environmental analysis typically addresses contrast between visible landscape elements. Collectively, these elements comprise the aesthetic environment, or landscape character. The landscape character is compared to the proposed Project's visual qualities to determine the compatibility or contrast resulting from the buildout of the proposed action.

Views are defined as visual access to, or visibility of, a natural or built landscape feature from an observer viewpoint. Views may be focal (restricted in scope to a particular object), or panoramic (encompassing a large geographic area with a wide or deep [i.e., distant] field of view). Focal views can be from a number of observer viewpoints compared to the object being viewed: from a lower elevation; at the same level; or from an elevated vantage. Panoramic views are usually associated with an elevated observer viewpoint. Scenic views or vistas are panoramic public views that include natural features including views of the ocean, unusual topographic features, or unique urban or historic structures.

Views are characterized by their distance from the viewer: foreground; middle-ground; or background. Foreground views are those immediately perceived by the viewer and include objects at close range that tend to dominate the view. Middle-ground views occupy the center of the view and generally include objects that are the center of a viewer's attention if they are sufficiently large or visually contrasting with adjacent visual features. Background views include distant objects and other objects that form the horizon. Objects perceived in the background view eventually diminish in their importance with increasing distance. In the context of the background, the skyline can be an important visual context because objects above this point are highlighted against the typically blue background.

A viewshed, or visible area, is the total range of views experienced from an observer's viewpoint. A viewshed is defined by landscape features that define or obstruct sightlines, or the line of sight between an observer and a viewed object. Views may be partially or entirely obstructed by topography, buildings and structures, and/or vegetation. The closer an intervening obstruction is to the observer, the more it will potentially obstruct the viewshed. Accordingly, a small physical obstruction in the foreground of a view will potentially have a more substantial affect on the viewshed compared to a relatively large obstruction perceived in the middle or background.

Light and Glare

Light

Certain types of lighting can cause negative visual impacts as experienced during the night. Evaluation of potential night lighting effects includes assessing ambient lighting conditions within the Project area, and the extent to which surrounding sensitive receptors (e.g., residential occupants, public recreational facility users, and/or institutional facility residents [such as health care facilities] who are present during evening and weekend hours) are exposed to these light intensities. Night lighting may be generated from point sources, (e.g., focused points of origin representing unshielded light sources), as well as from indirectly illuminated sources of reflected light.

The effects of proposed night lighting conditions are contextual and depend on the existing lighting environment, light intensity, and proximity to proposed light sources. Adverse lighting impacts can occur when Project-related lighting is visually prominent, thereby affecting the character of the existing night sky. Alteration of the existing community or neighborhood's character may occur when proposed night lighting would increase the illumination perceived by a sensitive receptor, or when it would substantially increase existing ambient lighting levels in an area through unshielded spillover glare, or excessive illumination of adjacent surfaces.

Glare

Glare, an indirectly caused phenomenon of lighting or reflection off building materials, can cause a negative impact during the day or night. Daytime glare is caused by the reflection of sunlight from highly reflective surfaces. Reflective surfaces are generally associated with buildings constructed with broad expanses of highly polished or smooth surfaces (e.g., glass or metal) or broad, light-

colored paving surfaces such as concrete. Nighttime glare can include direct, intense, focused light, as well as reflected light. Glare can be caused by mobile, transitory sources such as automobiles, or from intense stationary sources including security lighting. The effect can cause undesirable or hazardous interference with surrounding activities including driving.

3.16.1 Environmental Setting

3.16.1.1 Area of Influence

The area of influence for consideration of the Project's effect on aesthetics/visual resources is that portion of the Project site and adjacent environment that is observed from public view corridors (Figure 3.16-1). Public views include those experienced while stationary (i.e., observed from recreational facilities such as parks, open spaces, amphitheaters, and scenic vista points), or while mobile (i.e., traveling on public roads by car, bus, or bicycle; running or walking on sidewalks or paths). Examples of private views that are not considered in this analysis are from individual residential yards or patios, and private commercial establishments including visitor serving facilities.

3.16.1.2 Setting

Visual Character/Quality

The Port of Long Beach

The Port landscape is a highly industrial setting consisting of man-made landforms and waterways, including breakwaters, dredging of channels, filling for creation of berths and terminals, and construction of infrastructure required to support Port operations. As a result, the Port area represents an expansive, visually distinct industrial landscape. Major features of this landscape include berths, warehouses, container yards, tank farms, processing plants, buildings, and parking lots, as well as infrastructure including bridges, intermodal facilities, rail lines and spurs, oil derricks, pipelines, and gantry cranes.

The appearance of most Port facilities is functional in nature, characterized by exposed infrastructure, open storage, the use of unfinished, industrial building materials, and the use of safety-conscious, high-visibility colors such as orange, red, or bright green for mobile equipment including cranes, containers, and railcars.

Recent Port development has focused on consolidating berths and terminal backlands to accommodate larger cargo vessels and increased cargo throughput. As a result, longer berths and cranes with longer booms have been constructed affecting the visual character of the Port by increasing the scale of facilities visible throughout the area.

Project Site and Surrounding Areas

The Project site is located primarily within the Middle Harbor portion of the POLB (Figure 1.5-2). The Pier D and Pier E portions of the Project site are currently operated by CUT as a break-bulk/container terminal. Berths D28-31 and D34 occupy the southern portion of Pier D and support a general break-bulk facility, while Berths E24-E26 support container terminal operations on Pier E. The Pier F portion of the Project site is operated by LBCT. The Pier F terminal has a total area of approximately 100 acres, a total wharf length of 2,490 feet (Berths F6 through F10), and an existing 10,000 track-feet intermodal rail facility.

The Project site encompasses 294 acres and includes backlands for storage and handling of containerized cargo; surface parking; an intermodal railyard; entry gates at Ocean Boulevard and Pier F Avenue; and several ancillary structures. Site topography is relatively flat with minimal elevation changes between the site and adjacent roadways. The Pico Avenue overpass on the northeastern site boundary is elevated approximately 15 feet above the lowest point within the Project area.

Most of the Project area is occupied by container backlands extending from the wharves to the adjacent roadways. The backlands are used for temporary storage of offloaded (import) and loaded (export) containers. Containers are stacked at this location and/or remain on chassis. Though average stacks are comprised of up to four containers with a total peak height of approximately 40 feet, the visual massing associated with containers that remain on chassis is compatible with the height of the surrounding support structures. Ancillary terminal structures visible onsite include a variety of one-story structures with heights of approximately 25 to 30 feet including an administration building, warehouses, and maintenance buildings. The shore-side gantry cranes lining the berths are the dominant visual landmarks that denote where the terminal abuts open water. Berthed vessels are also visible from surrounding viewing locations. The Project site also includes the nine-acre LBCT intermodal railyard that occupies the eastern portion of Piers E and F.

Figure 3.16-1. Public Viewpoints Within the Project Area

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The Project site vicinity includes additional containerized cargo and dry- and liquid-bulk goods terminals and various industrial/commercial uses. Surrounding areas include the Cemex USA and G-P Gypsum Corp. break-bulk facilities, and dry- and liquid-bulk goods terminals, including Metropolitan Stevedore Company (petroleum coke, coal, borax) and the Chemoil Marine Terminal (petroleum products and bunker fuel). Gantry cranes and booms associated with the Piers G and J containerized cargo terminal operations extending up to 350 feet high are located to the southeast and behind the Project site.

Project Visibility in Sensitive Viewing Areas

The Project site is visible from several surrounding public viewpoints in the Project vicinity, including from the City of Long Beach across Queensway Bay, and within the Port. These are identified on Figure 3.16-1. Two representative viewpoints of the Project site, from the Golden Shore Harbor Preserve and the Pico Avenue Overpass, are illustrated in Figure 3.16-2. Existing views from these locations are shown in Figures 3.16-3 and 3.16-4, respectively. The Golden Shore Harbor Preserve view represents a long distance panorama of the site, while the Pico Avenue Overpass view provides a near-distance view of the site. These are considered representative of public views that encompass important visual characteristics of the Project site and the adjacent vicinity.

Golden Shore Harbor Preserve (Figure 3.16-3, Existing View): Visitors and residents looking west from the Golden Shore Harbor Preserve experience background views of the Project site. Queensway Bay is prominent in the middle-ground. Industrial Port facilities are visible in the background beyond the Project site. The dominant views from this vista point are the open waters of Queensway Bay.

Pico Avenue Overpass (Figure 3.16-4, Existing View): Motorists and individuals using the sidewalk looking westward from the Pico Avenue overpass experience foreground and middleground views of the Project site. As the Pico Avenue overpass is elevated approximately 15 feet above the Project site, views from this roadway are more prominent. Port infrastructure and ancillary terminal structures are notable from this perspective. Though partially obstructed from intervening Port development, the East Basin is visible in the middleground on the left side of the view, and in the background.

In summary, public views that include the Project site are comprised primarily of more distant views in which Queensway Bay is in the middle-ground and the intensive industrial Port infrastructure are in the background, and closer views from locations adjacent to the Port boundary. For distant views, the contrast between the open waters of Queensway Bay and the highly industrialized inner Port complex in the background is the dominant visual characteristic. The combination of these features enhances the visual quality of the Project site. However, as the Project site is a component of the industrial Port background, the importance of onsite visual resources is low. For closer viewpoints from roadways adjacent to the Port, the importance of onsite visual resources is also low. Given the highly industrialized nature of the Project site and surrounding land uses, the Project site is not a component of any scenic vista from any important public roadway or viewing spot for sensitive receptors.

Light and Glare

The Port includes several facilities that are illuminated at night. Lighting programs, including selection of fixtures, layout design, and hours of illuminated operations, are unique to each Port facility and vary according to operations (e.g., container or liquid bulk terminals) and the type of onsite facilities (e.g., buildings, backlands, tank farms, and cranes). Terminals operate on independent schedules, with increased day- and nighttime operations when a vessel is at berth (i.e., loading or unloading), or during seasonal periods of high demand. Additional lighting is generated on public roadways adjacent to and throughout the Port that are lighted, including major highways and truck routes.

