Chapter 4
Cumulative Analysis

4.1 Introduction

This chapter presents the requirements for cumulative impact analysis, as well as the actual analysis of the potential for the proposed Project, together with other past, present, and reasonably foreseeable future projects in the cumulative geographic scope of each resource area, to have significant cumulative effects. Following the presentation of the requirements related to cumulative impact analyses and a description of the related projects (Sections 4.1.1 and 4.1.2, respectively), the analysis in Section 4.2 addresses each of the resource areas for which the proposed Project may make a cumulatively considerable contribution to cumulative impacts, when combined with other reasonable and foreseeable projects in the area.

4.1.1 Requirements for Cumulative Impact Analysis

NEPA (40 CFR 1508.7 and 40 CFR 1508.25[a][2]) and the state CEQA Guidelines (14 CCR 15130) require a reasonable analysis of the significant cumulative impacts of a proposed Project. Cumulative impacts are defined by CEQA as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines, Section 15355).

Cumulative impacts are further described as follows:

(a) The individual effects may be changes resulting from a single project or a number of separate projects.

(b) The cumulative impacts from several projects are the changes in the environment, which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (40 CFR 1508.7 and CEQA Guidelines, Section 15355[b]).

Furthermore, according to CEQA Guidelines Section 15130(a)(1):

> *As defined in Section 15355, a "cumulative impact" consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.*

In addition, as stated in the CEQA Guidelines, Section 15064(i)(5):

> *The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable.*

NEPA also requires analysis of cumulative impacts; 40 CFR Section 1508.7 states:

> *Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.*

Therefore, the following cumulative impact analysis focuses on whether the impacts of the proposed Project are cumulatively considerable within the context of impacts caused by other past, present, or future projects. The cumulative impact scenario considers other projects proposed within the area defined for each resource that would have the potential to contribute to cumulatively considerable impacts.

For this EIS/EIR, related area projects with a potential to contribute to cumulative impacts were identified using one of two approaches: the "list" methodology or the "projection" methodology. Most of the resource areas were analyzed using a list of closely related projects that would be constructed in the cumulative geographic scope, which differs by resource and sometimes for impacts within a resource; cumulative regions of influence are documented in Section 4.2 below. The list of related projects is provided in Section 4.1.2 below.

Air quality, noise, and traffic/circulation analyses use a projection or a combined list and projection approach as described below. Cumulative analysis of air quality impacts uses projections from the South Coast Air Basin 2007 AQMP and the *Multiple Air Toxics Exposure Study* (MATES-II). The Traffic/Circulation cumulative analysis uses annual regional growth and development rates from the Southern California Association of Governments (SCAG) Regional Travel Demand Forecasting Model, which is described in Section 3.10. The cumulative analysis of noise impacts uses a hybrid approach, as it relies on both the annual regional growth rates utilized for traffic (because traffic is an important contributor to noise impacts) and the list of related projects documented in Section 4.1.2.

4.1.2 Projects Considered in the Cumulative Analysis

4.1.2.1 Past Projects

The below discussions describe the past projects that have contributed the cumulative impacts.

History of the Port of Los Angeles

The Port of Los Angeles is located in the San Pedro Bay at the southernmost point of Los Angeles County, approximately 20 miles from downtown Los Angeles. Because of its proximity to the Pacific Ocean, the San Pedro Bay has a long history of maritime activity.

In 1822, under the newly independent Mexican government San Pedro became a robust commercial center and an attractive home for new settlers. The Mexican government granted three ranchos near the bay, Rancho San Pedro, Rancho Los Palos Verdes, and Rancho Los Cerritos. On February 2, 1848, when California came under American control, business at San Pedro Harbor was booming. It was evident, however, that the Harbor needed to be expanded to accommodate the increasing cargo volume coming into the bay for the growing population in Los Angeles. In 1906, the city annexed a 16-mile strip of land on the outskirts of San Pedro and Wilmington. The Port was officially founded in 1907 with the creation of the Los Angeles Board of Harbor Commissioners. Between 1911 and 1912, the first 8,500-foot section of the breakwater was completed, and the Main Channel was widened to 800 feet and dredged to a depth of 30 feet to accommodate the largest vessels of that era. Concurrently, Southern Pacific Railroad completed its first major wharf in San Pedro, allowing railcars to efficiently load and unload goods simultaneously. The Port continued to grow through the twentieth century.

Following World War II, the Los Angeles Harbor District launched a broad restoration program. Many of the facilities in the Harbor required maintenance that had been delayed during the war years. In recent years, the advent of containerization resulted in dramatic changes at the Port. Because of this new mode of shipping, the Port, like major new and old harbors, modernized facilities to meet the needs of the new geometry required by containerization. In addition to the new (container size and shape driven) configurations, larger cranes and concrete wharves (replacing timber) were required to handle the dramatically increased weight of cargo containers. Other major Harbor improvements included deepening the main channel to accommodate the larger container vessels entering the bay, purchasing land to expand terminals, and replacing older wharves that could not bear the increased weight of newer containers.

History of the Project Area

Historically, the Project area (see Figure 2-1) has been intensively used for various Port activities. Most of the area has been a container terminal for several decades. Prior to the proposed use as a container terminal, the area was used by Chevron USA for a marine oil tank farm and terminal with two oil tanker berths. Todd Shipyard used another portion of the site as a shipbuilding and maintenance facility. As part of the West Basin Widening project, 9 acres of the eastern end of the Chevron Site were removed to widen the West Basin Channel for improved navigation.

Chevron USA operated a Marine Oil Terminal at Berths 97-102 (berth designations were prior to reconfigured shoreline because of the West Basin Widening Project) beginning in 1916. Terminal operations occupied approximately 16.5 acres of land, which contained 20 large aboveground storage tanks. The terminal was decommissioned and demolished in the early 1990s. Remediation activities at the site began in 1993 using thermal desorption of the soil and recovery of free hydrocarbon product from the surface of the groundwater.

Todd Pacific Shipyards occupied Berths 103-109 from 1917 to 1998. The shipyard was used for construction, maintenance, and repair operations of large commercial and naval vessels. Since decommissioning and demolition of the shipyard, the property has undergone a series of remediation and reclamation activities.

Following use by Chevron and Todd Shipyard, the site was used temporarily for construction staging for the Pier 400 and Badger Avenue Bridge projects and for storage of automobiles, containers, and truck chassis. In 2002, prior to the construction of the

Phase I development, approximately 11 acres of the Project site were permitted for container storage by the adjacent Yang Ming Line container terminal.

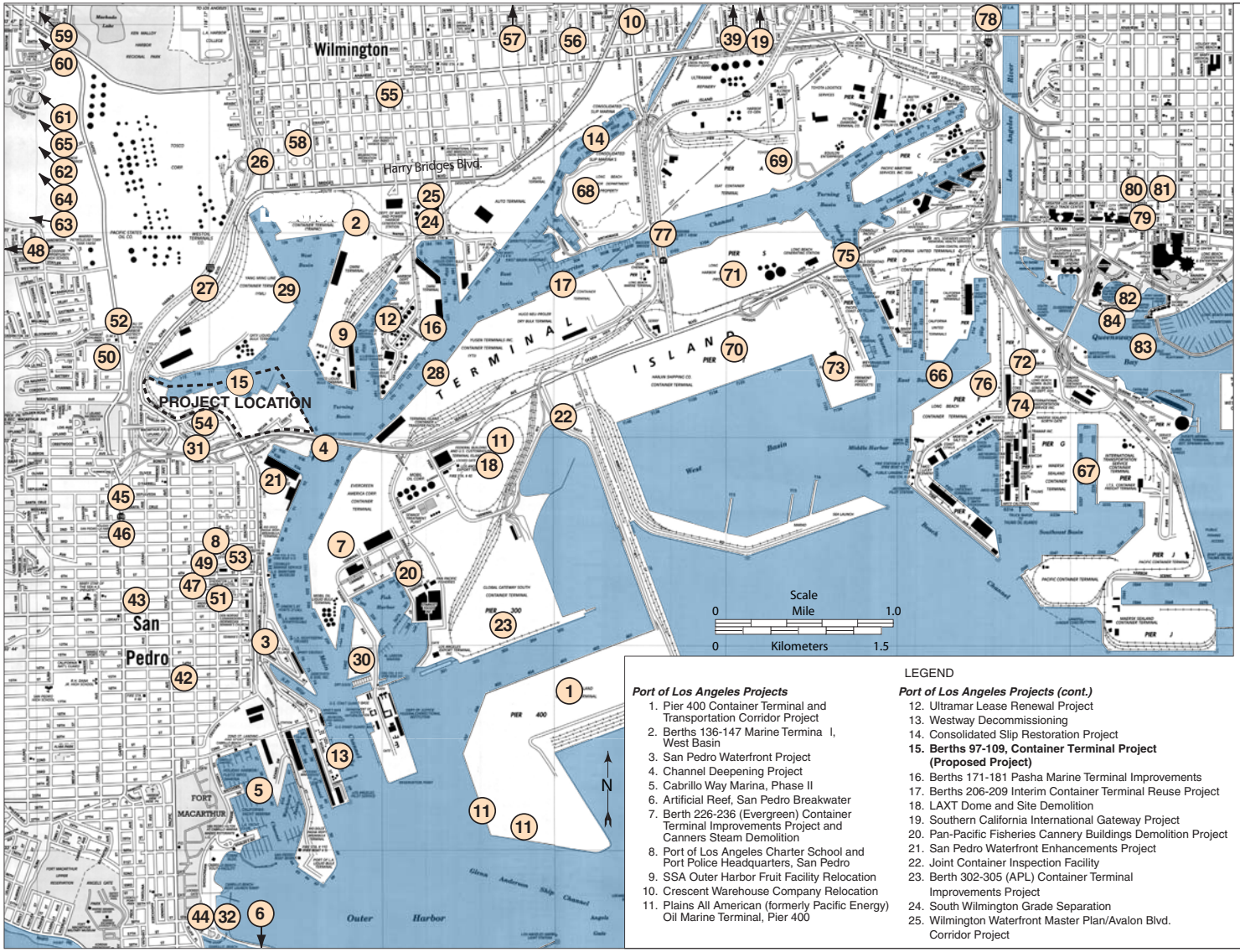
Currently, the Project area includes Phase I of the development, as allowed for under the ASJ (Phase I is analyzed in this document). In addition, Catalina Express currently operates a passenger shuttle service to and from Catalina Island at Berth 95. The Catalina Express Terminal would be relocated to an area south of the Vincent Thomas Bridge as part of this Project.

Historical development of the Project area, the Port, and the general vicinity has had various environmental effects, which are described in individual resource analysis sections below (Section 4.2.2).

4.1.2.2 Current and Future Projects

A total of 84 present or reasonably foreseeable future projects (approved or proposed) were identified within the general vicinity of the Project that could contribute to cumulative impacts. The locations of these projects are shown in Figure 4-1. A corresponding list of the cumulative projects provided by LAHD, the Port of Long Beach, and the Los Angeles Department of Transportation (LADOT) is provided in Table 4-1. (As discussed in Section 4.1.1 and further in the resource-specific sections below, some resource analyses use a projection approach encompassing a larger cumulative geographic scope, and for these resources a larger set of past, present, and reasonably foreseeable future projects was included for analysis of cumulative impacts.)

For the purposes of this EIS/EIR, the timeframe of current or reasonably anticipated projects extends from 2001 to 2045, and the vicinity is defined as the area over which effects of the proposed Project could contribute to cumulative effects. The cumulative regions of influence for individual resources are documented further in each of the resource-specific subsections in Section 4.2.