The overall lighting environment within Middle Harbor includes two types of light sources: (1) fixed (stationary) light sources associated with terminals, including crane lights, parking lot and backland lighting fixtures, building security lighting, and terminal access road lighting; and (2) mobile light sources associated with truck, rail, and vessel traffic, cargo-moving equipment, and other vehicles on interior Port roadways. The existing gantry cranes along the terminal wharves are generally illuminated at night if nighttime stevedoring is occurring. Crane lights may also be on during daylight hours when overcast weather reduces available natural light or if on-dock operations require extra illumination. Several pole-mounted floodlights illuminate the backland container storage areas. Walkways, areas adjacent to warehouses, container wash and steam cleaning sheds,

maintenance buildings, and parking areas are illuminated for safety and inspection purposes. Building security lights illuminate the areas surrounding onsite administration buildings, including buildings located at the terminal gate entrances at Ocean Boulevard and Pier F Avenue. Most lights on the site are located on the sides of warehouses/sheds or on wall surfaces and are not shielded.

Mobile light sources on the terminal include the lights on trains moving along the LBCT intermodal railyard tracks, onsite trucks and cars, berthed vessels, and yard equipment. Minimal lighting is generated throughout the Seaside Railyard, which is located within the northern portion of the Project site.

3.16.1.3 Regulatory Setting

Local and regional adopted plans and policies within the PMP and City of Long Beach General Plan provide the primary regulatory guidance for maintaining aesthetic resources in the Project area, although state and federal agencies have also adopted plans that determine allowable changes to visual resources within their jurisdictions (e.g., Caltrans). Areas considered to have the greatest visual sensitivity are typically along scenic highways or other natural areas. The primary areas of concern generally result from changes to prominent topographic features, changes in the character of an area with high visual sensitivity, removal of important vegetation, or obstructing public views of a visually sensitive landscape.

Port of Long Beach Port Master Plan

The PMP Public Access, Visual Quality, and Recreational/Tourist Element "concentrates on Queensway Bay," which is a buffer between the highly industrialized inner Port complex and the waterfront recreation activities of the Port and City of Long Beach. The visual resource goals noted in this element include:

Goal 9: Provide landscaping between recreational facilities and Port industries;

Goal 10: Minimize disruptive views; and

Goal 11: Improve appearance of harbor lands at and along major vehicular approaches.

As noted in the "Recommendation/Implementation Program" for visual resources, "the Port has made a commitment to provide enhanced comprehensive informational signage to provide better guidance to the public in reaching places of business and points of interest within the Harbor District." The HDP application and review process considers a proposed project in terms of visual quality criteria — its color, form, texture, and scale (POLB1999).

The most sensitive views within the PMP planning area include:

- Predominant structures visible to the east from downtown Long Beach and along the shoreline;
- Ground level views along the boundary of Queensway Bay; and
- Ground level views along Harbor Scenic Drive from southbound lanes south of Anaheim Street.

The proposed Project site is not located within any of these PMP planning area sensitive views.

City of Long Beach General Plan

The Port, along with the Long Beach Harbor, falls within LUD Number 12 of the City of Long Beach General Plan. The General Plan indicates that the water and land use designations within the harbor area are separately formulated and adopted by due process as the Specific Plan of the Long Beach Harbor (also known as the PMP, as amended). The General Plan indicates that the responsibilities for planning within legal boundaries of the harbor lie with the BHC.

Scenic Routes Element

The City of Long Beach General Plan, Scenic Routes Element, contains goals and objectives relevant to visual resources that guide private development, government actions, and programs within the City. Additionally, the Scenic Routes Element contains policies to protect the City's scenic resources. These goals, objectives, and policies are intended to serve as long-term principles and policy statements.

California Department of Transportation Scenic Highways

California's Scenic Highway Program was created to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways (Streets and Highways Code, §260 *et seq.*). There are no state-designated scenic highways within five miles of the Harbor District; the nearest scenic highway is located approximately 23 miles northeast of the Port, at SR 91 east of SR 55 in the City of Anaheim.

Figure 3.16-2. Visual Simulations Points of View

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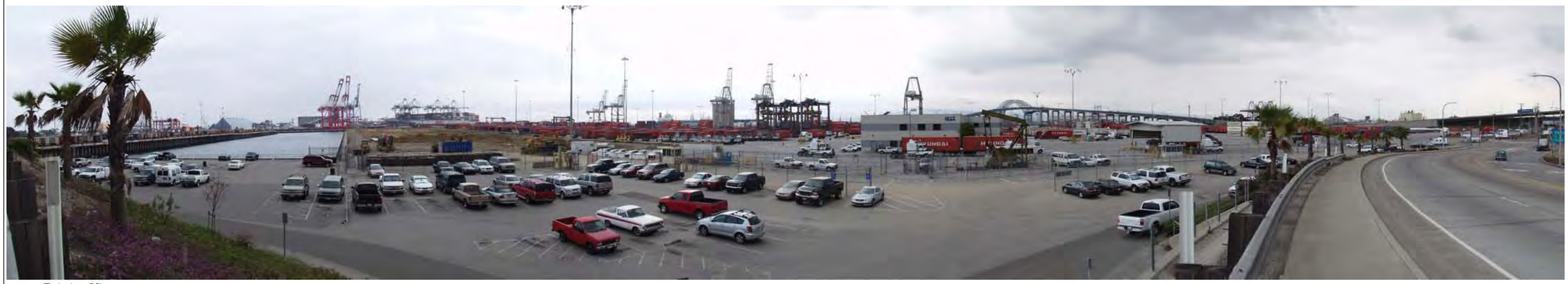
Existing View

Proposed View

Figure 3.16-3. View 1: Looking West From Golden Shore Harbor Preserve



Existing View

Proposed View

Figure 3.16-4. View 2: Looking West From the Pico Avenue Overpass

3.16.2 Impacts and Mitigation Measures

3.16.2.1 Significance Criteria

Pursuant to the POLB Environmental Protocol (POLB 2006) and consistent with CEQA Guidelines *Appendix G* Environmental Checklist, a visual impact would be significant if the proposed Project would:

VIS-1: Substantially contrast with the visual quality of the existing condition of the Project site and the adjacent setting;

VIS-2: Substantially degrade the existing character or quality of the site and its surroundings; or

VIS-3: Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

As indicated in the Initial Study, the Project site is not located within any scenic vista that can be viewed from a scenic route identified in the City of Long Beach General Plan Scenic Routes Element or Caltrans Scenic Highway Program, Therefore, this issue is not addressed in this EIS/EIR.

3.16.2.2 Methodology

This analysis of potential aesthetic effects of the Project was conducted using quantitative FHWA Visual Impact Assessment and Bureau of Land Management (BLM) Visual Resource Management techniques, and the POLB's Visual Impact Assessment Guidelines to determine Project impacts in compliance with CEQA Guidelines *Appendix G* Environmental Checklist.

FHWA Visual Impact Assessment requires that a project be assessed as to whether it affects the overall aesthetic character of a project area, as well as the physical compatibility of a project with the site's existing visual quality (FHWA 1988). In order to objectively assess a project's impacts on visual quality, FHWA's framework requires characterization of the existing level of visual quality associated with the project setting in terms of the following variables (i.e., evaluative criteria):

- *Vividness.* Visual power (i.e., memorability) of landscape components. Vividness includes consideration of landforms and landcover (e.g., vegetation, water, and development);
- *Intactness.* Integrity of the natural or built environment and freedom from encroaching elements. Development could enhance or subtract from otherwise intact urban and pristine landscapes; and
- *Unity*. Visual coherence or harmony of individual landscape elements; compatibility. Although most landscapes exhibit a greater or lesser degree of unity between natural and built landscape elements, entirely natural landscapes and/or predominantly urban landscapes can be visually unified or chaotic.

When all three of these criteria are rated highly in a project setting, visual quality is accordingly considered to be high. However, a landscape setting determined to possess low visual quality may nonetheless be sensitive to project-related changes, and be negatively affected by or benefit from project additions to such qualities.

The BLM Visual Resource Management methodology employs the contrast rating system, a systematic process for the analysis of potential visual impacts of proposed projects and activities. This methodology assumes that the degree to which a project affects the visual quality of a landscape depends on the degree of contrast created between a project and existing landscape. Similar to FHWA visual attributes, the basic design elements of form, line, color, and texture are considered to make this comparison and to describe the visual contrast created by the project.

BLM's general guidance for assessing contrast is defined as follows (BLM 1978):

- *Form*. Contrast in form results from changes in the shape and mass of landforms or structures. The degree of change depends on how dissimilar the introduced forms are to those that remain in the landscape;
- *Line.* Contrasts in line results from changes in edge types and interruption or introduction of edges, bands, and silhouette lines. New lines may differ in their sub-elements (boldness, complexity, and orientation) from existing lines;
- *Color.* Changes in value and hue tend to create the greatest contrast. Other factors such as chroma (color saturation or brilliance), reflectivity, and color temperature (e.g., red is warm, blue is cold) also increase the contrast; and
- *Texture.* Noticeable contrast in texture usually stems from differences in the grain, density, and internal contrast. Other factors

such as irregularity and directional patterns of texture may affect the rating.

Although the City of Long Beach and Port do not have any established thresholds for visual analysis, the Port has established Visual Impact Assessment Guidelines to provide a framework for assessing potential project impacts on aesthetics. Consistent with the Port's Visual Impact Assessment Guidelines, this EIS/EIR uses computer simulations to present representative views of the Project site, and then systematically superimpose proposed Project architectural and landscape details to illustrate the potential change to the existing view.

The "Existing Views" in Figures 3.16-3 and 3.16-4 serve as a background for super-imposing photo-simulations of Project buildout. Each camera position was carefully recorded when the existing view was shot, including camera tilt perpendicular to targeting axis, camera compass bearing, position, and elevation. These data were then used to accurately superimpose Project description details as presented in Chapter 1.

Conceptual building designs identified by the Port were placed in the existing view photos with conceptual structural heights as dictated by the proposed criteria. As structural colors and materials have not been specifically identified for the proposed structures (e.g., Pier E Substation, Administration Building, and Maintenance and Repair Building) these details were reasonably projected based on LEED® Silver Certification requirements. Because the conceptual building designs are not meant to provide final architectural detail (this specificity would be presented in subsequent development plans and landscape plans throughout Project buildout), the proposed simulations are meant to accurately represent only the potential scale and massing of Project buildout. As landscape treatments addressing the location and types of species to be planted have not been specifically identified, these details were reasonably projected based on the Port's Master Landscape Plan and Green Port Policy criteria (i.e., LEED® Silver Certification requirements). The detailed design and landscape plans would be proposed as final design concepts are finalized.

The view corridors represented by each of these simulated views are presented in Figure 3.16-2. In order to facilitate comparison and impact assessment, the proposed Project buildout computer-simulated Proposed View is indicated on Figures 3.16-3 and 3.16-4 below the Existing View.

3.16.2.3 Alternative 1 – 345-Acre Alternative (the Project)

Construction Impacts

Impact VIS-1.1: Project construction activities would not substantially contrast with the existing industrial visual quality of the Project area.

Proposed dredging, excavation, and fill to deepen and widen Slip 3, and develop Slip 1 and approximately 40 acres of the East Basin between existing Piers E and F, would require the use of clamshell and cutter suction dredges over an approximately 10-year period. Fill material would also be imported from inside the Harbor District from the Main Channel Project, the Western Anchorage Sediment Storage Site, and the Pier S/Back Channel Project. Dredging vessels and barges would be active within the Middle Harbor waterways and would be visually compatible with existing vessel activity within the Middle Harbor channels. Dredge and fill activities and new wharf construction within the East Basin would occur within public views from the Pico Avenue Overpass. The East Basin is not visible from any public viewpoints from the Golden Shore Harbor Preserve. Due to intervening storage containers and other structures within the terminal backland area, Slip 1 and Slip 3 are not visible from any public viewpoints.

Excavation equipment working on land, as well as removal and transport of remaining surcharge material to other locations within the Port by barge or by truck, would also be visually compatible with existing industrial activity within Piers E and F and other surrounding Port areas. Likewise, demolition of existing wharf structures, backland areas, and existing facilities, and subsequent construction of new wharf structures, proposed buildings (i.e., Administration Building, Marine Operations Building, and longshore facilities) and maintenance facilities, and the Pier E Substation over an approximate 10-year period would be compatible with existing Port industrial activity. Additionally, the presence of stored containers within the terminal backlands area would obstruct Project site views from ground-level public viewpoints, including Golden Shore Harbor Preserve. Although construction equipment/ activities would be potentially visible from elevated viewpoints (i.e., Pico Avenue overpass), these activities would not be discernable due to the distance of this viewpoint from the Project site and the intervening Port infrastructure.

CEQA Impact Determination

As no substantial contrast with the existing visual quality of the Project site and vicinity would occur during Project construction activities, impacts on visual quality would be less than significant under CEQA.

Mitigation Measures

As impacts on the aesthetics/visual resources would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on aesthetics/visual resources would be less than significant.

NEPA Impact Determination

As no substantial contrast with the existing visual quality of the Project site and vicinity would occur during in-water Project construction activities, less than significant impacts on visual quality would occur under NEPA.

Mitigation Measures

As impacts on aesthetics/visual quality would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on aesthetics/visual resources would be less than significant.

Impact VIS-2.1: Project construction activities would not adversely impact the existing visual industrial character and quality of the Project site and its surroundings.

As described in **Impact VIS-1.1**, proposed Project construction would be compatible with the industrial visual character of the Project site and vicinity within the Port.

CEQA Impact Determination

As the presence of vessel and land-based equipment over the approximate 10-year construction period would be compatible with the existing industrial character and visual quality of the Project site and surroundings, impacts on aesthetics/visual resources would be less than significant under CEQA.

Mitigation Measures

As impacts on aesthetics/visual resources would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on aesthetics/visual resources would be less than significant.

NEPA Impact Determination

As the presence of vessel and other equipment working on in-water developments over the approximate 10-year construction period would be compatible with the existing industrial character and visual quality of the Project site and surroundings, impacts on aesthetics/visual resources would be less than significant under NEPA.

Mitigation Measures

As impacts on aesthetics/visual resources would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on aesthetics/visual resources would be less than significant.

Impact VIS-3.1: Project construction activities would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

Project construction activities would not occur during the evening hours. Therefore, no additional night lighting or equipment headlights that could contribute to impacts on nighttime views in the area would result. Construction equipment including vessels and land based vehicles would not have reflective surfaces capable of increasing sunlight glare.

CEQA Impact Determination

As the proposed Project construction activities would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area, no impacts on aesthetics/visual resources would occur under CEQA.

Mitigation Measures

As impacts on aesthetics/visual resources would not occur, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on aesthetics/visual resources would not occur.

NEPA Impact Determination

As the proposed in-water Project construction activities would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area, no impacts on aesthetics/visual resources would occur under NEPA.

Mitigation Measures

As impacts on aesthetics/visual resources would not occur, no mitigation is required.

Significance of Impacts after Mitigation

Impact on aesthetics/visual resources would not occur.

Operational Impacts

Impact VIS-1.2: Project development would not substantially contrast with the visual industrial quality of the Project area.

Electric gantry cranes would load and unload cargo containers between vessels and the terminal. Yard tractors would transport the cargo containers to and from the container storage areas within the terminal, and to and from railcars at the expanded Pier F intermodal railyard. Offloaded (import) containers would either be stored temporarily in the container terminal storage yard or immediately shipped out of the terminal via truck or rail. Loaded (export) cargo would be imported to the Middle Harbor container terminal by truck or rail; export cargo shipped via rail would either arrive directly at the expanded Pier F intermodal railyard or would arrive at another local railyard and then be trucked to the terminal gate for receiving. Due to intervening Port infrastructure, onsite terminal operations would not be visible from any public viewpoints. However, offsite trucking operations would be potentially visible from surrounding public viewpoints. Although the Project would increase the number of trucks serving the Middle Harbor container terminal, these trucks would use public roadways that currently handle this type of activity.

More distant public views of the Project site comprised of expansive middle-ground views of the Queensway Bay and the highly industrialized inner Port complex in the background would not be obstructed by development of the proposed Project (Figure 3.16-4, Proposed View). The proposed Middle Harbor consolidated container terminal would appear in the far background of these views, relatively subordinate to surrounding existing Port facilities. Backland improvements (i.e., container storage areas) and associated facilities (i.e., Pier E Substation, Maintenance and Repair Facility, Administration Building, warehouses, and container wash buildings) would be located behind existing Pier F and proposed Project facilities, such that they would not be visible from distant public vantage points. The tallest new industrial infrastructure would be additional gantry cranes associated with improvements to Pier E and Pier F wharves. These would be visible in the background of the Port complex, but would not be substantially higher or massive than comparable facilities presently observed (Figure 3.16-3, Proposed View).

Closer views of the Project site from roadways adjacent to the Port including Pico Avenue, Ocean Boulevard, and Harbor Plaza Drive would be affected by development of a consolidated wharf and additional container loading/offloading equipment, container stacks and chassis storage, and the transitory presence of large, modern container cargo vessels (Figure 3.16-4, Proposed View). This additional Port infrastructure and container handling activity would increase the visual mass and bulk observed in the foreground and middle-ground of these views. However, the overall change would be perceived as an intensification consistent with existing industrial Port activity. Proposed rail infrastructure improvements (i.e., expansion of the existing Pier F intermodal railyard, mainline track realignment at Ocean Boulevard/Harbor Scenic Drive, Pier F storage yard and tracks, and the Pier F tail track) would not be visible, as they would be obstructed by intervening Port development. Existing Port infrastructure would still be visible in the background, such that proposed container terminal support structures would not contrast with the intensive industrial visual character of the Project site. Therefore, Project development would be a visually compatible intensification of the site's existing industrial character.

CEQA Impact Determination

As the change in visual industrial quality of background views from public vantage points would be minor relative to the existing highly industrialized inner Port complex perceived in distant background and closer foreground public views, impacts on aesthetics/visual quality would be less than significant under CEQA.

Mitigation Measures

As impacts on aesthetics/visual quality would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on visual resources would be less than significant.

NEPA Impact Determination

Project operations associated with development of in-water facilities including the proposed Pier E wharf and associated container loading/offloading equipment, and the transitory presence of large, modern container cargo vessels would be compatible with existing Port-related industrial activities. Accordingly, impacts on visual quality would be less than significant under NEPA.

Mitigation Measures

As impacts on aesthetics/visual resources would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on aesthetics/visual resources would be less than significant.

Impact VIS-2.2: Project development would not substantially degrade the existing industrial character or quality of the site and its surroundings.

One sensitive public view site recognized in the PMP is located in the Project vicinity: ground level views along Harbor Scenic Drive from southbound lanes south of Anaheim Street. Due to intervening Port development and roadway infrastructure, Project development would not be visible from this sensitive public vantage point. Accordingly, development of the proposed Middle Harbor container terminal would not degrade the character or quality of this Project site view.

As discussed above, more distant public views of the Project site include noteworthy natural visual characteristics associated with the open waters of Queensway Bay. The intensive industrial Port complex is the background visual characteristic from these public vantage points (Figure 3.16-3, Proposed View) and is the dominant quality in closer views adjacent to the Port boundaries (Figure 3.16-4, Proposed View). As development of the Middle Harbor container terminal and ancillary infrastructure would appear as an intensification of existing Project site activity congruous with existing Port-related industrial activities, Project development would be compatible with the site's existing intensive industrial visual character.

CEQA Impact Determination

As Project development would be consistent with the general industrial nature of the Port and would not introduce incompatible visual characteristics, impacts on aesthetics/visual resources would be less than significant under CEQA.

Mitigation Measures

As impacts on aesthetics/visual resources would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on aesthetics/visual resources would be less than significant.

NEPA Impact Determination

As in-water terminal activities associated with increased Project throughput operations would be compatible with the site's existing industrial visual character, impacts on aesthetics/visual resources would be less than significant under NEPA.

Mitigation Measures

As impacts on aesthetics/visual resources would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on aesthetics/visual resources would be less than significant.

Impact VIS-3.2: Project development would introduce new glare sources that would potentially degrade existing visual conditions.

The Project would include lighting on approximately 56.4 acres of new landfill, and would reconfigure existing lighting infrastructure as needed on 294 acres of marine terminal facilities. The proposed Project would include lighting on ship unloading facilities, including navigation lighting on the berths/docks, lighting on container loading/offloading equipment, truck loading facilities, and containerized cargo storage facilities. Consequently, the number of lighting fixtures would be increased as a result of the need for illumination of proposed structures and exterior areas, and for nighttime maintenance or operations.