LEGEND

Port of Los Angeles Projects

1. Pier 400 Container Terminal and Transportation Corridor Project
2. Berths 136-147 Marine Termina l, West Basin
3. San Pedro Waterfront Project
4. Channel Deepening Project
5. Cabrillo Way Marina, Phase II
6. Artificial Reef, San Pedro Breakwater
7. Berth 226-236 (Evergreen) Container Terminal Improvements Project and Canners Steam Demolition
8. Port of Los Angeles Charter School and Port Police Headquarters, San Pedro
9. SSA Outer Harbor Fruit Facility Relocation
10. Crescent Warehouse Company Relocation
11. Plains All American (formerly Pacific Energy) Oil Marine Terminal, Pier 400

Port of Los Angeles Projects (cont.)

12. Ultramar Lease Renewal Project
13. Westway Decommissioning
14. Consolidated Slip Restoration Project
15. **Berths 97-109, Container Terminal Project (Proposed Project)**
16. Berths 171-181 Pasha Marine Terminal Improvements
17. Berths 206-209 Interim Container Terminal Reuse Project
18. LAXT Dome and Site Demolition
19. Southern California International Gateway Project
20. Pan-Pacific Fisheries Cannery Buildings Demolition Project
21. San Pedro Waterfront Enhancements Project
22. Joint Container Inspection Facility
23. Berth 302-305 (APL) Container Terminal Improvements Project
24. South Wilmington Grade Separation
25. Wilmington Waterfront Master Plan/Avalon Blvd. Corridor Project

Port of Los Angeles Projects (cont.)

26. "C" Street/Figueroa Street Interchange
27. Port Transportation Master Plan
28. Berths 212-224 YTI Wharf Upgrades
29. Berths 121-131 Yang Ming Container Terminal
30. Southwest Marine Demolition Project
31. I-110/SR47 Connector Improvement Program
32. Inner Cabrillo Beach Water Quality Improvement Program

Potential Port-Wide Operational Projects

33. Terminal Free Time*
34. Extended Terminal Gates*
35. Shuttle Train/Inland Container Yard*
36. Origin/Destination and Toll Study*
37. Virtual Container Yard*
38. Increased On-Dock Rail Usage*
39. Union Pacific Railroad ICTF Modernization Project
40. Optical Character Recognition*
41. Truck Driver Appointment System*

Community of San Pedro Projects

42. 15th Street Elementary School
43. Pacific Corridors Redevelopment Project
44. Cabrillo Marine Aquarium Expansion
45. Gas Station and Mini-Mart
46. Fast Food Restaurant w/drive thru
47. Mixed Use Development, 407 Seventh Street
48. Condos., 28000 Western Ave.
49. Pacific Trade Center
50. Single Family Homes (Gaffey St.)
51. Mixed-use Development, 281 West 8th Street
52. Target (Gaffey Street)
53. Palos Verdes Urban Village
54. Temporary Little League Park

Community of Wilmington Projects

55. Banning Elementary School #1
56. East Wilmington Greenbelt Community Center
57. Distribution Center and Warehouse
58. Dana Strand Public Housing Redevelopment Project

Projects in Harbor City, Lomita, and Torrance

59. 1437 Lomita Blvd. Condos.
60. Harbor City Child Development Center
61. Kaiser Permanente South Bay Master Plan
62. Drive-thru Restaurant, Harbor City
63. Ponte Vista
64. Warehouses, 1351 West Sepulveda Blvd.
65. Sepulveda Industrial Park

Port of Long Beach Projects

66. Middle Harbor Terminal Redevelopment
67. Piers G & J Terminal Redevelopment
68. Pier A West Remediation Project
69. Pier A East
70. Pier T TTI Terminal, Phase III
71. Pier S Marine Terminal
72. Administration Building Replacement Project
73. Pier T, Long Beach LNG Terminal
74. San Pedro Bay Rail Study
75. Gerald Desmond Bridge Replacement Project
76. Chemoil Marine Terminal Tank Installation

ACTA and CalTrans Projects

77. Schuyler Heim Bridge Replacement/SR47 Expressway
78. I-710 Major Corridor Study

City of Long Beach Projects

79. Renaissance Hotel Project
80. D'Orsay Hotel Project
81. City Place Development
82. The Pike at Rainbow Harbor
83. Queensway Bay Master Plan
84. Pike Property Development

**Project not shown on figure because it is not specific to a location, or the location has not been determined.*

Source: AAA Map 2005

Source: POLA, 2003

Figure 4-1
Cumulative Projects Location Map
Berth 97-109 Container
Terminal Project EIS/EIR

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Table 4-1. Related and Cumulative Projects

No. in Figure 4-1	Project Title and Location	Project Description	Project Status[a]
Port of Los Angeles Projects			
1	Pier 400 Container Terminal and Transportation Corridor Project, Port of Los Angeles	Element of the 2020 Deep Draft Navigation Improvements Plan: dredging, land filling, and marine terminal construction. The entire Pier 400 site is on a recently constructed landfill in the Port of Los Angeles Outer Harbor. The project is a two-phase development of Pier 400 into a 484-acre (196-hectare) container terminal with rail, highway, and utility access. Phase I consists of construction of rail and highway access and the first 334 acres (135 hectares) of a marine container terminal, including buildings, a wharf, and an intermodal rail yard. Phase II consists of construction of the remaining 150 acres (61 hectares) into a container terminal. Landfill construction was recently completed. The EIR certified for the project identified significant air, transportation, and noise and vibration impacts.	Approved project. Phase I and Phase II construction completed (2000-2005).
2	Berth 136-147 Marine Terminal, West Basin, Port of Los Angeles	Element of the West Basin Transportation Improvement Projects. Expansion and redevelopment of the TraPac Container Terminal to 243 acres, including improvement of Harry Bridges Boulevard and a 30-acre landscaped area, relocation of an existing rail yard and construction of a new on-dock rail yard, and reconfiguration of wharves and backlands (includes filling of the Northwest Slip, dredging, and construction of new wharves.	NOI/NOP released in October 2003. Final EIS/EIR released on November 14, 2007. The Harbor Board of Commissioners certified the EIR and approved the project on December 6, 2007
3	San Pedro Waterfront Project, Port of Los Angeles	The "San Pedro Waterfront" Project is a 5- to 7-year plan to develop along the west side of the Main Channel, from the Vincent Thomas Bridge to the 22nd Street Landing Area Parcel up to and including Crescent Avenue. Key components of the project include construction of a North Harbor Promenade, construction of a Downtown Harbor Promenade, construction of a Downtown Water Feature, enhancements to the existing John S. Gibson Park, construction of a Town Square at the foot of 6th Street, construction of a 7th Street Pier, construction of a Ports O' Call Promenade, development of California Coastal Trial along the waterfront, construction of additional cruise terminal facilities, construction of a Ralph J. Scott Historic Fireboat Display, relocation of the SS Lane Victory, extension of the Red Car line, and related parking improvements.	An NOP/NOI was released in August 2005. A revised NOP/NOI was released in December 2006. Scoping meeting was held in January 2007. Comment period on NOP/NOI closed on February 28, 2007. Draft EIR/EIS being prepared. Construction expected 2010-2015.

Table 4-1. Related and Cumulative Projects (continued)

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
Port of Los Angeles Projects (continued)			
4	Channel Deepening Project, Port of Los Angeles	Dredging and sediment disposal. This project deepened the Port of Los Angeles Main Channel to a maximum depth of -53 feet mean lower low water (MLLW; lesser depths are considered as project alternatives) by removing between approximately 3.94 million and 8.5 million cubic yards of sediments. The sediments were disposed at several sites for up to 151 acres (61 hectares) of landfill. The EIR/EIS certified for the project identified significant biology, air, and noise impacts. A Supplemental EIS/EIR is being prepared for new fill locations. The Additional Disposal Capacity Project would provide approximately 4 million cubic yards of disposal capacity needed to complete the Channel Deepening Project and maximize beneficial use of dredged material by constructing lands for eventual terminal development and provide environmental enhancements at various locations in the Port of Los Angeles.	SNOI/SNOP released in October 2005. SEIS/SEIR anticipated Spring 2008. Construction expected 2009-2011.
5	Cabrillo Way Marina, Phase II, Port of Los Angeles	Redevelopment of the old marinas in the Watchorn Basin and development of the backland areas for a variety of commercial and recreational uses.	EIR certified December 2, 2003. Construction anticipated 2008-2009.
6	Artificial Reef, San Pedro Breakwater, Port of Los Angeles	Development of an artificial reef site south of the San Pedro Breakwater. Provides opportunity for suitable reuse of clean construction materials and creates bottom topography to promote local sport fishing.	Negative Declaration issued and certified. Project proceeding (2006-2010).
7	Berth 226-236 (Evergreen) Container Terminal Improvements Project and Canners Steam Demolition.	Proposed redevelopment of existing container terminal, including improvements to wharves, adjacent backland, crane rails, lighting, utilities, new gate complex, grade crossings and modification of adjacent roadways and railroad tracks. Project also includes demolition of two unused buildings and other small accessory structures at the former Canner's Steam Plant in the Fish Harbor area of the POLA.	EIR/EIS to be prepared. NOP/NOI anticipated Spring 2008. Construction expected 2010-2013
8	Port of Los Angeles Charter School and Port Police Headquarters, San Pedro, Port of Los Angeles	Proposal to lease property for the Port of Los Angeles Charter School and to construct/develop a Port Police Headquarters and office. 330 S. Centre Street, San Pedro.	EIR certified in August 2005. Construction anticipated in 2007-2008.

Table 4-1. Related and Cumulative Projects (continued)

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
Port of Los Angeles Projects (continued)			
9	SSA Outer Harbor Fruit Facility Relocation, Port of Los Angeles	Proposal to relocate the existing fruit import facility at 22nd and Miner to Berth 153.	On hold.
10	Crescent Warehouse Company Relocation, Port of Los Angeles	Relocate the operations of Crescent Warehouse Company from Port Warehouses 1, 6, 9, and 10 to an existing warehouse at Berth 153. Relocate Catalina Freight operations from Berth 184 to same building at Berth 153.	MND to be prepared. Release anticipated in 2008.
11	Plains All American (formerly Pacific Energy) Oil Marine Terminal, Pier 400, Port of Los Angeles	Proposal to construct a Crude Oil Receiving Facility on Pier 400 with tanks on Terminal Island and other locations on Port property, with the preferred location being the former LAXT terminal, as well as construct new pipelines between Berth 408, storage tanks, and existing pipeline systems.	NOI/NOP released in June 2004. SEIS/SEIR anticipated spring 2008. Construction expected 2009-2011.
12	Ultramar Lease Renewal Project, Port of Los Angeles	Proposal to renew the lease between the Port of Los Angeles and Ultramar Inc., for continued operation of the marine terminal facilities at Berths 163-164, as well as associated tank farms and pipelines. Project includes upgrades to existing facilities to increase the proposed minimum throughput to 10 million barrels per year (mby), compared to the existing 7.5 mby minimum.	Project EIR under preparation; Final EIR expected in 2008. NOP released for public review in April 2004.
13	Westway Decommissioning	Decommissioning of the Westway Terminal along the Main Channel (Berths 70-71). Work includes decommissioning and removing 136 storage tanks with total capacity of 593,000 barrels.	Remedial planning underway. Decommissioning anticipated 2009.
14	Consolidated Slip Restoration Project	Remediation of contaminated sediment at Consolidated Slip at Port of Los Angeles. Remediation may include capping sediment or removal/disposal to an appropriate facility. Work includes capping and/or treatment of approximately 30,000 cubic yards of contaminated sediments.	Remedial actions are being evaluated in conjunction with Los Angeles Regional Water Quality Control Board (RWQCB) and U.S. Environmental Protection Agency.
15	**Berths 97-109, China Shipping Development Project**	**Development of the China Shipping Terminal Phase I, II, and III including wharf construction, landfill and terminal construction and backland development.** ***(Project analyzed in this EIS/EIR)***	**Draft EIR/EIS released August 2006. Phase I construction complete. Final EIR anticipated fall 2008. Construction expected 2009-2012.**

Table 4-1. Related and Cumulative Projects (continued)

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
Port of Los Angeles Projects (continued)			
16	Berths 171-181, Pasha Marine Terminal Improvements Project, Port of Los Angeles	Redevelopment of existing facilities at Berths 171-181 as an omni (multi-use) facility.	Project EIR on hold.
17	Berth 206-209 Interim Container Terminal Reuse Project, Port of Los Angeles	Proposal to allow interim reuse of former Matson Terminal while implementing green terminal measures.	Final EIR certified. Construction on hold.
18	LAXT Dome and Site Demolition	Demolition and clean up of existing storage dome and associated buildings on LAXT property.	Demolition began summer 2007.
19	Southern California International Gateway Project (SCIG), Port of Los Angeles	Construction and operation of a 157-acre dock rail yard intermodal container transfer facility (ICTF) and various associated components, including the relocation of an existing rail operation.	Project EIR under preparation. NOP released September 30, 2005. DEIR expected fall 2008.
20	Pan-Pacific Fisheries Cannery Buildings Demolition Project, Port of Los Angeles	Demolition of two unused buildings and other small accessory structures at the former Pan-Pacific Cannery in the Fish Harbor area of the POLA.	NOP released October 2005. Draft EIR released July 2006. Final EIR under preparation.
21	San Pedro Waterfront Enhancements Project, Port of Los Angeles	Project includes improving existing and development of new pedestrian corridors along the waterfront (4 acres), landscaping, parking, increased waterfront access from upland areas, and creating 16 acres of public open space.	MND approved in April 2006. Construction to begin fall 2007 and will be completed in 2009.
22	Joint Container Inspection Facility, Port of Los Angeles and Port of Long Beach	Construction and operation of a facility to be used to search and inspect random and suspicious containers arriving at the Ports of Los Angeles and Long Beach.	In planning. EIR to be prepared.
23	Berth 302-305 (APL) Container Terminal Improvements Project	Container terminal and wharf improvements project including a terminal expansion area and new berth on the east side of Pier 300. Currently includes 40 acres of fill that was completed as part of the Channel Deepening Project (number 4 above).	EIR/EIS to be prepared. NOP/NOI anticipated summer 2008. Construction expected 2010-2012.
24	South Wilmington Grade Separation	An elevated grade separation would be constructed along a portion of Fries Avenue or Marine Avenue, over the existing rail line tracks, to eliminate vehicular traffic delays that would otherwise be caused by trains using the existing rail line and the new ICTF rail yard. The elevated grade would include a connection onto Water Street. There would be a minimum 24.5-foot clearance for rail cars traveling under the grade separation.	Conceptual planning. Caltrans approval obtained on Project Study Report. Current planning indicates summer 2011 completion.

Table 4-1. Related and Cumulative Projects (continued)

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
Port of Los Angeles Projects (continued)			
25	Wilmington Waterfront Master Plan (Avalon Boulevard Corridor Project)	Planned development intended to provide waterfront access and promoting development specifically along Avalon Boulevard.	NOP released March 2008. Draft EIR anticipated summer 2008
26	C Street/Figueroa Street Interchange	The C Street/Figueroa Street interchange would be redesigned to include an elevated ramp from Harry Bridges Boulevard to the I-110 Freeway, over John S. Gibson Boulevard. There would be a minimum 15-foot clearance for vehicles traveling on John S. Gibson Boulevard. An additional extension would connect from Figueroa Street to the new elevated ramp, over Harry Bridges Boulevard.	Conceptual planning. Caltrans approval obtained on Project Study Report.
27	Port Transportation Master Plan	Port-wide transportation master plan for roadways in and around its facilities. Present and future traffic improvement needs are being determined, based on existing and projected traffic volumes. Some improvements under consideration include I-110/SR-47/Harbor Boulevard interchange improvements; south Wilmington grade separations; and additional traffic capacity analysis for the Vincent Thomas Bridge.	Conceptual planning completed by the end of 2006.
28	Berth 212-224 (YTI) Container Terminal Improvements Project	Wharf modifications at the YTI Marine Terminal Project involves wharf upgrades and backland reconfiguration, including new buildings.	EIR/EIS to be prepared. NOP/NOI anticipated 2008. Construction expected 2010-2012
29	Berth 121-131 (Yang Ming) Container Terminal Improvements Project	Reconfiguration of wharves and backlands. Expansion and redevelopment of the Yang Ming Terminal.	EIR/EIS to be prepared. NOP/NOI anticipated 2008. Construction expected 2010-2013
30	Southwest Marine Demolition Project	Demolition of buildings and other small accessory structures at the Southwest Marine Shipyard.	Draft EIR released September 2006. Final EIR under preparation. Demolition anticipated 2008.
31	I-110/SR-47 Connector Improvement Program	Program may include C Street/I-110 access ramp intersection improvements, I-110 NB Ramp/John S. Gibson Boulevard intersection improvements, and SR-47 On-and Off-Ramp at Front Street. These projects would reduce delays and emissions in the I-110/SR-47 area and improve safety and access.	Conceptual planning. Caltrans approval obtained on Project Study Report.

Table 4-1. Related and Cumulative Projects (continued)

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
Port of Los Angeles Projects (continued)			
32	Inner Cabrillo Beach Water Quality Improvement Program	Phased improvements at Cabrillo Beach to reduce the wet and dry weather high concentrations of bacteria. Includes sewer and storm drain work, sand replacement, bird excluders, and circulation improvements (groin removal).	Sand replacement phase under construction.
Port of Los Angeles and/or Port of Long Beach Potential Port-Wide Operational Projects			
33	Terminal Free Time	POLA and POLB program to reduce container storage time and use gates at off-peak travel times.	Program in progress.
34	Extended Terminal Gates (Pier Pass)	POLA and POLB program to use economic incentives to encourage cargo owners to use terminal gates during off-peak hours.	Program in Progress
35	Shuttle Train/Inland Container Yard	Alameda Corridor Transportation Authority (ACTA) program to encourage rail shuttle service between the on-dock rail facilities at the ports and a rail facility in Colton (in the Inland Empire). The pilot program will consist of a daily train to and from Colton. The containers will be trucked between the Colton rail facility and the beneficial cargo owners' facility.	Preliminary study in progress.
36	Origin/Destination and Toll Study	POLA/POLB study to identify the origin and destination of international containers in the Los Angeles area, to determine the location of warehouses and identify the routes truck drivers use to move containers to and from the Ports. The bridges serving Terminal Island (Vincent Thomas, Gerald Desmond and Heim Bridge) are not currently designed to handle the trade volumes projected at POLA and POLB. In order to identify funding mechanisms to replace/enhance these bridges, the Ports are conducting a toll study to explore potential funding sources for bridge replacement and truck driver behavior if tolls were assessed on the bridges.	Study in progress.
37	Virtual Container Yard	ACTA, POLA and POLB program to explore implementing a system that would match an empty container from an import move to one from an empty export move.	Conceptual planning.
38	Increased On-Dock Rail Usage	ACTA, POLA and POLB program with shipping lines and terminal operators to consolidate intermodal volume of the neighboring terminals to create larger trains to interior points, thereby reducing need for truck transportation.	Conceptual planning.

Table 4-1. Related and Cumulative Projects (continued)

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
Port of Los Angeles and/or Port of Long Beach Potential Port-Wide Operational Projects (Cont.)			
39	Union Pacific Railroad ICTF Modernization Project	UP proposal to modernize existing intermodal yard four miles from the Port.	Conceptual planning.
40	Optical Character Recognition	Ports terminals have implemented OCR technology, which eliminates the need to type container numbers in the computer system. This expedites the truck driver through terminal gates.	Conceptual planning.
41	Truck Driver Appointment System	Appointment system that provides a pre-notification to terminals regarding which containers are planned to be picked up.	Conceptual planning.
Community of San Pedro Projects			
42	15th Street Elementary School, San Pedro	Los Angeles Unified School District construction of additional classrooms at 15th Street Elementary School.	Construction completed and school operating. Completed in 2006.
43	Pacific Corridors Redevelopment Project, San Pedro	Development of commercial/retail, manufacturing, and residential components. Construction underway of four housing developments and Welcome Park.	Project underway. Estimated 2032 completion year according to Community Redevelopment Agency of Los Angeles.
44	Cabrillo Marine Aquarium Expansion, San Pedro	Expansion of existing Cabrillo Marine Aquarium.	Construction complete.
45	Gas station and mini-mart	6-pump gas station and 1,390-ft^2 mini-mart at 311 N. Gaffey Street, San Pedro (north of Sepulveda Street).	Project on hold. No construction has started.
46	Fast Food Restaurant w/drive-thru	Construct fast food restaurant with drive through (expand from existing 3,000-ft^2 to 4,816- ft^2 restaurant). 303 S. Gaffey Street (at 3rd Street), San Pedro.	Construction is complete and restaurant is operating.
47	Mixed use development, 407 Seventh Street	Construct 5,000-ft^2 retail and 87-unit apartment complex. 407 W. Seventh Street (at Mesa Street), San Pedro.	In final stages of construction (completion expected in summer/fall 2007).
48	Condominiums, 28000 Western Avenue	Construct 140 condominium units. 28000 S. Western Avenue, San Pedro.	In final stages of construction. Building permit cleared March 2006; LADOT Planning Department has no estimated completion year.
49	Pacific Trade Center	Construct 220 housing unit apartments. 255 5th Street, San Pedro (near Centre Street).	In initial stage of construction. Building permit cleared August 2006, but LADOT Planning Department has no estimated completion year.

Table 4-1. Related and Cumulative Projects (continued)

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
Community of San Pedro Projects (continued)			
50	Single Family Homes (Gaffey Street)	Construct 135 single-family homes. About 2 acres. 1427 N. Gaffey Street (at Basin Street), San Pedro.	In construction. Estimated 2009 completion year according to LADOT Planning Department.
51	Mixed-use development, 281 W 8th Street	Construct 72 condominiums and 7,000-ft^2 retail. 281 West 8th Street (near Centre Street), San Pedro.	No construction started. LADOT Planning Department has no estimated completion year.
52	Target (Gaffey Street)	Construct 136,000-ft^2 discount superstore. 1605 North Gaffey Street, San Pedro (at W. Capitol Drive).	No construction has started Estimated 2009 completion year, according to LADOT Planning Department.
53	Palos Verdes Urban Village	Construct 251 condominiums and 4,000-ft^2 retail space. 550 South Palos Verdes Street, San Pedro.	No construction has started. Estimated 2011 completion year, according to LADOT Planning Department.
54	Temporary Little League Park	Construction of temporary baseball fields for the Eastview Little League. Baseball fields will be at current location of Knoll Hill Dog Park in San Pedro.	Construction pending. Estimated completion in 2008.
Community of Wilmington Projects			
55	Banning Elementary School #1, 500 North Island Avenue, Wilmington	Banning Elementary School No. 1 is a two-building elementary school consisting of one two-story classroom building with subterranean parking garage and a one-story multipurpose building. The school also provides about 2 acres of playground and green space.	Construction completed and school operating. Completed in 2006.
56	East Wilmington Greenbelt Community Center, Wilmington	9,800-ft^2 community building, a 25-space parking lot, and landscaped areas.	Construction complete; center opened in 2006.
57	Distribution center and warehouse	135,000-ft^2 distribution center and warehouse on 240,000-ft^2 lot w/47 parking spaces at 755 East L Street, (at McFarland Avenue) in Wilmington.	No construction has started; lot is vacant and bare. LADOT Planning Department has no estimated completion year.
58	Dana Strand Public Housing Redevelopment Project	The existing facility is being torn down and redeveloped to provide a 116-unit affordable housing complex with multifamily rental units, senior units and affordable homes for sale. The plans also include a day care center, lifelong learning center, parks and landscaped open space.	Under construction (construction started in 2005).