Proposed Environmental Lighting Controls as identified in Section 1.7.3 include the incorporation of photo cells/timers, low energy fixtures, and light-spillover reduction features (e.g., hooding of fixtures to focus the light on desired facility areas) into new terminal lighting fixtures. These state-of-the-art lighting measures would effectively minimize the

extent to which new lighting would affect the surrounding areas beyond the Project facility, both in the duration of lighting during the evening and nighttime hours, and by focusing the illumination onsite. Though the number of Project infrastructure lighting fixtures would be increased over the existing setting, removing all older, traditional lighting fixtures not regulated by photo cells/timers, low energy fixtures, and light-spillover reduction features with improved controlled fixtures would likely diminish the overall level of night glare affecting the surrounding environment offsite. A quantitative assessment of this effect is not feasible at this time until the precise number of new lighting fixtures, their illumination, and location are determined. It is reasonable to expect, however, that the effect of additional modern, regulated light fixtures throughout the Project site would be less than substantial when compared to existing conditions.

The Project would include safety lighting for the administration building and maintenance facility/ yard. LEED® "green building" design standards would provide for passive solar energy, such as using photovoltaic cells. As these devices are intended to collect solar energy rather than reflect it, their surfaces would not create additional daytime onsite glare. Additionally, they are generally placed on the roofs of facilities, such that they would not be visible from public view corridors. Consequently, no increase in day-time glare would be perceived from public view corridors. Other proposed industrial facilities and marine containers would be coated with traditional protective surface materials (i.e., paint) to minimize the effects of long-term industrial activity exposure. Extensive use of glass or brushed metal surfaces on proposed industrial facilities capable of reflecting substantial daytime glare would not occur. Therefore, any increase in potential daytime glare resulting from increased massing of terminal structures and containers on the Project site would not be substantial.

CEQA Impact Determination

The implementation of proposed Environmental Lighting Controls (Section 1.7.3) including photo cells/timers, low energy fixtures, and light-spillover reduction features into new terminal lighting would result in less than substantial increases in night light over the Project site and surrounding areas compared to existing levels. Any increase in potential daytime glare resulting from increased massing of terminal structures and containers on the Project site would be less than significant. Therefore, impacts on aesthetics/visual resources would be less than significant under CEQA.

Mitigation Measures

As impacts on aesthetics/visual resources would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on aesthetics/visual resources would be less than significant.

NEPA Impact Determination

Implementation of Proposed Environmental Lighting Controls (Section 1.7.3), including photo cells/timers, low energy fixtures, and light-spillover reduction features into new in-water facilities including expanded wharves and on new land created by fill would result in less than substantial increases in night light over the Project site and surrounding areas compared to existing levels. Any increase in potential daytime glare resulting from increased massing of terminal structures and containers on wharves and new land created by fill on the Project site would be less than significant. Therefore, impacts on aesthetics/visual resources would be less than significant under NEPA.

Mitigation Measures

As impacts on aesthetics/visual resources would be less than significant, no mitigation is required.

Significance of Impacts after Mitigation

Impacts on aesthetics/visual resources would be less than significant.

3.16.2.4 Alternative 2 – 315-Acre Alternative

Alternative 2 would add 24.7 net acres of newly created land to the existing 294-acre Project site by filling Slip 1 between Piers E and F (Berths E12-E14 and F1-F4). Under this alternative, the proposed East Basin would not be filled.

CEQA Impact Determination

Under this alternative, impacts on aesthetics/visual resources would be similar in nature to, but slightly less than those described under **Impacts VIS-1.1 through VIS-3.2** for the Project because the extent of construction activity causing short-term impacts and extent of new Project structures and infrastructure would be reduced with the elimination of the East Basin fill. As with the Project, implementation of this alternative would result in less than significant impacts on aesthetics/visual resources under CEQA.

NEPA Impact Determination

Under this alternative, impacts on aesthetics/visual resources would be similar in nature to, but slightly less than those described under **Impacts VIS-1.1 through VIS-3.2** for the Project because the extent of in-water construction activity causing short-term impacts and extent of new Project structures and infrastructure massing on newly created land resulting in long-term impacts would be reduced with the elimination of the East Basin fill. As with the Project, implementation of this alternative would result in less than significant impacts on aesthetics/visual resources under NEPA.

3.16.2.5 Alternative 3 – Landside Improvements Alternative

Alternative 3 would redevelop existing terminal areas on Piers E and F and convert underutilized land north of the Gerald Desmond Bridge and Ocean Boulevard within the Project site to a container yard. No in-water activities, including dredging, filling Slip 1 and the East Basin, new wharf construction, wharf upgrades, or channel and berth deepening would occur.

CEQA Impact Determination

As no in-water construction activities (i.e., dredging, filling, new wharf construction, wharf upgrades, and channel/berth deepening) would occur under this alternative, impacts on aesthetics/visual resources would be similar to, but less than those described under **Impacts VIS-1.1, VIS-2.1, and VIS-3.1** for the Project. Operations would be reduced under this alternative, reducing impacts on aesthetics/visual resources (**Impacts VIS-1.2, VIS-2.2, and VIS-3.2**) compared to the Project. As with the Project, implementation of this alternative would result in less than significant impacts on aesthetics/visual resources under CEQA.

NEPA Impact Determination

Alternative 3 is equivalent to the NEPA Baseline because it only includes construction and operational activities that would not require issuance of federal permits. As no federal action or permit would be required, there would be no significance determination under NEPA for this alternative. No impacts on aesthetics/visual resources would occur.

3.16.2.6 Alternative 4 – No Project Alternative

The No Project Alternative would not include construction of upland site improvements, including rail improvements and construction of the Pier E Substation, or in-water activities (i.e., dredging, filling of Slip 1 and the East Basin, and/or new wharf construction). However, forecasted increases in cargo would still occur under this alternative. Operational impacts associated with following activities would occur: cargo ships that currently berth and load/unload at the terminal would continue to do so; terminal equipment would continue to handle cargo containers; and trucks would continue to transport containers to outlying distribution facilities.

CEQA Impact Determination

Under this alternative, no construction (i.e., dredging, filling, new wharf construction, and infrastructure improvements) and, consequently, no construction-related impacts would occur. Operations associated with increased throughput under this alternative would, however, result in reduced impacts on aesthetics/visual resources (**Impacts VIS-1.2, VIS-2.2, and VIS-3.2**) compared to the Project. The No Project Alternative would result in less than significant impacts on aesthetics/ visual resources under CEQA.

NEPA Impact Determination

Under this alternative, no in-water construction, and consequently, no construction-related impacts would occur. Operations associated with increased throughput would result in less than significant impacts on aesthetics/visual resources under NEPA.

3.16.3 Cumulative Impacts

Cumulative impacts on aesthetics/visual resources may result from the combined incremental change in visual character resulting from past, present, and probable future development within the Project vicinity. As illustrated in Table 2.1-1, the probable future projects contributing to cumulative impacts on aesthetics/visual resources are located within the POLB and POLA. In this area, 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 transformed the original natural setting. The resulting landscape is highly industrial and is characterized by large-scale infrastructure such as 350-foot high gantry cranes. The proposed development throughout the POLB and POLA districts would be visible from numerous public view corridors in adjacent residential communities, and in particular, from roadways, bridges and overpasses traversing the region. Several of these projects would result in the intensification and/or expansion

of industrial maritime activity, including vessel, truck, and rail traffic. Though the increased infrastructure massing and container traffic would be cumulatively significant in terms of size and number of units handled, all of this proposed development would occur within the visual context of a highly industrialized land use area. The related projects would not likely result in the introduction of development visually incompatible with and/or in contrast to existing port industrial uses. The potential obstruction or degradation of a scenic view is unlikely, given the general compromised character of the ports' industrial development.

Overall night lighting and glare would be increased, but both ports implement standard measures to reduce potential night illumination beyond project site boundaries, and to avoid the use of structural surfaces capable of reflecting daylight glare. Therefore, the cumulative impact of related projects throughout the POLB and POLA on aesthetics/visual resources would be less than significant under NEPA and CEQA.

The proposed Project would result in less than significant impacts on aesthetics/visual resources under NEPA and CEQA. Therefore, the proposed Project's contribution to cumulative impacts on aesthetics/visual resources would also be less than significant under NEPA and CEQA.

3.16.4 Mitigation Monitoring Program

As no mitigation measures are required to address impacts on aesthetics/visual resources, no mitigation monitoring program is required.

Chapter 4
ALTERNATIVES COMPARISON

4.1 INTRODUCTION

This chapter presents a comparison of the proposed Project to the alternatives that were considered during preparation of this Final EIS/EIR. Section 1.7 of this Final EIS/EIR presents potential alternatives to the proposed Project, and Chapter 3 evaluates their suitability. Four alternatives, including the proposed Project, have been analyzed co-equally in this Final EIS/EIR to provide sufficient information about the environmental effects of each alternative, such that informed decision-making can occur. The four alternatives, described in detail in Section 1.6.2 and summarized in Table 4.1-1, are:

- Alternative 1 – 345-Acre Alternative (the Project);
- Alternative 2 – 315-Acre Alternative;
- Alternative 3 – Landside Improvements Alternative; and
- Alternative 4 – No Project Alternative.

4.1.1 Alternative 1 – 345-Acre Alternative (the Project)

The Project would rehabilitate or replace deteriorated and obsolete terminal facilities; provide deeper water (-55 feet MLLW) at berths and in basins and channels; create new land; modernize marine terminal facilities; and implement environmental controls, including the Port's Green Port Policy, to accommodate a portion of the predicted future increases in containerized cargo volume and the modern, larger cargo vessels that are expected to transport these goods to and from the Port. The existing 294-acre Project site would be increased to 345-acres, including 54.6 net acres of newly created land (Figure 1.6-2). The Project includes terminal consolidation, redevelopment, and expansion on areas of existing and newly created land, dredge and fill operations, wharf construction to create three deep water berths with -55 feet MLLW depths, and rail infrastructure improvements (e.g., mainline track realignment at Ocean Boulevard/Harbor Scenic Drive, Pier F Avenue storage yard and tracks, Pier F tail track, and expanding the existing Pier F intermodal railyard). The Project would include construction of a 66kV substation (Pier E Substation) to provide power that would support Middle Harbor container terminal operations, including supplying shore-to-ship power, and future power needs for other Port facilities.