Table 4-1. Related and Cumulative Projects (continued)

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
Projects in Harbor City, Lomita, and Torrance			
59	1437 Lomita Boulevard Condominiums	Construct 160 condominium units and demolish existing closed hospital. 1437 Lomita Boulevard (at Senator Avenue), Harbor City.	Construction is complete and in operation.
60	Harbor City Child Development Center	Conditional use permit to open 50-student preschool at existing church building (25000 South Normandie Avenue, Harbor City, at Lomita Boulevard).	Public hearing in August 2006.
61	Kaiser Permanente South Bay Master Plan	Construct 303,000-ft^2 medical office building, 42,500-ft^2 records center/office/ warehouse, 260 hospital beds. 25825 Vermont Street, Harbor City (at Pacific Coast Highway).	In Construction. Estimated 2009 completion year, according to LADOT Planning Department.
62	Drive-through restaurant, Harbor City	Construct 2,448-ft^2 fast food restaurant with drive-through. 1608 Pacific Coast Highway, Harbor City (at President Avenue).	In planning phase. Old building still in operation.
63	Ponte Vista	Construct 1725 condominiums, 575 senior housing units, and 4 baseball fields. 26900 Western Avenue (near Green Hills Park), Lomita. Rolling Hills Prep School being developed in an adjacent lot.	DEIR issued November 2006. LADOT Planning Department reports estimated 2012 completion year.
64	Warehouses, 1351 West Sepulveda Boulevard	Construct warehouses with total capacity 400,000 ft^2. 1351 West Sepulveda Boulevard (at Western Avenue), Torrance.	Project building permit cleared 2/07. LADOT Planning Department estimates completion in 2007.
65	Sepulveda Industrial Park	Construct 154,105-ft^2 industrial park (6 lots). Sepulveda Industrial Park (TT65665) 1309 Sepulveda Boulevard, Torrance (near Normandie Avenue).	No construction started. LADOT Planning Department has no estimated completion year.
Port of Long Beach Projects			
66	Middle Harbor Terminal Redevelopment, Port of Long Beach	Expansion of an existing marine container terminal in the Middle Harbor area of the Port of Long Beach. The project will involve consolidation of two existing container terminals into one 345-acre (138-hectare) terminal. Construction will include approximately 48 acres (19 hectares) of landfill, dredging, wharf construction; construction of an intermodal rail yard; and reconstruction of terminal operations buildings. The Initial Study prepared for this project identified significant air, public health, transportation, biological, and water quality impacts.	Project EIS/EIR under preparation. NOP/NOI released December 20, 2005. Anticipated construction 2008-2025.

Table 4-1. Related and Cumulative Projects (continued)

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
Port of Long Beach Projects (continued)			
67	Piers G & J Terminal Redevelopment Project, Port of Long Beach	Redevelopment of two existing marine container terminals into one terminal. The Piers G and J redevelopment project is in the Southeast Harbor Planning District area of the Port of Long Beach. The project will develop a marine terminal of up to 315 acres by consolidating two existing terminals on Piers G and J and several surrounding parcels. Construction will occur in four phases and will include approximately 53 acres of landfills, dredging, concrete wharves, rock dikes, and road and railway improvements. The EIR prepared for this project identified potentially significant impacts to air quality and geologic resources.	Approved project. Construction underway (anticipated construction period is 2005-2015).
68	Pier A West Remediation Project, Port of Long Beach	Remediation of approximately 90 acres of oil production land, including remediation of soil and groundwater contamination, relocation of oil wells, filling, and paving.	Project EIR/EIS under preparation. NOP/NOI released January 26, 2006. Expected duration through 2011.
69	Pier A East, Port of Long Beach	Redevelopment of 32 acres of existing auto storage area into container terminal.	EIR to be prepared.
70	Pier T, TTI (formerly Hanjin) Terminal, Phase III, Port of Long Beach	Development of a container terminal, liquid bulk facility and satellite launch facility. The Port of Long Beach is redeveloping the former Long Beach Naval Complex on Terminal Island. The project consists of expanding a 300-acre marine container terminal to 375 acres, including a wharf, terminal operations buildings, utilities, and rail yard. Construction includes 22 acres of landfill. The SEIS/EIR certified for this project identified significant air quality, transportation, public health and safety, cultural resources, biological resources, and vibration impacts.	Approved project. Under construction.
71	Pier S Marine Terminal, Port of Long Beach	Development of a 150-acre container terminal and construction of navigational safety improvements to the Back Channel.	EIS/EIR to be prepared. Assessment/construction expected 2007-2012.
72	Administration Building Replacement Project, Port of Long Beach	Replacement of the existing Port Administration Building with a new facility on an adjacent site.	EIR being prepared. Assessment/construction expected 2007-2010.
73	Sound Energy Solutions-Pier T, Long Beach Liquefied Natural Gas (LNG) Terminal, Port of Long Beach	Construction of a 25-acre (10-hectare) liquefied natural gas (LNG) import terminal facility including pipeline and wharf construction on a portion of Pier T on Terminal Island within the Port of Long Beach.	Final EIR/EIS completed. Project disapproved by Board of Harbor Commissioners January 2007.

Table 4-1. Related and Cumulative Projects (continued)

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
Port of Long Beach Projects (continued)			
74	San Pedro Bay Rail Study	Port-wide rail transportation plan with multiple projects in and around Harbor District.	EIR to be prepared.
75	Gerald Desmond Bridge Replacement Project, Port of Long Beach and Caltrans/FHWA	Replacement of the existing 4-lane Gerald Desmond highway bridge over the Port of Long Beach Back Channel with a new 6- to 8-lane bridge.	EIR being prepared. NOP/NOI released in 2005. Anticipated construction 2008-2013.
76	Chemoil Marine Terminal, Tank Installation, Port of Long Beach	Construction of two petroleum storage tanks and associated relocation of utilities and reconfiguration of adjoining marine terminal uses between Berths F210 and F211 on Pier F.	EIR to be prepared.
Alameda Corridor Transportation Authority and Caltrans Projects			
77	Schuyler Heim Bridge Replacement and State Route (SR) 47 Terminal Island Expressway	ACTA/Caltrans project to replace the Schuyler Heim Bridge with a fixed structure and improve the SR-47/Henry Ford Avenue/ Alameda Street transportation corridor by constructing an elevated expressway from the Heim Bridge to SR 1 (Pacific Coast Highway).	NOP issued by ACTA and Caltrans. Anticipated construction 2009-2012.
78	I-710 (Long Beach Freeway) Major Corridor Study	Develop multi-modal, timely, cost-effective transportation solutions to traffic congestion and other mobility problems along approximately 18 miles of the I-710, between the San Pedro Bay ports and State Route 60. Early Action Projects include: a) Port Terminus: Reconfiguration of SR 1 (Pacific Coast Highway) and Anaheim Interchange, and expansion of the open/green space at Cesar Chavez Park. b) Mid Corridor Interchange: Reconfigurations Project for Firestone Boulevard Interchange and Atlantic/ Bandini Interchange.	Conceptual Planning.
City of Long Beach Projects			
79	Renaissance Hotel Project, City of Long Beach	Development of a 374-room hotel on the southeast corner of Ocean Boulevard and the Promenade.	Approved project. Construction complete.
80	D'Orsay Hotel Project, City of Long Beach	Development of a hotel. The D'Orsay Project is a 162-room boutique style hotel on the northwest corner of Broadway and the Promenade.	Approved project. Construction underway. Anticipated completion in fall 2008.

Table 4-1. Related and Cumulative Projects (continued)

No. in Figure 4-1	Project Title and Location	Project Description	Project Status
City of Long Beach Projects (continued)			
81	City Place Development, City of Long Beach	Development of commercial and residential space. The former Long Beach Plaza Mall, downtown between 3rd and 6th Streets and between Long Beach Boulevard and Pacific Avenue, is now under construction. The approved project will redevelop the former mall area and two blocks of vacant land east of Long Beach Boulevard with approximately 450,000 square feet of commercial space and up to 200 residential units. The EIR prepared for this project identified significant air quality impacts.	Construction complete. Completed in 2005.
82	The Pike at Rainbow Harbor, City of Long Beach	Commercial use development. This project site is south of Ocean Boulevard on the site of the former Pike Amusement Park between Pine and Magnolia Avenues in Long Beach. This approved project includes approximately 770 residential units, a 500-room hotel, and 25,000 square feet of commercial space. The EIR prepared for this project identified significant air quality, cultural resources, noise, public service, and transportation impacts.	Approved project. Construction complete.
83	Queensway Bay Master Plan, City of Long Beach	Construction of Long Beach Aquarium, new urban harbor, office building, and entertainment complex. This project, designed to create a major waterfront attraction in downtown Long Beach, includes a recreational harbor, 150,000-square-foot aquarium, 125,000-square-foot entertainment complex, 59,000 square feet of restaurant/ retail space, an 800-room hotel, 95,000 square feet of commercial office space, and 487 boat slips in and around Queensway Bay. The recreational harbor and aquarium have been completed. The EIR certified for this project identified significant transportation impacts.	Approved project. Construction complete.
84	Pike Property Development	Commercial use development.	Construction complete and property operating. Completed in 2003.

Notes:

[a]Construction date for POLA projects based on an assumption that the project would be approved by the LAHD.

1

4.2 Cumulative Impact Analysis

The following sections analyze the cumulative impacts identified for each resource area.

4.2.1 Aesthetics and Visual Resources

4.2.1.1 Scope of Analysis

The geographic scope of analysis for cumulative impacts on aesthetics and visual resources to which the proposed Project may contribute is the set of viewing areas from which the proposed Project has the potential to be seen, either as part of a single view or a series of related views (e.g., a scenic route). Outside of this set of points, the proposed Project would not be within public views and therefore would not have the potential to contribute to cumulative visual impacts.

Past, present, planned, and foreseeable future development that could contribute to cumulative impacts on Aesthetics and Visual Resources are those that have involved, or would involve, grading, paving, landscaping, construction of roads, buildings and other working port facilities, as well as the presence and operation of equipment, such as gantry cranes, rail and trucking facilities and backland storage sites. Views may also be affected by in-water activities such as dredging, filling, wharf demolition and construction, and container ship traffic.

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.1.4.3. The criteria for **AES-1, AES-2, AES-3** and **AES-4** apply to CEQA analyses, while the criterion for **AES-5** applies to the NEPA analysis.

4.2.1.2 Cumulative Impact AES-1: Would the proposal have a demonstrable negative aesthetic effect?

This City of Los Angeles criterion is related to CEQA Appendix D Aesthetics question I.c) "Would the project substantially degrade the existing visual character or quality of the site and its surroundings?" The *City of Los Angeles CEQA Thresholds Guide* (City of Los Angeles, 2006): directs that:

The determination shall be made on a case-by-case basis, considering the following factors:

+ Amount or relative proportion of existing features or elements that substantially contribute to the valued visual character or image of a neighborhood, community, or localized area, which would be removed, altered, or demolished
+ Amount of natural open space to be graded or developed
+ Degree to which proposed structures in natural open space areas would be integrated effectively into the aesthetics of the site, through appropriate design, etc.
+ Degree of contrast between proposed features and existing features that represent the valued aesthetic image of an area
+ Degree to which a proposed zone change would result in buildings that would detract from the existing style or image of the area due to density, height, bulk, setbacks, signage, or other physical elements

+ Degree to which the project would contribute to the aesthetic value of the area
+ Applicable guidelines and regulations

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The visual changes that would be brought about by the proposed Project would be taking place in the distinctive landscape region created by the Ports of Los Angeles and Long Beach, which collectively constitute one of the largest port complexes in the world. In this area, over the course of the past century, the construction of breakwaters, the dredging of channels, filling for creation of berths and terminals, and construction of the infrastructure required to support Port operations have completely transformed the original natural setting to create a landscape that is highly engineered, nearly entirely altered, and visually dominated by large-scale man-made features. Past, present, and future projects at the Port have and will continue to have demonstrable negative effects related to elimination of natural features, reductions in views from the surrounding area of the open waters of the Port's channels and basins, and an intensification of the level of development that is visible. For example, development of the Pier 400 Container Terminal and Transportation Corridor Project reduced views of open waters in views from hillside areas in San Pedro, and this project and the adjacent Plains All American Oil Marine Terminal Project at Pier 400, increased the concentration of large-scale developed facilities in the Port complex. The result of these past, present, and future changes has been and will continue to be cumulatively considerable and significant.

Contribution of the Proposed Project

The proposed Project would not remove or demolish any features that substantially contribute to the valued visual character of the area. The proposed Project would not require grading or development of any area of designated open space. The proposed Project cranes and backland facilities would be consistent with the existing features of the Port landscape region, and would not contrast with the valued landscape features of the area. The only impacts that would occur under this criterion would be an intensification of the level of development on the project site and a minor decrease in views of open water in the West Basin as seen from Knoll Hill and the hillside residential areas represented by Simulation View 2. From several viewpoints, the presence of the cranes has the potential to interfere with views, particularly views toward the Vincent Thomas Bridge, a valued landscape feature, and compete with it in the view. These impacts are evaluated under Significance Criterion AES-2 below.

The collective effect of the past and future projects would be to create a cumulatively considerable impact on the views from the surrounding area. Although the proposed Project will not add to this impact in a substantial way because of the minor level of impact that the project would create under the terms of this criterion, it would nonetheless represent a cumulatively considerable contribution to a significant cumulative impact.

Contribution of the Alternatives

Alternatives 1 and 2, like the proposed Project, would not remove or demolish any features that substantially contribute to the valued visual character of the area and would not make a significant project-level impact. Unlike the proposed Project, Alternatives 1 and 2 would not involve vessel loading or unloading operations, and would not have A-frame cranes at the site. Because the effects of Alternatives 1 and 2 on the existing

features that represent the valued aesthetic image of the Port landscape region would be low, Alternatives 1 and 2 would not make a cumulatively considerable contribution to a significant cumulative impact.

Alternatives 3 through 6, similar to the proposed Project, would nonetheless make a cumulatively considerable contribution to a significant cumulative impact.

Alternative 7, unlike the proposed Project, would not develop and operate the site as a terminal; rather, it would use the site as a Regional Center with commercial, retail, and industrial uses. Because the effects of Alternative 7 on the existing features that represent the valued aesthetic image of the Port landscape region would be low, Alternative 7 would not make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation Measure **MM AES-1**, which would provide for landscaping on the perimeter of the Project site along Front Street and which would implement the recommendations of the Northwest Harbor Beautification Plan would partially attenuate the significant cumulative impacts that would occur under this criterion. However, this mitigation measure will not be sufficient to reduce these cumulative impacts of the proposed Project and Alternatives 3 through 6 to a level that is less than significant.

4.2.1.3 Cumulative Impact AES-2: Would the proposal affect a recognized or valued view, scenic vista or scenic highway?

This City of Los Angeles criterion is related to CEQA Appendix D Aesthetics questions I.a) "Would the project have a substantial adverse effect on a scenic vista?" and I.b) "Would the project substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historical buildings within a state scenic highway?" The *City of Los Angeles CEQA Thresholds Guide* directs that:

> *The determination shall be made on a case-by-case basis, considering the following factors:*
>
> + The nature *and quality of recognized or valued views (such as natural topography, settings, man-made or natural features of visual interest, and resources such as mountains or the ocean);*
> + *Whether the project affects views from a designated scenic highway, corridor, or parkway;*
> + *The extent of obstruction (e.g., total blockage, partial interruption, or minor diminishment); and*
> + *The extent to which* the project affects recognized views available from a length of a public roadway, bike path, or trail, as opposed to a single, fixed vantage point.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Perhaps the most highly recognized and valued views in the area near the proposed Project are the views toward the Vincent Thomas Bridge. The Vincent Thomas Bridge is an important landmark in the region, and its visual importance has been recognized by its

designation as the official welcoming monument of the City of Los Angeles, and by a recent project that entailed installation of distinctive lighting to outline the bridge's nighttime profile. Past Port projects in the vicinity of the Berth 97-109 Project have had the effect of substantially degrading important views toward the Vincent Thomas Bridge seen from Simulation Viewpoints 1 (Harbor Freeway) and 5 (Main Channel and Nearby Areas) in Chapter 3.2.

In the views from the remaining Simulation Viewpoints analyzed, (2 - Terminal Island Freeway/SR-47, 3 - Knoll Hill, and 4 - Channel Street), because of the angles of the views toward the bridge, past, present, and reasonably foreseeable future projects have not had and are not likely create effects that would obstruct or interfere the bridge views.

In the view seen from Simulation Viewpoint 1, past Port projects at the TraPac and Yang Ming Terminals have entailed installation of cranes that have obstructed views toward the Vincent Thomas Bridge seen from the southbound lanes of the Harbor Freeway (see Figure 3.1-4a). These cranes have had the effect of substantially obstructing views toward the bridge that are seen by the large numbers of travelers on the freeway.

In the view seen from Simulation Viewpoint 5, the eight 100-gauge, post-Panamax A-frame cranes at Berths 226-232 (Evergreen) block the views toward the aesthetically important central span of the bridge, which are seen by passengers on boats entering the Port by way of the Main Channel, by viewers at Ports O' Call, and by viewers in hillside parks and residential areas located south of downtown San Pedro. Figure 3.1-8.1a shows the view toward the Vincent Thomas Bridge from Ports O' Call, where the degree to which the Evergreen cranes block views of the center span of the bridge is evident. This photograph reflects conditions during the 2001 baseline period when six 100-gauge cranes and two 50-gauge cranes were at the Evergreen Terminal. (The 50-gauge cranes are visible in the photograph as the cranes with red booms.) The 100-gauge cranes visible in this photograph were installed in 1996-1997 as replacements for smaller-gauge cranes that had been at the terminal since the 1970s and 1980s.

In 2003, the two 50-gauge cranes visible in Figure 3.1-8.1a were replaced with two 100-gauge cranes generally similar in dimensions and appearance to the other six cranes. The replacement of the two 50-gauge cranes with 100-gauge cranes has created a small but noticeable increase in the interference with views toward the bridge from the sensitive vantage points to the south and southwest. Additional cranes potentially will be installed at the Evergreen Marine Terminal as a part of the further expansion of the Evergreen Terminal that is now being planned. If additional cranes are installed at the Evergreen Terminal, the degree of interference with views of the bridge from the Main Channel area is likely to increase. The cranes proposed at the Yang Ming Project site as part of potential future expansion are likely to have a relatively small incremental effect on the cumulative impacts on views from Simulation View 5 created by the existing and potential future cranes at the Evergreen Terminal.

Given the role of the Vincent Thomas Bridge as a recognized and valued scenic feature; the sensitivity of the views from Simulation View 1, which is seen by very large numbers of travelers, and Simulation View 5, which is seen by large numbers of recreational users; and the degree of view blockage created by past, present, and future projects, the impact on views toward the Vincent Thomas Bridge have been cumulatively considerable and significant.

Other views in the vicinity of the project site that are valued are the panoramic views over the Harbor area from the hillside residential areas in Pedro and Rancho Palo Verdes

that are represented by Simulation Viewpoint 4, the view from Channel Street (see the photograph presented in Figure 3.1-7.1a). In views from these hillside areas, the areas proposed for the Yang Ming, TraPac, SSA Outer Harbor Fruit Facility Relocation, and the Conoco-Phillips Marine Oil Terminal Projects would be visible. For the most part, the visible changes brought about by these projects would not be substantial as seen from these hillside vantage points. The exception would be the replacement cranes proposed for the Yang Ming terminal. Some of the Yang Ming cranes could be visible in views that also encompass the 10 cranes that would be installed under this proposed Project.

For the reasons outlined above, the visual changes related to past, present, and future projects visible from Simulation Viewpoints 1, 4, and 5 would result in significant cumulative impacts under this criterion, while the cumulative impacts to the views visible from Simulation Viewpoints 2 and 3 would be less than significant.

Contribution of the Proposed Project

In general, the visual changes associated with the proposed Project will be consistent with the overall Port setting of the Project. The only aspects of the Project that have the potential to create significant aesthetic impacts have to do with the visual relationship between the Project cranes and sensitive views toward the Vincent Thomas Bridge seen from Simulation Viewpoints 4 and 5, and impacts of the cranes on panoramic views from the hillside residential areas represented by Simulation View 4.

Review of the simulation for Simulation Viewpoint 1 presented in Figure 3.1-4b indicates that the proposed Project would create a slight increase in the degree of blockage of the view seen from the southbound lanes of the Harbor Freeway. Current proposals for the TraPac and Yang Ming terminals entailing replacement of existing cranes with larger cranes and the addition of new cranes at these terminals are likely to further obstruct views toward the Vincent Thomas Bridge from the Harbor Freeway. In the new context that would exist after the completion of the proposed projects at the TraPac and Yang Ming Terminals, the cranes associated with the proposed Project would be largely hidden behind the cranes visible in the foreground and middleground of the view. Although the collective effect of the past and future projects would be to create a cumulatively considerable impact on the views from the Harbor Freeway, the proposed Project will not add to this impact in a substantial way because the Project's features will be largely hidden by features in the foreground and middleground of the view. For this reason, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact on views toward the Vincent Thomas Bridge from Simulation Viewpoint 1.

As can be seen in the simulation of the view from Simulation Viewpoint 5 presented in Figures 3.1-8.1b and 3.1-8.2b, the proposed Project would combine with the effects of the cranes at the Evergreen Terminal to create a cumulatively considerable increase in the degradation of the views toward the Vincent Thomas Bridge from the south and southwest from the Main Channel and Ports O' Call. For this reason, the proposed Project would make a cumulatively considerable contribution to a significant cumulative impact on the views toward the Vincent Thomas Bridge from the south and southwest from the Main Channel and Ports O' Call.

Some of the replacement cranes proposed for the Yang Ming terminal could be visible in the views from Simulation View 4, the Channel Street residential area, (Figures 3.1-7.1 and 3.1-7.2) that also encompass the 10 cranes that would be installed under this proposed Project. The presence of the proposed Project cranes and the proposed

Yang Ming replacement cranes in this view will create a combined effect that further reduces the openness of the existing view from a residential area with a high level of visual sensitivity. As a result, the proposed Project would make a cumulative considerable contribution to a significant cumulative impact.

Contribution of the Alternatives

Alternatives 1 and 2, unlike like the proposed Project, would not have A-frame cranes at the site that could cause view blockages. Consequently, Alternatives 1 and 2 would not make a cumulatively considerable contribution to a significant cumulative impact.

Alternatives 3 through 6, similar to the proposed Project, would have A-frame cranes at the site and, therefore, would make a cumulatively considerable contribution to a significant cumulative impact.

Alternative 7 would affect views of the working Port from the Harbor Scenic Route; consequently, Alternative 7 would make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

As documented in Section 3.1.4.4.1.1, changing the color of the proposed Project cranes, as required by mitigation measure **MM AES-2** to reduce visual prominence and to reduce the effect on the bridge profile, would reduce the proposed Project's impacts on views toward the Vincent Thomas Bridge from Simulation View 4 and from Simulation View 5, but would not reduce these impacts to a level that is less than significant. Similarly, application of these measures will not reduce the cumulative impacts of the proposed Project or Alternatives 3 through 6, combined with the impacts of past and future projects to a level that is less than significant.

Implementation of mitigation measure **MM AES-4** (improvements to Plaza Park) would provide a partial offset of the effects of the proposed Project on views from the Main Channel and Ports O' Call represented by Simulation View 5 by creating improved viewing conditions in an area close to Ports O' Call where there are desirable views toward the Vincent Thomas Bridge and the Main Channel area that would not be adversely affected by the proposed Project. However, although implementation of this mitigation measure will offset the cumulative contribution of the Project or Alternatives 3 through 6 to impacts on views toward the Vincent Thomas Bridge from the Main Channel and Ports O' Call areas, these impacts will not be reduced to a level that is less than significant.