Project construction would occur in two phases, the first phase in five stages and the second in four stages, and would be scheduled for completion in 2019 (i.e., Project build-out year). However, the proposed Middle Harbor container terminal is forecasted to be fully optimized at maximum capacity by 2025.

Table 4.1-1. Comparison of Proposed Project and Alternatives at Full Buildout

	Alternative 1: 345-Acre Alternative (the Project)	Alternative 2: 315-Acre Alternative	Alternative 3: Landside Improvements Alternative	Alternative 4: No Project Alternative
Project Site Gross Acreage	345	315	294	294
Total Container Terminal Acreage[1]	322	292	267	244
Total TEUs[2]	3,320,000	2,870,000	2,910,000	2,600,000
Annual Vessel Calls	364	364	416	312
Average Daily Truck Trips	10,112	8,026	9,830	9,594
Annual Trains[3]	2,098	2,095	1,380	786
Total Container Berth Length (LF)[4]	4,250	4,250	4,480	4,480
Joint Terminal Intermodal Yard Acreage	47	47	25	0[5]

Notes:

1. The total container yard acreage is assumed to be slightly smaller than the Project site area due to other uses on the site (e.g., break-bulk cargo). The container yard is defined as the area dedicated to container activities, wharves, and spaces related to buildings and personal vehicles.
2. TEUs = Twenty-foot Equivalent Units. The TEU-per-acre estimates are based on the approximate size of the container yard projected for year 2025.
3. Estimate assumes 25 rail cars per train.
4. All Pier D berths and E-12-13 are break-bulk berths and are not included in container berth length. The total container berth lengths include both Pier E and Pier F berths.
5. Assumes the existing LBCT nine acre intermodal railyard would remain operational.

Sources: Moffatt & Nichol. 2006b.

When completed, the Project would consist of one consolidated container terminal (proposed Project) that would be designed to load and unload containerized cargo to and from marine vessels. When optimized at maximum throughput capacity (by year 2025), the consolidated container terminal would be designed to accommodate approximately 3,320,000 TEUs per year. The proposed expanded Pier F intermodal railyard would handle approximately 26.3 percent (872,480 TEUs per year) of the terminal's expected throughput. Middle Harbor container terminal operations would result in a maximum of approximately 364 vessel calls per year. Truck trips to and from the Middle Harbor container terminal would increase from the 2005 baseline average of 6,528 trips per day to an average of approximately 10,112 trips per day in the year 2025. Approximately 2,098 annual train trips would be required at maximum capacity in 2025 to support Middle Harbor container terminal operations.

The terminal would operate under a new lease between the terminal operator and the Port that would include environmental controls imposed pursuant to the Port's Green Port Policy and the CAAP. This EIS/EIR assumes the proposed Project includes participation in the POLB/POLA VSR Program (CAAP measure OGV1) and compliance with applicable EPA, ARB, and SCAQMD regulations.

4.1.2 Alternative 2 – 315-Acre Alternative

The 315-Acre Alternative would add 24.7 net acres of newly created land to the existing 294-acre Project site by filling Slip 1 between Piers E and F (Berths E12-E14 and F1-F4) (Figure 1.6-9). This alternative would include terminal expansion on adjacent areas of existing and newly created land, dredge and fill operations, and new wharf construction. Under the 315-Acre Alternative, a new wharf would be constructed to handle increased cargo throughput and accommodate deep-draft container ships, and to replace existing, insufficient wharves. The new 2,900-foot wharf would consist of two deep water berths with -55 feet MLLW depth. Buildout under this alternative would include the rail improvements identified for the Project (e.g., mainline track realignment at Ocean Boulevard/Harbor Scenic Drive, Pier F Avenue storage yard and tracks, Pier F tail track, and expanding the existing Pier F intermodal railyard). The proposed 66kV Pier E Substation would also be constructed, as described for Alternative 1.

When completed, the 315-Acre Alternative would consist of one consolidated container terminal that would be designed to load and unload containerized cargo to and from marine vessels. When optimized at maximum throughput capacity (anticipated in approximately year 2025), the consolidated container terminal would be designed to accommodate approximately 2,870,000 TEUs per year. The proposed expanded Pier F intermodal railyard would handle approximately 30.4 percent (872,480 TEUs per year) of the terminal's expected throughput. Under this alternative, Middle Harbor container terminal operations would result in approximately 364 maximum vessel calls per year. Truck trips to and from the Middle Harbor container terminal would increase from the 2005 baseline average of 6,528 trips per day to an average of approximately 8,026 trips per day at maximum capacity in 2025. Approximately 2,095 annual train trips would be required at maximum capacity in 2025 to support Middle Harbor container terminal operations.

The terminal would operate under a new lease between the terminal operator and the Port that would include environmental controls imposed pursuant to the Port's Green Port Policy and the CAAP. Similar to the Project, this EIS/EIR assumes Alternative 2 would include participation in the POLB/POLA VSRP (CAAP measure OGV1) and compliance with applicable EPA, ARB, and SCAQMD regulations.

4.1.3 Alternative 3 – Landside Improvements Alternative

The Landside Improvements Alternative would redevelop existing terminal areas on Piers E and F and convert underutilized land north of the Gerald Desmond Bridge and Ocean Boulevard within the Project site to a container yard (Figure 1.6-10). The alternative would include construction of the following upland site improvements: redevelopment and backland expansion on existing lands within the Project site (the Berth E23 oil area would be abandoned and redeveloped as container yard area); construction of a new 66kV Pier E Substation; and construction of shore-to-ship infrastructure at Piers E and F to cold-iron vessels while at berth. This alternative would also include construction of a mainline track realignment at Ocean Boulevard/ Harbor Scenic Drive and the Pier F storage yard and tracks. The alternative would expand the existing Pier F intermodal railyard to six tracks.

When completed, the Landside Improvements Alternative would consist of a consolidated container terminal that would be operated by one

terminal operator. The terminal would be operated under a new lease between the terminal operator and the Port, which would include environmental controls imposed pursuant to the Port's Green Port Policy and the CAAP. In addition to compliance with applicable EPA, ARB, and SCAQMD regulations assumed for the Project, Alternative 3 would implement all applicable CAAP measures and regulations, including emission standards for terminal equipment (CAAP measure CHE1), the VSRP (CAAP measure OGV1), low-sulfur fuel requirements for vessels (CAAP measures OGV3 and OGV4), OGV cold-ironing (CAAP measure OGV2), and the POLB/POLA Clean Trucks Program (CAAP measure HDV1).

When optimized at maximum throughput capacity (anticipated by approximately 2025), the terminal would be designed to accommodate a combined total of about 2,910,000 TEUs per year. Approximately 416 vessel calls per year would be expected by 2025. This alternative would result in 9,830 average daily truck trips to and from Middle Harbor terminals. Approximately 1,380 train trips per year would be required to support Middle Harbor container terminal operations at maximum capacity in 2025.

Under this alternative, there would be no in-water activities (e.g., dredging, filling Slip 1 and the East Basin, new wharf construction), no wharf upgrades would occur (except the provisions for shore-to-ship power), and channel and berth deepening would not occur. The Landside Improvements Alternative is equivalent to a No Federal Action Alternative because it only includes construction and operational activities that would not require issuance of federal permits. As no federal action or permit would be required, there would be no significance determination under NEPA for this alternative.

4.1.4 Alternative 4 – No Project Alternative

This alternative considers what would reasonably be expected to occur on the site if the Port did not implement, or federal action did not permit, the proposed Project. The Port would take no further action to construct additional backlands or redevelop the 294 acres that currently exist. The USACE would not issue permits for dredge and fill or wharf construction activities. This alternative would not allow implementation of the proposed Project or other physical improvements at Middle Harbor. The No Project Alternative would maintain the current CUT and LBCT container terminals at a combined size of 294 acres. Forecasted increases in cargo would still occur as greater operational efficiencies are implemented.

Under this alternative no construction and, consequently, no construction-related impacts would occur. However, the two terminals would continue to generate operational impacts: cargo ships that currently berth and load/unload at the terminal would continue to do so; terminal equipment would continue to handle cargo containers; and trucks would continue to transport containers to outlying distribution facilities. Because no rail improvements would be constructed under this alternative, the majority of the intermodal cargo to and from the two terminals would continue to be hauled by truck. In addition, the Pier E Substation would not be constructed, which would eliminate the potential for vessels to cold-iron under this alternative. However, in addition to environmental controls imposed by federal, state, and local regulatory agencies, the terminal would implement the POLB/POLA VSRP (CAAP measure OGV1) under this alternative. No other CAAP measures would be implemented under this alternative.

The No Project Alternative would result in a maximum throughput of approximately 2,600,000 TEUs per year. Approximately 312 vessel calls per year would be expected by 2025. As the existing Pier F intermodal railyard would remain operational, proposed terminal operations would result in approximately 786 annual train trips. This alternative would result in approximately 9,594 average daily truck trips to and from Middle Harbor terminals. Under this alternative, existing site conditions would constrain the ability of Middle Harbor to function as modern and efficient primary Port facilities. The lack of waterside and upland improvements would mean that the current inefficiency of cargo movement through the site's existing marine terminals would continue. As Pier E has minimal rail capability (i.e., Slip 1 separates Pier E docks and backlands from existing intermodal rail facilities) and the existing intermodal Pier F railyard is too small to accommodate regular service of modern intermodal trains, this alternative would not provide sufficient rail infrastructure to handle intermodal containerized cargo. Additionally, without the necessary dredging to deepen the channels and berths in the Middle Harbor to the planned -55-foot MLLW depth, the existing marine terminals would be limited in their ability to service modern, large, deep-draft cargo ships.

4.1.5 Alternatives Considered but Not Carried Forward for Analysis

The following alternatives were initially considered but eliminated from further analysis (refer to Section 1.6.1 for detailed descriptions):

- Construction of a new near-dock intermodal container railyard to serve multiple marine terminals;
- Use of other North American ports (i.e., those located on the West, East, and Gulf coasts) to accommodate the POLB's forecasted increases in container cargo;
- Expansion of marine terminals within southern California but outside of the Long Beach Harbor;
- Inland port (an intermodal facility for exclusive handling of international cargo);
- Marine terminal automation; and
- Offsite backlands facility alternative (i.e., using underdeveloped land outside the Port as a container storage and handling facility).

4.2 NEPA REQUIREMENTS TO EVALUATE ALTERNATIVES

NEPA requirements for an EIS to evaluate alternatives are detailed in Section 1.6. Under NEPA, an EIS must devote "substantial treatment" to each alternative considered in detail, including the proposed action, so that reviewers may evaluate the comparative merits (40 CFR 1502.14[b]). NEPA (40 CFR 1502.14[1]) requires that an EIS describe a range of reasonable alternatives to a project, or to the location of a project, that could feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any significant environmental impacts.

Additionally, all alternatives must be evaluated under CWA Section 404(b)(1) and the Section 404(b)(1) Guidelines (40 CFR 230). The purpose of these guidelines is to restore and maintain the chemical, physical, and biological integrity of waters of the U.S. through the control of discharges of dredged or fill material. As stipulated in Section 404(b)(1) Guidelines, dredged or fill material should not be discharged into the aquatic ecosystem, unless it can be demonstrated that such a discharge would not have an unacceptable adverse impact either individually or in combination with known and/or probable impacts of other activities affecting the ecosystems of concern. Consistent with these guidelines, the USACE is required to identify the least environmentally damaging practicable alternative.

4.2.1 NEPA Alternatives Comparison

Table 4.2-1 summarizes the results of the NEPA significance analysis under all alternatives for each resource area, as discussed in detail in Chapter 3. Table 4.2-2 compares the environmental impacts of the four analyzed alternatives to the NEPA Baseline.

4.3 CEQA REQUIREMENTS TO EVALUATE ALTERNATIVES

CEQA requirements for an EIR to evaluate alternatives are detailed in Section 1.6. CEQA Guidelines, Section 15126.6, require that an EIR present a range of reasonable alternatives to the proposed 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 impacts. Section 15126.6 also requires an evaluation of the comparative merits of the alternatives. An EIR is not required to consider alternatives that are infeasible, such as those described in Section 1.6.1.

4.3.1 CEQA Alternatives Comparison

Table 4.3-1 summarizes the results of the CEQA significance analysis under all alternatives for each resource area, as discussed in detail in Chapter 3. Table 4.3-2 compares the environmental impacts associated with the three analyzed alternatives to the CEQA Baseline.

4.4 ENVIRONMENTALLY PREFERRED ALTERNATIVE

The Landside Improvements Alternative is equivalent to a No Federal Action Alternative because it only includes construction and operational activities that would not require issuance of federal permits (40 C.F.R. 1502.14[c]). As no in-water construction activities would occur and no federal action or permit would be required, the Landside Improvements Alternative would be environmentally superior to all other alternatives under NEPA. The No Project Alternative, by virtue of the absence of any development, would be environmentally superior to all other alternatives under CEQA. However, the Landside Improvements Alternative and No Project Alternative would not achieve the majority of the overall Project objectives under NEPA and CEQA.

Table 4.2-1. Comparison of NEPA Significance Analysis by Alternative

Environmental Resource Area	Alternative 1: 345 Acre Alternative	Alternative 2: 315 Acre Alternative	Alternative 3: Landside Improvements Alternative	Alternative 4: No Project Alternative
Geology, Groundwater, and Soils	III	III	IV	III
Air Quality and Health Risk	**I**	**I**	IV	IV
Hydrology and Water Quality	III	III	IV	IV
Biota and Habitats	II	II	IV	IV
Ground Transportation	**I**	**I**	IV	**I**
Vessel Transportation	III	III	IV	IV
Land Use	III	III	IV	III
Public Services/Health and Safety	III	III	IV	IV
Noise	**I**	**I**	IV	IV
Hazards and Hazardous Materials	III	III	IV	III
Recreation	III	III	IV	IV
Socioeconomics	III	III	IV	III
Utilities and Service Systems	III	III	IV	IV
Cultural Resources	III	III	IV	IV
Environmental Justice	**I**	**I**	IV	III
Aesthetics/Visual Resources	III	III	IV	III

Notes:
I = Unavoidable significant impact.
II = Significant but mitigable impact.
III = Less than significant impact (not significant).
IV = No impact.

Table 4.2-2. Comparison of Alternatives to the NEPA Baseline

Environmental Resource Area	Alternative 1: 345 Acre Alternative	Alternative 2: 315 Acre Alternative	Alternative 3: Landside Improvements Alternative	Alternative 4: No Project Alternative
Geology, Groundwater, and Soils	+	+	=	+
Air Quality and Health Risk	+	+	=	=
Hydrology and Water Quality	+	+	=	-
Biota and Habitats	+	+	=	-
Ground Transportation	+	+	=	+
Vessel Transportation	+	+	=	-
Land Use	+	+	=	+
Public Services/Health and Safety	+	+	=	=
Noise	+	+	=	=
Hazards and Hazardous Materials	+	+	=	+
Recreation	+	+	=	=
Socioeconomics	+	+	=	+
Utilities and Service Systems	+	+	=	=
Cultural Resources	+	+	=	=
Environmental Justice	+	+	=	+
Aesthetics/Visual Resources	+	+	=	+

Notes:
(-) = Impact considered to be less when compared with the NEPA Baseline.
(=) = Impact considered to be equal to the NEPA Baseline.
(+) = Impact considered to be greater when compared with the NEPA Baseline.

Table 4.3-1. Comparison of CEQA Significance Analysis by Alternative

Environmental Resource Area	Alternative 1: 345 Acre Alternative	Alternative 2: 315 Acre Alternative	Alternative 3: Landside Improvements Alternative	Alternative 4: No Project Alternative
Geology, Groundwater, and Soils	III	III	III	III
Air Quality and Health Risk	**I**	**I**	**I**	**I**
Hydrology and Water Quality	III	III	III	III
Biota and Habitats	**I**	**I**	**I**	**I**
Ground Transportation	**I**	**I**	**I**	**I**
Vessel Transportation	III	III	III	III
Land Use	III	III	III	III
Public Services/Health and Safety	II	II	II	III
Noise	**I**	**I**	**I**	IV
Hazards and Hazardous Materials	III	III	III	III
Recreation	III	III	III	IV
Socioeconomics	III	III	III	III
Utilities and Service Systems	III	III	III	III
Cultural Resources	II	II	II	IV
Environmental Justice	**I**	**I**	III	III
Aesthetics/Visual Resources	III	III	III	III

Notes:
I = Unavoidable significant impact.
II = Significant but mitigable impact.
III = Less than significant impact (not significant).
IV = No impact.

Table 4.3-2. Comparison of Alternatives to the CEQA Baseline

Environmental Resource Area	Alternative 1: 345 Acre Alternative	Alternative 2: 315 Acre Alternative	Alternative 3: Landside Improvements Alternative	Alternative 4: No Project Alternative
Geology, Groundwater, and Soils	+	+	+	+
Air Quality and Health Risk	+	+	+	+
Hydrology and Water Quality	+	+	+	+
Biota and Habitats	+	+	+	+
Ground Transportation	+	+	+	+
Vessel Transportation	+	+	+	+
Land Use	+	+	+	+
Public Services/Health and Safety	+	+	+	+
Noise	+	+	+	=
Hazards and Hazardous Materials	+	+	+	+
Recreation	+	+	+	=
Socioeconomics	+	+	+	+
Utilities and Service Systems	+	+	+	+
Cultural Resources	+	+	+	=
Environmental Justice	+	+	+	+
Aesthetics/Visual Resources	+	+	+	+

Notes:
(-) = Impact considered to be less when compared with the CEQA Baseline.
(=) = Impact considered to be equal to the CEQA Baseline.
(+) = Impact considered to be greater when compared with the CEQA Baseline.

As required by NEPA and CEQA Guidelines Section 15126, another alternative that is most capable of reducing significant impacts must then be identified.

Alternative 2 would be similar to the proposed Project except that the East Basin area would not be filled and the Berth E23 wharf would not be constructed. The elimination of the East Basin fill and Berth E23 wharf would decrease container movement efficiency compared to the Project. Alternative 2 would result in the consolidation of common operations and wharves of the existing two terminals on Piers E and F into one terminal, as would occur under the proposed Project. However, under this design the available area along the expanded Pier F intermodal railyard would be substantially limited in width and, consequently, would not support efficient access by trucks transporting containerized cargo. Therefore, under Alternative 2 the proposed terminal areas would not support the activities and modern equipment necessary to efficiently and safely handle the anticipated containerized cargo volumes. Overall, Alternative 2 would be less environmentally damaging than the Project; however, it would not meet the overall Project purpose and need of increasing container terminal efficiency to accommodate a portion of the predicted future containerized cargo throughput volumes necessary to fulfill the Project purpose. Therefore, Alternative 2 is not considered the environmentally preferred alternative.

The Project would rehabilitate or replace deteriorated and obsolete terminal facilities; provide deeper water (-55 feet MLLW) at berths and in basins and channels; create new land; modernize marine terminal facilities; provide rail infrastructure improvements (e.g., mainline track realignment at Ocean Boulevard/Harbor Scenic Drive, Pier F Avenue storage yard and tracks, Pier F tail track, and expansion of the existing Pier F intermodal railyard); construct a 66kV substation to support Middle Harbor container terminal operations, including shore-to-ship power; and implement environmental controls, including the Port's Green Port Policy and CAAP, to accommodate a portion of the predicted future increases in containerized cargo volume and the modern, larger cargo vessels that are expected to transport these goods to and from the Port. Project throughput volumes (3,320,000 TEUs) would adequately accommodate forecasted container throughput growth at the Port. This approach is consistent with the CZMA and the CCA shich encourage modernization of existing facilities within existing Port boundaries. Therefore, the Project (345-Acre Alternative) is considered the environmentally preferred alternative.

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Chapter 5
OTHER REQUIRED SECTIONS

5.1 UNAVOIDABLE SIGNIFICANT IMPACTS

Proposed Project development would result in significant, unavoidable impacts on the following resources:

Air Quality: Project construction activities would produce significant levels of VOC, CO, NOx, PM_{10}, and $PM_{2.5}$ emissions under NEPA and CEQA. Additionally, construction activities would produce offsite ambient air pollutant concentrations (one-hour NO_2 and 24-hour PM_{10}) that would exceed SCAQMD thresholds under NEPA and CEQA.