In terms of mitigation of the Project's cumulative impacts or the impacts of Alternatives 3 through 6 on the panoramic views from hillside residential areas represented by the view seen from Simulation Viewpoint 4, mitigation measures **MM AES-2** and **MM AES-3** have been proposed. Implementation of mitigation measure **MM AES-2** (crane color studies), will, to some degree, reduce the cumulative impacts of the Project or Alternatives 3 through 6 on views toward the Vincent Thomas Bridge from the hillside areas along Channel Street, and implementation of mitigation measure **MM AES-3** (improvements to the portions of John S. Gibson Boulevard and Pacific Avenue in the vicinity of the intersection with Channel Street) will partially offset cumulative impacts to views across the Port from these hillside areas. However, these mitigation measures will not reduce the cumulative impacts on the panoramic view from this area to a level that is less than significant.

Regarding Alternative 7, **MM AES-5** would provide Harbor-viewing areas within the Regional Center development, which would mitigate the Project-level impacts. As a result, Alternative 7 would not make a cumulatively considerable contribution to a significant cumulative impact after mitigation.

4.2.1.4 Cumulative Impact AES-3: Would the proposal create substantial negative shadow effects on nearby shadow-sensitive uses?

This City of Los Angeles criterion is related to CEQA Appendix D Aesthetics question I.c) "Would the project substantially degrade the existing visual character or quality of the site and its surroundings?" The *City of Los Angeles CEQA Thresholds Guide* specifies that:

> *A project impact would normally be considered significant if shadow-sensitive uses would be shaded by project-related structures for more than three hours between the hours of 9:00 a.m. and 3:00 p.m. Pacific Standard Time) between late October and early April), or for more than four hours between the hours of 9:00 a.m. and 5:00 p.m. Pacific Daylight Time (between early April and late October).*

The screening criterion for the City for shading is, "Would the project include light-blocking structures in excess of 60 feet in height above the ground elevation that would be located within a distance of three times the height of the proposed structure to a shadow-sensitive use on the north, northwest, or northeast?" The only structures that would be over 60 feet tall would be the proposed cranes that would have a height of 243 feet. Because the cranes are not a solid structure, they are not considered to be "light blocking." However, the light-blocking issue aside, the areas within 729 feet of the cranes to the northeast, north, and northwest consist of portions of the adjacent waterways and Container Terminal backlands and are not shadow sensitive. Consequently, no impacts would occur under this criterion.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Because the proposed Project would have no impact under this criterion, it is not necessary to document the effects of past, present, and reasonably foreseeable future projects.

Contribution of the Proposed Project

Because the proposed Project would have no impact under this criterion, there would be no cumulatively considerable contribution to a significant cumulative impact.

Contribution of the Alternatives

Because the alternatives would have no impact under this criterion, there would be no cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

Because the proposed Project and alternatives would have no impact under this criterion, no mitigation measures are required.

4.2.1.5 Cumulative Impact AES- 4: Would the proposal create light or glare?

This City of Los Angeles criterion is related to CEQA Appendix D Aesthetics question I.d) "Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?" The *City of Los Angeles Draft Thresholds Guide* directs that:

> *The determination shall be made on a case-by-case basis, considering the following factors:*
>
> + *The change in ambient illumination levels as a result of project sources; and*
> + *The extent to which project lighting would spill off the project site and affect adjacent light sensitive areas.*

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past projects at the Port of Los Angeles and in surrounding industrial districts have had the effect of creating sources of unshielded or poorly shielded and directed light that have had the effect of causing light spill and a change in ambient illumination levels in nearby areas. Because of the standards that the Port is now implementing to minimize the lighting impacts of new projects, the contributions of present and future projects to cumulative lighting impacts in the area will be limited. The net effect of the past projects has been to create a significant cumulative impact.

Contribution of the Proposed Project

As documented in the analysis in Section 3.1.4, the incremental change in ambient lighting conditions that would be brought about by the removal of existing lighting on the site, and installation of the crane and backland lighting, would not create a substantial change in existing levels of ambient light in sensitive areas in the Project vicinity. The impact would be less than significant. In addition, as the analysis in Section 3.1.4 documents, the project lighting has been designed in a way to minimize off-Project light spill, and because of the distance of the planned light fixtures from areas of potential sensitivity, the project lighting will not adversely affect nearby light-sensitive areas. Although these measures would minimize and keep the project-level lighting impacts of the proposed Project below significance, lighting from the proposed Project would nevertheless make a cumulatively considerable contribution to a significant cumulative impact.

Contribution of the Alternatives

Alternatives 1 through 6 would operate the site as a container terminal, either as supplemental storage (Alternatives 1 and 2) or as full-service container terminals (Alternatives 3 through 6), all of which would require site lighting. In addition, Alternative 7 would require site lighting. Although lighting impacts of the alternatives would be below significance, lighting from the alternatives would nevertheless make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

As documented in Section 3.1.4.3.3.2.1, the design of the lighting proposed for the Project site incorporates a range of measures to minimize offsite lighting impacts. Given that lighting plan already makes maximum use of measures to attenuate the Project's lighting impacts or those of the alternatives, no additional mitigation measures are available to reduce the Project's contribution to the cumulative lighting impact. Therefore, the proposed Project and Alternatives 1 through 7 would make a cumulative considerable contribution to a significant cumulative impact.

4.2.1.6 Cumulative Impact AES-5 Would the proposal result in changes to the overall visual character and quality of a landscape that has a significant effect on viewer response?

Factors considered in making this NEPA determination include the existing character and quality of important views toward the Project site as evaluated in terms of the variables used by the federal visual resource analysis methods, the degree to which the Project would change the character and quality of those views, and the significance of those changes in light of the public degree of sensitivity toward the views. The methods and standards applied to make this determination are detailed in Section 3.1.4.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past and present projects at the Port and in the surrounding region have significantly altered the character and quality of the views from many of the Simulation Viewpoints used as the basis for this analysis, and future projects have the potential to bring about further changes to these views.

In views from Simulation Viewpoint 1 seen from the southbound lanes of the Harbor Freeway (see Figure 3.1-4a), past Port projects at the TraPac and Yang Ming Terminals have entailed installation of cranes that have created a view that has the character of a heavily developed Port, and in which views toward the Vincent Thomas Bridge have been substantially obstructed, reducing view quality. The future Berths 121-131 Yang Ming Container Terminal Project, would result in the construction of 3,500 feet of new wharves, 12 gantry cranes, and new terminal buildings. Eight of the new cranes would replace older cranes and four of the cranes would be entirely new additions to this site. Because it is likely that the new Yang Ming cranes will be somewhat larger and taller than those at the Yang Ming Terminal in view today, this project will reinforce the change in the character and quality of the view brought about by the past projects.

In views from Simulation Viewpoints 2 (SR-47) and 3 (Knoll Hill) past projects on Terminal Island are visible that have given these views the character of a setting that has been highly altered through development of cranes, tanks and other large-scale facilities related to the area's use as a port and these changes have reduced the level of visual quality.

In views from Simulation Viewpoint 4, representing views from Channel Street, the visual modifications related to Port projects on Terminal Island are visible, as well as Port facilities in the Yang Ming and TraPac terminals and in the Tosco Liquid Bulk terminal and the port areas to the east and north of it. These projects have given the panorama visible in the background of this view the character of a setting that has been

highly altered through development of cranes, tanks and other large-scale facilities related to the area's use as a port, and these changes have reduced the level of visual quality. Future projects that will be visible in this view include the SSA Outer Harbor Fruit Facility Relocation Project, the Ultramar Lease Renewal Project; and, the Berths 21-131 Yang Ming Container Terminal Project Wharf Upgrades. As of the release of the Draft EIR/EIS, no information was available for the SSA Outer Harbor Fruit Facility Relocation Project, as the NOP has not yet been released. Because the Ultramar Project will consist of retrofitting existing facilities and would introduce no new features, it will create few visual changes. The Yang Ming project, which would involve replacement of eight existing cranes with larger cranes and installment of four large, entirely new cranes, will reinforce the change in the character and quality of the view brought about by the past projects.

In the view seen from Simulation Viewpoint 5, the eight 100-gauge, post-Panamax A-frame cranes at Berths 226-232 (Evergreen) block the views toward the aesthetically important central span of the bridge, which are seen by passengers on boats entering the Port by way of the Main Channel, by viewers at Ports O' Call, and by viewers in hillside parks and residential areas located south of Downtown San Pedro. Figure 3.1-8.1a shows the view toward the Vincent Thomas Bridge from Ports O' Call, where the degree to which the Evergreen cranes block views of the center span of the bridge is evident. This photograph reflects conditions during the 2001 baseline period when six 100-gauge cranes and two 50-gauge cranes were at the Evergreen Terminal. (The 50-gauge cranes are visible in the photograph as the cranes with red booms.) The 100-gauge cranes visible in this photograph were installed in 1996-1997 as replacements for smaller-gauge cranes that had been at the terminal since the 1970s and 1980s.

In 2003, the two 50-gauge cranes visible in Figure 3.1-8.1a were replaced with two 100-gauge cranes generally similar in dimensions and appearance to the other six cranes. The replacement of the two 50-gauge cranes with 100-gauge cranes has created a small but noticeable increase in the interference with views toward the bridge from the sensitive vantage points to the south and southwest. Additional cranes potentially will be installed at the Evergreen Marine Terminal as a part of the further expansion of the Evergreen Terminal that is now being planned. If additional cranes are installed at the Evergreen Terminal, the degree of interference with views of the bridge from the Main Channel area is likely to increase. The cranes proposed at the Yang Ming Project site as part of potential future expansion are likely to have a relatively small incremental effect on the cumulative impacts on views from Simulation View 5 created by the existing and potential future cranes at the Evergreen Terminal.

The cumulative impacts of past, present, and future projects on the visual character and visual quality of these views have been cumulatively considerable and significant.

Contribution of the Proposed Project

In general, the visual changes associated with the proposed Project will be consistent with the character of the existing views seen from Simulation Viewpoints 1, 2, 3, 4, and 5. The only aspects of the Project that have the potential to create impacts on the visual quality of views seen from the simulation viewpoints have to do with the visual relationship between the Project cranes and sensitive views toward the Vincent Thomas Bridge seen from Simulation Viewpoints 4 and 5, and impacts of the cranes on open, panoramic views from the hillside residential areas represented by Simulation View 4.

Review of the simulation for Simulation Viewpoint 1 presented in Figure 3.1-4b indicates that the proposed Project would create a slight increase in the degree of blockage of the view seen from the southbound lanes of the Harbor Freeway. Current proposals for the TraPac and Yang Ming terminals entailing replacement of existing cranes with larger cranes and the addition of new cranes at these terminals are likely to further obstruct views toward the Vincent Thomas Bridge from the Harbor Freeway. In the new context that would exist after the completion of the proposed projects at the TraPac and Yang Ming Terminals, the cranes associated with the proposed Project would be largely hidden behind the cranes visible in the foreground and middleground of the view. Although the collective effect of the past and future projects would be to create a cumulatively considerable impact on the views from the Harbor Freeway, the proposed Project would not add to this impact in a substantial way because the Project's features would be largely hidden by features in the foreground and middleground of the view. For this reason, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact on views toward the Vincent Thomas Bridge from Simulation Viewpoint 1.

As can be seen in the simulation of the view from Simulation Viewpoint 5 presented in Figures 3.1-8.1b and 3.1-8.2b, the proposed Project would combine with the effects of the cranes at the Evergreen Terminal to create a cumulatively considerable increase in the degradation of the views toward the Vincent Thomas Bridge from the south and southwest from the Main Channel and Ports O' Call. For this reason, the proposed Project would make a cumulatively considerable contribution to a significant cumulative impact on the views toward the Vincent Thomas Bridge from the south and southwest from the Main Channel and Ports O' Call.

Some of the replacement cranes proposed for the Yang Ming terminal could be visible in the views from Simulation View 4, the Channel Street residential area, (Figures 3.1-7.1 and 3.1-7.2) that also encompass the 10 cranes that would be installed under this proposed Project. The presence of the proposed Project cranes and the proposed Yang Ming replacement cranes in this view would create a combined effect that further reduces the openness of the existing view from a residential area with a high level of visual sensitivity. As a result, the proposed Project would make a cumulative considerable contribution to a significant cumulative impact.