Proposed Project operations would result in annual average daily emissions of VOCs (in 2015 and thereafter) and NOx (in all analysis years) that would exceed SCAQMD thresholds of significance under NEPA. Project emissions during operations would result in peak daily emissions that would exceed the VOCs, CO, NOx, SO_2, and $PM_{2.5}$ SCAQMD thresholds for all Project years under NEPA. Proposed Project operations would result in offsite ambient concentrations of one-hour and annual NO_2 that would exceed SCAQMD thresholds under NEPA and CEQA. The Project would expose sensitive receptors to significant levels of TACs under NEPA. As Project emissions of GHG would increase relative to baseline levels, GHG impacts would be significant and unavoidable under CEQA.

Biota and Habitats: Project operations would potentially result in the introduction of non-native species into the harbor via ballast water or vessel hulls, which would substantially disrupting local biological communities.

Ground Transportation: Additional traffic generated by construction and operations would create significant and unavoidable ground transportation impacts on highway segments in the study area, including portions of I-405, I-710, and SR-91 under NEPA and CEQA.

Noise: Project construction activities would cause ambient noise levels to increase by more than three dBA, which would exceed the LBMC maximum noise levels at receptor Sites 1 and 2 (West Coast Long Beach Hotel and the Long Beach Hilton Hotel), respectively.

5.2 SIGNIFICANT IRREVERSIBLE IMPACTS

5.2.1 Introduction

Pursuant to CEQA Guidelines Section 15126.2(c), an EIR must consider any significant irreversible environmental changes that would be caused by the 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 impact and, particularly, secondary impacts (such as highway improvements which provide 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.*

5.2.2 Analysis of Irreversible Changes

The Project would require the use of non-renewable resources, such as lumber, metal alloys, and aggregate resources, for the physical construction components of the Project. However, the Project does not represent an uncommon construction project that uses an extraordinary amount of raw materials in comparison to other urban or industrial development projects of similar scope and magnitude.

The Project would develop the site for Port-related activities. Resources that are committed irreversibly and irretrievably are those that would be used by a project on a long-term or permanent basis. Resources committed to this Project include the 65.3 acres of water area in Slip 1 and East Basin that would be filled for container storage areas and extension of berthing areas, fossil fuels, capital, labor, and construction materials such as rock, concrete, gravel, and soils.

Fossil fuels and energy would be consumed in the form of diesel, oil, and gasoline used for equipment and vehicles during construction and operation activities. During operations, diesel, oil, and gasoline would be used by ships, terminal

(e.g., cargo handling) equipment, and vehicles. Electrical energy and natural gas would be consumed during construction and operations. These energy resources would be irretrievable and irreversible.

Non-recoverable materials and energy would be used during construction and operations, but the amounts needed would be easily accommodated by existing supplies. Although the increase in the amount of materials and energy used would be insignificant, they would nevertheless be unavailable for other uses.

CEQA Guidelines Section 15126.2(c) requires that an EIR evaluate the irretrievable commitments of resources to assure that current consumption is justified. The irretrievable commitment of resources required by the proposed Project is justified by the objectives of the Project, which are to consolidate common operations and wharves and expand marine backland terminal facilities on existing, under-utilized wharf and waterfront areas; rehabilitate and modernize existing primary Port facilities; implement the Green Port Policy including shore-to-ship power ("cold ironing"); provide for efficient terminal traffic flow and cargo handling operations; link new and improved dock and wharf operations to planned and existing Pier F intermodal railyard facilities and separate on-dock intermodal terminal lead track operations from mainline track operations; replace obsolete and deteriorated wharf structures with improved, well-equipped wharf areas, along with channels and berths of sufficient width, length, and depth to allow access to the docks by existing and future cargo vessels; allow the terminal operator to replace obsolete gantry cranes with new generation cranes that are able to reach across the new, larger vessels; and fill unused slips and adjoining areas that are not accessible to the broadest range of current and future containerized cargo vessel types. In addition, the Project would provide an economic benefit to the Long Beach area.

5.3 GROWTH INDUCEMENT

5.3.1 Introduction

NEPA requires an EIS to examine the potential of a project to significantly or adversely affect the environment as a result of direct or indirect effects. Indirect effects (NEPA, 40 CFR 1508.8[b]) may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air, water, and other natural systems, including ecosystems

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. This includes ways in which the proposed project would remove obstacles to population growth or trigger the construction of new community services facilities that could cause significant effects (CEQA Guidelines Section 15126.2).

5.3.2 Summary of Growth-Inducing Impacts

As discussed below, the Project would not have a growth-inducing impact on surrounding areas. Although the Project would lead to development of an area currently underutilized and increase the volume of containers moving through Middle Harbor, this would not stimulate significant economic or population growth, remove obstacles to population growth, or necessitate the construction of new community facilities that would lead to additional growth in the surrounding area. The analysis presented below focuses on whether the Project would directly or indirectly stimulate significant economic or population growth in the surrounding area.

5.3.2.1 Direct Growth-Inducing Impacts

A project would directly induce growth if it would remove barriers to population growth (e.g., by proposing new homes and businesses). The proposed Project is designed for the receipt and transfer of shipping containers. This type of project is not anticipated to trigger new residential development in the Project area for the following reasons: (1) the Project does not include the development of new housing or population-generating uses; and (2) the Project would not significantly affect the economy of the region in ways that would generate significant direct growth-inducing impacts. The residential area in the Project vicinity is largely built out and is currently relatively dense. Therefore, the Project is not anticipated to trigger new residential development in the Project area (Section 3.12, Socioeconomics).

The direct effects of a project on regional growth generally stem from economic growth resulting from labor needs and expenditures. The proposed Project would result in the generation of up to 2,537 new, short-term jobs during construction activities and approximately 2,961 new jobs (year

2025 projection) at the Project site during operations. The short-term construction effects would include expenditures that would result in the employment of people primarily from the local region. Long-term operational effects would include the annual expenditures in direct employment of personnel that would mostly be from the local region (refer to Section 3.12 for additional details). In either case, the Project would not be expected to stimulate substantial growth in the retail sector or contribute significantly to employment within the region.

Construction activities would occur over an approximate 10-year period. The short-term construction employees would likely be accommodated by the existing labor pool within the greater Long Beach area. Because of the existing sizable local and regional labor pool, no significant influx of workers into the local communities is anticipated. Thus, due to the minimal number of employees and the existing supply for workers in the local community, any increase in population and housing as a result of construction of the proposed Project would be less than significant.

This Project is smaller in scale than most other projects within the Los Angeles County and southern California regions in terms of operational staff. The Project-related increase in permanent employment and earnings would be beneficial, but would have little impact compared to total earnings in the southern California economy.

Therefore, because the Project: (1) would not involve the development of new housing; and (2) would not significantly affect the economy of the region, the Project would not generate significant direct growth-inducing impacts. In addition, growth inducement is typically related to major infrastructure and residential projects and not to proposed industrial development in industrial developed areas. The proposed Project would add an additional 24,779 jobs by 2025 in the five-county region that includes the counties of Los Angeles, Orange, Riverside, San Bernardino, and Ventura, which would have a less than significant incremental impact on the southern California economy. The Port currently supports 41,097 jobs (year 2005 baseline) in the five-county region. However, the additional jobs that would be associated with Project operations are considered insignificant when compared to the 10,015,139 regional jobs projected for year 2025, and would only represent 0.25 percent of the regional employment.

5.3.2.2 Indirect Growth-Inducing Impacts

A project would indirectly induce growth if it would trigger the construction of new community service facilities that could increase the capacity of infrastructure in an area that currently meets the demands (e.g., an increase in the capacity of a sewer treatment plant or the construction or widening of a roadway beyond that which is needed to meet existing demand).

As part of the Project, rail system improvements would be constructed in the Project vicinity to ensure acceptable traffic flow for the proposed container terminal. The proposed rail system modifications would not be expected to induce growth. Furthermore, proposed rail facility improvements would reduce the percentage of containers that would otherwise be transported by truck. The Project would be located in an area that is currently developed and has been identified in the PMP to undergo terminal improvements to accommodate forecasted increases in containerized cargo throughput. The existing area in the vicinity of the Port is largely built-out and is already relatively dense. Construction of the additional transportation infrastructure would not trigger or cause substantial new residential or other development in the Project area. These improvements and modifications are not considered to be growth-inducing.

As stated above, the Project is located in an area that is currently developed. As discussed in Section 3.13, the proposed Project would involve modifications to the existing utility systems, including the demolition/abandonment of existing utilities, new storm drain system with water quality management system, new water distribution system with new fire protection system, and modification of the existing sewer system. These modifications would tie into the existing utility lines that currently serve the Project site and would not be considered growth-inducing.

The Project would result in only minimal direct effects on employment and economic growth. The Project would indirectly increase earnings to some firms and households throughout the region as Project expenditures are realized throughout the region. The short-term indirect effects from construction would incrementally increase activity in nearby retail establishments as a result of construction workers patronizing local establishments. However, the long-term effects from the Project would be negligible relative to the size of the regional economy. Overall, the Project would not generate significant growth-inducing impacts.

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Chapter 6
Application Summary Report

This chapter, in conjunction with the EIS/EIR, constitutes an Application Summary Report (ASR) and Proposed Staff Recommendations prepared in accordance with the certified PMP, as amended, and the CCA. As discussed below, the proposed Project is in conformance with the stated policies of the PMP. This document was circulated for public review and would become effective upon certification by the BHC.

6.1 PORT MASTER PLAN AND CALIFORNIA COASTAL ACT CONSISTENCY ANALYSIS

6.1.1 Consistency with the Port Master Plan

The Project site is located within Harbor Planning District 2 (Northeast Harbor District), District 5 (Middle Harbor District), and District 8 (Southeast Harbor District), which are characterized by primary Port facilities, oil production, and ancillary Port infrastructure. The proposed Project is consistent with (1) permitted Port-related industrial uses associated with these Harbor Planning Districts; and (2) overall goals stipulated in the PMP and the long-range planning goal for the Northeast Harbor District to increase primary Port use. Additionally, the Project is consistent with the Middle Harbor District goals associated with expanding primary Port facilities on Pier E, constructing minor landfills to accommodate terminal operations, and providing on-dock rail facilities. Furthermore, the Project would include construction of a 66kV substation (Pier E Substation) to provide power to support Middle Harbor container terminal operations, including supplying shore-to-ship power, and future power needs for other Port facilities. The landfills proposed for the Project were previously approved by the CCC (March 2001) in PMP Amendment #16.

6.1.2 Consistency with the California Coastal Act

Chapter 3

As described in Section 3.7.2, Chapter 3 of the CCA identifies six coastal resources planning and management policies that are used to evaluate a proposed Project's consistency with the CCA. These six coastal resources planning and management polices and their relationship to the proposed Project are discussed below.

Maximize Access to California's Coast (Sections 30210 to 30214). The proposed Middle Harbor consolidated container terminal is located within the highly industrialized inner complex of the Port. The closest onshore recreational facilities are located approximately one mile from the Project site. Construction and operation of the Project would not interfere with or change public access to coastal areas.

Protect Water-Oriented Recreational Activities (Sections 30220 to 30224). Recreational boating and associated offshore recreational activities such as fishing are not allowed within Middle Harbor, which immediately surrounds the Project site. In general, fishing in Long Beach Harbor is discouraged because of contamination of certain fish species. Minor delays to recreational boats could occur, however, on days when cargo vessels arrive at the Middle Harbor container terminal. The Project would result in an additional 179 vessel calls per year. The USCG, with the assistance of the Port, would enforce the Title 33 CFR Part 165.1151 moving security zone of 1,000 yards ahead and 500 yards on each side and astern of cargo vessels. Other vessels, including recreational boats, would be prohibited within the security zone during the arrival of cargo vessels. These potential impacts would be temporary and short-term, and minimized since all cargo vessels calling at the proposed Middle Harbor container terminal would use established commercial shipping lanes that currently accommodate approximately 6,170 inward and outward vessel movements per year (Section 3.6, Vessel Transportation). Furthermore, the USCG and the HSC currently require ships entering and leaving the POLB to maintain a minimum separation distance of 500 yards.

Maintain, Enhance, and Restore California's Marine Environment (Sections 30230 to 30237). Potentially significant impacts on water quality associated with construction and operation of the proposed Middle Harbor container terminal would be reduced to less than significant levels by adherence to measures included in all applicable permits, and reuse and/or disposal of all sediments at approved sites. The Port would also obtain a General NPDES Permit and WDR permit

from the RWQCB and adhere to its terms and conditions. In order to minimize storm water runoff impacts associated with the proposed Project, the Port would prepare a site-specific SWPPP in accordance with the SWRCB's NPDES General Permit for Storm Water Discharges Associated with Construction Activity (Section 3.3, Hydrology and Water Quality). BMPs consisting of permanent features and operational practices designed and/or implemented to minimize the discharge of pollutants in storm water or non-storm water flows from the Project site would be in accordance with the SWPPP once construction is completed and the facility is operational.

Activities associated with construction and operation of the Project would potentially impact some marine organisms that occur in the Project area. However, none of these impacts would substantially affect local resident or migratory marine organisms; therefore, no significant impacts would occur. Adherence to the measures included in USACE's Section 404 permit and the RWQCB's WDR permit would minimize turbidity-related impacts associated with dredging on marine organisms. In addition, implementation of BMPs included in the site-specific SWPPP would reduce impacts on marine organisms associated with any hazardous spill or leak to less than significant.

Protect Sensitive Habitats and Agricultural Resources (Sections 30240 to 30244). There are no agricultural resources in the proposed Project vicinity. The Project site would be located within a highly industrialized inner complex of the Port. The Project area would be located within an area designated as EFH for the Coastal Pelagics and Pacific Coast Groundfish FMPs. Eight of the known 94 species federally managed under these plans are known to occur in the Long Beach Inner Harbor and Middle Harbor and could be affected by the proposed Project (Section 3.4, Biota and Habitats). However, although disturbance of an estimated 54.6 net acres of marine habitat and the temporary resuspension of sediments into the water column during dredging activities could potentially affect EFH, the Port would apply approximately 40 credits available in the Bolsa Chica bank to compensate for loss of marine habitats. Additionally, adherence to measures included in the USACE's Section 404 permit and the RWQCB's WDR permit and implementation of BMPs stipulated in the Project's SWPPP would ensure impacts on EFH would be less than significant.

Minimize Environmental and Aesthetic Impacts of New Development (Sections 30250 to 30255). The Middle Harbor container terminal would be located in a previously developed, industrial area within the Port. The existing infrastructure and public services of the Port and surrounding areas would generally be able to accommodate the proposed facilities. However, as the existing antiquated facilities at Stations 15 and 20 affect LBFD's ability to provide acceptable emergency response times, Project construction activities and operations would further exacerbate inadequate fire service response times. The Port has committed to upgrade facilities at Stations 15 and 20 that would ensure adequate emergency response services to the Project site (Section 3.8, Public Services/Health and Safety). In addition, SCE would construct a new 66/12 kV substation (Pier E Substation) in cooperation with the Port, as well as related electrical transmission systems to provide power to support proposed Middle Harbor container terminal operations, including shore-to-ship power and circuits to allow electrification of dredge equipment during construction activities.

Construction and operation of the proposed Project would not substantially contrast with the existing industrial visual quality of the Project area, or adversely impact the existing visual industrial character and quality of the Project site and its surroundings. Due to intervening Port development and roadway infrastructure, development of the Middle Harbor container terminal and ancillary infrastructure would appear as an intensification of existing Project site activity and be congruous with existing Port-related industrial activities from sensitive public vantage points. In addition, Middle Harbor container terminal facilities would not block or alter an important view or have an adverse effect on a scenic vista. The overall visual impact of the proposed Project would be less than significant.

Locate Coastal-Dependent Industrial Facilities with Existing Sites Whenever Possible (Sections 30260 to 30265.5). The proposed Middle Harbor consolidated container terminal is a coastal dependent industrial facility. The proposed Project would be located within an existing industrial area of the Port: Harbor Planning District 2 (Northeast Harbor District); District 5 (Middle Harbor District); and District 8 (Southeast Harbor District).

Chapter 8

Chapter 8 of the CCA recognizes the California ports, including the POLB, as primary economic and coastal resources that are essential elements of the national maritime industry (Section 30701[a]). Relevant Chapter 8 sections of the CCA

are listed below and include a discussion of their relationship to the proposed Project.

Section 30705

(a) *Dredging is allowed for berthing areas and facilities required for the safety and accommodation of vessels.* The proposed Project would generate approximately 680,000 cy of dredged material to deepen Slip 3 to a minimum of -55 feet MLLW and widen Slip 3 by 114 feet. These channel improvements would be required to safely accommodate modern, large, deep-draft cargo ships that would access the proposed Middle Harbor container terminal.

Section 30708

(*a) Minimize substantial adverse environmental impacts.* Project construction and operation would result in construction and operational air emissions in excess of applicable standards for VOC, CO, NOx, SO_2, PM_{10}, and $PM_{2.5}$. Twenty-nine mitigation measures would be applied to address both construction and operational Project-specific emissions. In addition, three mitigation programs designed to help reduce cumulative air toxics, health risk, and GHG would be applied. These mitigation measures would reduce emissions resulting from the Project but significant impacts would remain for both emissions (VOC, CO, NOx, PM_{10}, and $PM_{2.5}$ for a peak day of construction, and NOx, VOC, CO, and $PM_{2.5}$ for operation) and ambient concentrations (24-hour PM_{10} for construction, and one-hour and annual NO_2 for operation). Prior to mitigation, the Project would result in a significant increase in cancer risks for residential, occupational, and sensitive receptors. With mitigation, only the increase at occupational receptors would remain significant. The Project would also result in a significant impact on GHG (under CEQA), even with implementation of all feasible mitigation measures.

Project operations would potentially result in the introduction of non-native species into the harbor via ballast water or vessel hulls, which would substantially disrupt local biological communities. As no feasible mitigation measures currently exist to totally prevent introduction of invasive species, due to the lack of a proven technology, impacts on biota and habitats would be significant. Potentially significant impacts associated with the permanent loss of 54.6 acres of marine habitat in Middle Harbor would be minimized by application of 40 existing mitigation credits available in the Bolsa Chica bank to compensate for loss of fish and wildlife habitat due to Project construction.

Potentially significant impacts on emergency response times due to existing antiquated fire protection facilities would be reduced to acceptable levels through payment of the appropriate fees to the LBFD to offset the costs of upgrading facilities.

Project construction activities would substantially increase ambient noise levels at nearby sensitive receptors, particularly during pile-driving activities. Although standard noise controls and mitigation measures (i.e., temporary noise barriers and limiting pile-driving construction hours and days) would be implemented to reduce noise, noise levels would still be substantially increased due to the difficulty of effectively mitigating noise-generating activities. Therefore, impacts would remain significant during construction activities.

Potentially significant impacts on historic architectural resources during Project construction would be minimized to less than significant through recordation of the resources to HABS or HAER standards. Additionally, relocation of the historic structures is recommended to further reduce impacts during Project construction.

(b) Minimize potential traffic conflicts between vessels. – The USACE and the Port would enforce the Title 33 CFR Part 165.1151 moving security zone of 1,000 yards ahead and 500 yards on each side and astern of cargo vessels. The USCG and HSC already require vessels moving within the precautionary area (i.e., the area extending eight nm south of the Queens Gate entrance to the southern marine traffic separation scheme and 10 nm to the southwest to the western marine traffic separation scheme) and inside the POLB breakwater to maintain a minimum separation distance of 500 yards. As a result, vessel traffic associated with the proposed Project would not cause significant vessel traffic congestion within Long Beach Harbor and would not exceed the capacity for maritime commerce to operate efficiently and safely with the POLB.

(c) *Give highest priority to the use of existing land space within harbors for Port purposes.* – Although marine backland terminal facilities located on existing, under-utilized wharf and waterfront areas would be upgraded, development of new lands would be required to support proposed Project operations. Accordingly, the Project would utilize existing lands within the POLB to support the proposed Middle Harbor consolidated container terminal operations.

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Chapter 7
ORGANIZATIONS AND PERSONS CONSULTED

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Chapter 8
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