Contribution of the Alternatives

Alternatives 1 and 2, unlike like the proposed Project, would not affect views of the Vincent Thomas bridge. Consequently, Alternatives 1 and 2 would not make a cumulatively considerable contribution to a significant cumulative impact.

Alternatives 3 through 6, similar to the proposed Project, would have adverse impacts to views of the Vincent Thomas Bridge and would therefore make a cumulatively considerable contribution to a significant cumulative impact.

Alternative 7 would not result in a substantial change in the overall visual character or quality of the landscape that would have a significant effect on viewer response, and would not make a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

As discussed above, implementation of mitigation measures **MM AES-1** (landscaping on the perimeter of and in the vicinity of the Project site), **MM AES-2** (crane color studies),

MM AES-3 (improvements to the portions of John S. Gibson Boulevard and Pacific Avenue in the vicinity of the intersection with Channel Street), and **MM AES-4** (improvements to Plaza Park), would be implemented for the proposed Project and Alternatives 3 through 6, but would not fully mitigate cumulative aesthetic impacts. Therefore, the proposed Project and Alternatives 3 through 6 would make a cumulative considerable contribution to a significant cumulative impact.

4.2.2 Air Quality and Meteorology

4.2.2.1 Scope of Analysis

The region of analysis for cumulative effects on air quality is the South Coast Air Basin for **Cumulative Impacts AQ-1** through **AQ-8**, and globally for **Cumulative Impact AQ-9** (global climate change). However, the highest project impacts would occur within the communities adjacent to the proposed Project Berth 97-109 terminal, including San Pedro, Wilmington, and Long Beach.

4.2.2.2 Cumulative Impact AQ-1: Potential for Construction to Produce a Cumulatively Considerable Increase of a Criteria Pollutant for which the Project Region is in Nonattainment Under a National or State Ambient Air Quality Standard – Cumulatively Considerable and Unavoidable

Cumulative Impact AQ-1 assesses the potential for proposed Project construction along with other cumulative projects to produce a cumulatively considerable increase in criteria pollutant emissions for which the project region is in nonattainment under a national or state ambient air quality standard or for which the SCAQMD has set a daily emission threshold.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Due to its substantial amount of emission sources and topographical/meteorological conditions that inhibit atmospheric dispersion, the South Coast Air Basin is a "severe-17" nonattainment area for 8-hour O_3, a "serious" nonattainment area for PM_{10}, a nonattainment area for $PM_{2.5}$, and a maintenance area for CO in regard to the National Ambient Air Quality Standards (NAAQS). The South Coast Air Basin is in attainment of the NAAQS for SO_2, NO_2, and lead. In regard to the California Ambient Air Quality Standards (CAAQS), the South Coast Air Basin is presently in nonattainment for O_3, PM_{10}, and $PM_{2.5}$. The South Coast Air Basin is in attainment of the CAAQS for SO_2, NO_2, CO, sulfates, and lead, and is unclassified for hydrogen sulfide and visibility-reducing particles. These pollutant nonattainment conditions within the project region are therefore cumulatively significant. In the time period between 2007 and 2011, a number of large construction projects will occur at the two ports and surrounding areas (see Table 4-1) that will overlap and contribute to significant cumulative construction impacts.

The *2007 Air Quality Management Plan* (AQMP) predicts attainment of all NAAQS within the South Coast Air Basin, including $PM_{2.5}$ by 2014 and O_3 by 2020. However, the predictions for $PM_{2.5}$ and O_3 attainment are speculative at this time.

The construction impacts of the related projects would be cumulatively significant if their combined construction emissions would exceed the SCAQMD daily emission thresholds for construction. Because this almost certainly would be the case for all analyzed criteria pollutants and precursors (VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$), the related projects would result in a significant cumulative air quality criteria pollutant impact.

Contribution of the Proposed Project (Prior to Mitigation)

Emissions from proposed Project Phase I construction would increase relative to CEQA and NEPA baseline emissions for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$. Emissions from proposed Project Phase II and III construction would also increase relative to CEQA and NEPA baseline emissions for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$. These emission increases would combine with construction emission construction projects, which would already be cumulatively significant. As a result, without mitigation, emissions from proposed Project construction during Phases I would make a cumulatively considerable contribution to a cumulative significant cumulative impact for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ emissions under CEQA and NEPA. Emissions from proposed Project construction during Phases II and III would produce cumulatively considerable contributions to a cumulative significant cumulative impact for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ emissions under CEQA or NEPA.

Contribution of the Alternatives

Alternatives 1 through 7 all include Phase I construction and, therefore, would make a cumulatively considerable contribution to a cumulative significant impact for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ emissions under CEQA and NEPA. Alternatives 1 through 4, Alternative 6, and Alternative 7 would all increase construction emissions for Phases II and III relative to CEQA and NEPA baseline emissions for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$. Construction of Phases II and III, therefore, would make a cumulatively considerable contribution to a cumulative significant impact for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$. Alternative 5 would have no construction emissions for Phase II or III and, therefore, would not contribute to a cumulative significant impact during Phases II and III.

Mitigation Measures and Residual Cumulative Impacts

After mitigation, Phase I construction emissions would continue to increase relative to CEQA and NEPA baseline emissions for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$. Therefore, during Phase I construction, the proposed Project and Alternatives 1 through 7 after mitigation would make a cumulatively considerable and unavoidable contribution to a cumulative significant impact for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ emissions under CEQA and NEPA.

After mitigation, construction emissions of Phases II and III for the proposed Project and Alternatives 1 through 4, Alternative 6, and Alternative 7 would continue to increase relative to CEQA and NEPA baseline emissions for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$. Therefore, during construction of Phases II and III, the proposed Project and Alternatives 1 through 4, Alternative 6, and Alternative 7 after mitigation would make a cumulatively considerable and unavoidable contribution to a cumulative significant impact for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ emissions under CEQA and NEPA.

Alternative 5 would have no construction emissions for Phases II or III and, therefore, would not contribute to a cumulative significant impact during Phase II or III.

4.2.2.3 Cumulative Impact AQ-2: Potential for Construction to Produce Emissions that Exceed an Ambient Air Quality Standard or Substantially Contribute to an Existing or Projected Air Quality Standard Violation – Cumulatively Considerable and Unavoidable

Cumulative Impact AQ-2 assesses the potential for proposed Project construction along with other cumulative projects to produce ambient pollutant concentrations that exceed an ambient air quality standard or substantially contribute to an existing or projected air quality standard violation.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The past, present, and reasonably foreseeable future projects for **Cumulative Impact AQ-2** would result in significant cumulative impacts if their combined ambient pollutant concentrations, during construction, would exceed the SCAQMD ambient concentration thresholds for pollutants from construction. Although there is no way to be certain if a cumulative exceedance of the thresholds would happen for any pollutant without performing dispersion modeling of the other projects, cumulative air quality impacts are likely to exceed the thresholds for NO_X, could exceed the thresholds for PM_{10} and $PM_{2.5}$, and are unlikely to exceed for CO. Consequently, construction of the related projects would result in a significant cumulative air quality impacts related to exceedances of the significance thresholds for NO_X, PM_{10}, and $PM_{2.5}$.

Contribution of the Proposed Project (Prior to Mitigation)

The SCAQMD develops ambient pollutant thresholds that signify cumulatively considerable increases in criteria pollutant concentrations. Project Phases II and III construction emissions would produce offsite impacts that would exceed the SCAQMD ambient thresholds for 1-hour NO_2 and would exceed CEQA and NEPA baseline levels for PM_{10} and $PM_{2.5}$. Any concurrent emissions-generating activity that occurs near the Project site would add additional air emission burdens to these significant levels. As a result, without mitigation, emissions from Project construction could make cumulatively considerable contributions to significant cumulative ambient NO_X, PM_{10}, and $PM_{2.5}$ levels under CEQA or NEPA.

Offsite impacts from unmitigated Phase I construction emissions were not evaluated because Phase I construction was completed in 2003 and mitigation was implemented.

Contribution of the Alternatives

All alternatives include Phase I emissions, and with the exception of Alternatives 1 and 5, would produce NO_X, PM_{10}, and $PM_{2.5}$ emissions during subsequent construction phases (Phases II and III). As with the proposed Project, Alternatives 1 through 7, therefore, would produce cumulatively considerable contributions to a cumulative significant cumulative NO_X, PM_{10}, and $PM_{2.5}$ levels under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

With mitigation, impacts from Phase 1 construction would exceed the SCAQMD 1-hour NO_2 and 24-hour PM_{10} ambient thresholds. With mitigation, the emissions for Phase II

and Phase III for the proposed Project and Alternatives 1, 4, 6, and 7 would have concentrations below SCAQMD concentration thresholds for all pollutants. Nonetheless, construction emission could still make cumulatively considerable (and unavoidable) contributions to significant cumulative ambient NO_2, PM_{10}, and $PM_{2.5}$ levels from concurrent related project construction under CEQA and NEPA.

4.2.2.4 Cumulative Impact AQ-3: Potential for Operation to Produce a Cumulatively Considerable Increase of a Criteria Pollutant for which the Project Region is in Nonattainment Under a National or State Ambient Air Quality Standard – Cumulatively Considerable and Unavoidable

Cumulative Impact AQ-3 assesses the potential for proposed Project operation along with other cumulative projects to produce a cumulatively considerable increase in criteria pollutant emissions for which the project region is in nonattainment under a national or state ambient air quality standard or for which the SCAQMD has set a daily emission threshold.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The other projects would be cumulatively significant if their combined operational emissions would exceed the SCAQMD daily emission thresholds for operations. Because this almost certainly would be the case for all analyzed criteria pollutants, the related projects would result in a significant cumulative air quality criteria pollutant impact.

Contribution of the Proposed Project (Prior to Mitigation)

Peak daily emissions from proposed Project operation would increase relative to CEQA and NEPA baseline emissions for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ during one or more project analysis years. These emission increases would combine with operation emissions from other projects near the proposed Project site, which would already be cumulatively significant. As a result, without mitigation, emissions from the proposed Project operation would make a cumulatively considerable contribution to a cumulative significant impact for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ emissions under CEQA and NEPA.

Contribution of the Alternatives

Peak daily emissions from Alternative 1 operation would increase relative to CEQA baseline emissions for VOCs, CO, and NO_X during one or more project analysis years. As a result, emissions from Alternative 1 operation would make a cumulatively considerable contribution to a cumulative significant impact for VOCs, CO, and NO_X emissions under CEQA.

Peak daily emissions from Alternative 2 operation would increase relative to CEQA baseline emissions for VOC, CO, and NO_X during one or more project analysis years. As a result, emissions from Alternative 2 operation would make a cumulatively considerable contribution to a cumulative significant impact for VOC, CO, and NO_X emissions under CEQA. Alternative 2 operational emissions would not change relative to the NEPA

baseline; therefore, Alternative 2 would not contribute to a cumulative significant impact under NEPA.

Peak daily emissions from Alternatives 3 through 6 would increase relative to CEQA and NEPA baseline emissions for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ during one or more project analysis years. As a result, without mitigation, emissions from Alternatives 3 through 6 would make a cumulatively considerable contribution to a cumulative significant impact for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ emissions under CEQA and NEPA.

Peak daily emissions from operation of Alternative 7 would increase relative to CEQA baseline emissions for VOCs, CO, PM_{10}, and $PM_{2.5}$ during one or more project analysis years. As a result, emissions from operation of Alternative 7 would make a cumulatively considerable contribution to a cumulative significant impact for VOCs, CO, PM_{10}, and $PM_{2.5}$ emissions under CEQA. Peak daily emissions from operation of Alternative 7 would increase relative to NEPA baseline emissions for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ during one or more project analysis years. As a result, emissions from Alternative 7 operation would make a cumulatively considerable contribution to a cumulative significant impact for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ emissions under NEPA.

Mitigation Measures and Residual Cumulative Impacts

After mitigation, peak daily emissions from the proposed Project and Alternatives 3 through 6 would increase relative to CEQA and NEPA baseline emissions for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ during one or more project analysis years. As a result, after mitigation, emissions from the proposed Project and Alternatives 3 through 6 would make a cumulatively considerable and unavoidable contribution to a cumulative significant impact for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ emissions under CEQA and NEPA.

After mitigation, peak daily emissions from operation of Alternative 7 would increase relative to the CEQA baseline emissions for VOCs, CO, PM_{10}, and $PM_{2.5}$ during one or more project analysis years. As a result, mitigated emissions from operation of Alternative 7 would make a cumulatively considerable and unavoidable contribution to a cumulative significant impact for VOCs, CO, PM_{10}, and $PM_{2.5}$ emissions under CEQA. After mitigation, peak daily emissions from operation of Alternative 7 would increase relative to NEPA baseline emissions for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ during one or more project analysis years. As a result, mitigated emissions from operation of Alternative 7 would make a cumulatively considerable and unavoidable contribution to a cumulative significant impact for VOCs, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ emissions under NEPA.

4.2.2.5 Cumulative Impact AQ-4: Potential for Operation to Produce Emissions that Exceed an Ambient Air Quality Standard or Substantially Contribute to an Existing or Projected Air Quality Standard Violation – Cumulatively Considerable and Unavoidable

Cumulative Impact AQ-4 assesses the potential for proposed Project operation along with other cumulative projects to produce ambient concentrations that exceed an ambient

air quality standard or substantially contribute to an existing or projected air quality standard violation.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The related projects would result in significant cumulative impacts if their combined ambient concentration levels during operations would exceed the SCAQMD ambient concentration thresholds for operations. Although there is no way to be certain if a cumulative exceedance of the thresholds would happen for any pollutant without performing dispersion modeling of the other projects, cumulative air quality impacts are likely to exceed the thresholds for NO_X, could exceed the thresholds for PM_{10} and $PM_{2.5}$, and are unlikely to exceed for CO. Consequently, operation of the related projects would result in a significant cumulative air quality impacts related to exceedances of the significance thresholds for NO_X, PM_{10}, and $PM_{2.5}$.

Contribution of the Proposed Project (Prior to Mitigation)

The SCAQMD develops ambient pollutant thresholds that signify cumulatively considerable increases in concentrations of these pollutants. Project operational emissions would produce offsite impacts that would exceed the SCAQMD ambient thresholds for 1-hour and annual NO_2, 24-hour PM_{10}, and 24-hour $PM_{2.5}$. Any concurrent emissions-generating activity that occurs near the Project site would add additional air emission burdens to these significant levels. As a result, without mitigation, emissions from Project operations would produce cumulatively considerable contributions to ambient NO_2, PM_{10}, and $PM_{2.5}$ levels under CEQA or NEPA.

Contribution of the Alternatives

All alternatives include operational emissions, and given the significant cumulative impact from the related project related to exceedances of the significance thresholds for NO_X, PM_{10}, and $PM_{2.5}$, operation of all Alternatives would make cumulatively considerable contributions to cumulative significant cumulative NO_X, PM_{10}, and $PM_{2.5}$ concentrations under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

With mitigation, impacts from Project operation would exceed the 1-hour and annual NO_2 and 24-hour $PM_{10}/PM_{2.5}$ SCAQMD ambient thresholds. As a result, emissions from operation of the proposed Project and alternatives would produce cumulatively considerable and unavoidable contributions to ambient NO_2, PM_{10}, and $PM_{2.5}$ levels under CEQA and NEPA.

4.2.2.6 Cumulative Impact AQ-5: Potential for Operation to Create On-Road Traffic that Would Contribute to an Exceedance of the 1-Hour or 8-Hour CO Standards – Cumulatively Insignificant

Cumulative Impact AQ-5 assesses the potential of the proposed Project operation along with other cumulative projects to create on-road traffic that would contribute to an exceedance of the 1-hour or 8-hour CO standards.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The related projects would result in significant cumulative impacts to air quality if they would generate traffic levels that cause exceedances of the ambient air quality standards for CO near roadways and intersections. Because this is unlikely to occur, the cumulative impacts of the other projects would be considered less than significant.

Contribution of the Proposed Project (Prior to Mitigation)

Based on the CO hot spot modeling analysis, which includes cumulative growth in traffic levels, significant hot spot impacts under CEQA and NEPA for the project operation are not anticipated because CO standards would not be exceeded. As a result, without mitigation, Project operations would not result in cumulatively considerable contributions to CO hot spot impacts within the Project region under CEQA or NEPA.

Contribution of the Alternatives

As with the proposed Project, none of the alternatives would make a cumulatively considerable contribution to cumulative significant cumulative CO impact under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required because the proposed Project and alternatives would not result in cumulatively considerable contributions to significant cumulative CO hot spot impacts.

4.2.2.7 Cumulative Impact AQ-6: Potential for Operation to Create Objectionable Odors at the Nearest Sensitive Receptor – Cumulatively Considerable and Unavoidable

Cumulative Impact AQ-6 assesses the potential of the proposed Project operation along with other cumulative projects to create objectionable odors at the nearest sensitive receptor.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

There are temporary and semi-permanent sources of odors within the Port region, including mobile sources powered by diesel and residual fuels and stationary industrial sources, such as petroleum storage tanks. Some individuals may sense that diesel combustion emissions are objectionable in nature, although quantifying the odorous impacts of these emissions to the public is difficult. Due to the large number of sources within the Port that emit diesel emissions and the proximity of residents (sensitive receptors) adjacent to Port operations, odorous emissions in the Project region are cumulatively significant.

Contribution of the Proposed Project (Prior to Mitigation)

Operation of the Project would increase diesel emissions within the Port. Any concurrent emissions-generating activity that occurs near the Project site would add additional air emission burdens to cumulative impacts. As a result, without mitigation, Project operations would result in cumulatively considerable contributions to significant cumulative odor impacts within the Project region under CEQA or NEPA.

Contribution of the Alternatives

As with the proposed Project, Alternatives 1 through 6 would involve the use of diesel equipment and/or truck and, therefore, would make a cumulatively considerable contribution to cumulative significant cumulative odor impacts under CEQA or NEPA. Alternative 7 would not result in substantial diesel truck and equipment use, and therefore would not result in odor impacts and would not make a cumulatively considerable contribution to cumulative significant cumulative odor impacts under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

Implementation of Project mitigations would reduce odor emissions from operation of the proposed Project and Alternatives 1 through 6. After mitigation, the proposed Project and Alternatives 3 through 6 would produce cumulatively considerable and unavoidable contributions to ambient odor levels within the Project region from operations.

4.2.2.8 Cumulative Impact AQ-7: Exposure of Receptors to Significant Levels of Toxic Air Contaminants – Cumulatively Considerable and Unavoidable

Cumulative Impact AQ-7 assesses the potential of the proposed Project construction and operation along with other cumulative projects to produce toxic air contaminants (TACs) that exceed acceptable public health criteria.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The *Multiple Air Toxics Exposure Study* (MATES-II) conducted by the SCAQMD in 2000 estimated the existing cancer risk from toxic air contaminants in the South Coast Air Basin to be 1,400 in a million (SCAQMD, 2000). In MATES III, completed by SCAQMD, the existing cancer risk from toxic air contaminants was estimated at 1,000 to 2,000 in a million in the San Pedro and Wilmington areas. In the *Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach*, the CARB estimates that elevated levels of cancer risks due to operational emissions from the Ports of Los Angeles and Long Beach occur within and in proximity to the two Ports (CARB, 2006). Based on this information, airborne cancer and noncancer levels within the project region are therefore cumulatively significant.

The Port has approved port-wide air pollution control measures through their San Pedro Bay Ports Clean Air Action Plan (CAAP) (LAHD et al., 2006). Implementation of these measures will reduce the health risk impacts from the Project and future projects at the Port. Currently adopted regulations and future rules proposed by the ARB and USEPA also will further reduce air emissions and associated cumulative health impacts from Port operations. However, because future proposed measures (other than CAAP measures) and rules have not been adopted, they have not been accounted for in the emission calculations or health risk assessment for the Project. Therefore, it is unknown at this time how these future measures would reduce cumulative health risk impacts within the Port project area, and therefore, airborne cancer and noncancer impacts within the project region would therefore still be cumulatively significant.

Contribution of the Proposed Project (Prior to Mitigation)

Prior to mitigation, proposed Project construction and operational emissions of TACs would increase cancer risks from CEQA and NEPA baseline levels to above the significance criterion of 10 in a million (10×10^{-6}) risk to offsite residential, occupational, sensitive, and recreational receptors. In addition, proposed Project emissions of TACs would make a cumulatively considerable contribution (although a contribution of less than 10 in a million cases) to cancer risks relative to CEQA and NEPA baseline levels to offsite student receptors.

Prior to mitigation, proposed Project construction and operational emissions of TACs would increase acute noncancer effects from CEQA and NEPA baseline levels to above the 1.0 hazard index significance criterion at residential, occupational, sensitive, student, and recreational receptors in proximity to the Project terminal.

Any concurrent emissions-generating activity that occurs near the Project site would add additional airborne health burdens to these significant levels. As a result, without mitigation, emissions from Project construction and operation would make a cumulatively considerable contribution to airborne cancer and noncancer levels at all receptor types under CEQA or NEPA.

While the proposed Project emissions would not have an individually significant impact on chronic noncancer health effects at any receptor type under CEQA or NEPA, the proposed Project would make a greater than zero, and therefore cumulatively considerable, contribution to cumulatively significant impacts on chronic noncancer health risks.

Contribution of the Alternatives

As with the proposed Project, any concurrent emissions-generating activity that occurs near the Project site would add additional airborne health burdens to these significant levels. As a result, without mitigation, emissions from construction and operation of Alternatives 1 through 6 would make a cumulatively considerable contribution to airborne cancer and noncancer levels at all receptor types under CEQA or NEPA (the NEPA impact determination does not apply to Alternative 1).

Alternative 7 would have a minimal impact on cancer or noncancer risk because its operation would not involve the use of diesel trucks and equipment. As a consequence, Alternative 7 would not make a cumulatively considerable contribution to airborne cancer and noncancer levels at all receptor types under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

With mitigation, construction and operational emissions of TACs under the proposed Project and Alternatives 4 and 6 would increase cancer risks from CEQA and NEPA baseline levels to above the significance criterion of 10 in a million (10×10^{-6}) risk to offsite residential, occupational, sensitive, and recreational receptors. In addition, emissions of TACs from the proposed Project and Alternatives 1 through 6 would make a cumulatively considerable contribution (although a contribution of less than 10 in a million cases) to cancer risks relative to CEQA and NEPA baseline levels to offsite student receptors.

With mitigation, construction and operational emissions of TACs from the proposed Project and Alternatives 3 through 6 would increase acute noncancer effects from CEQA and NEPA baseline levels to above the 1.0 hazard index significance criterion at

residential, occupational, and recreational receptors in proximity to the Project terminal. Although the increases at sensitive and student receptors would not exceed the 1.0 hazard index significance criterion, since the mitigated construction and operations under the proposed Project and Alternatives 1 through 6 would increase acute noncancer effects in the Project region, the proposed Project and Alternatives 1 through 6 would also make a cumulatively considerable and unavoidable contribution to ambient noncancer effects under CEQA and NEPA at these receptor types.

While the mitigated Project emissions would not have an individually significant impact on chronic noncancer health effects at any receptor type under CEQA or NEPA, the mitigated Project and mitigated Alternatives 1 through 6 would make a greater than zero, and therefore cumulatively considerable, contribution to cumulatively significant impacts on chronic noncancer health risks. Alternative 7 would not result in significant impacts to cancer or noncancer risks after mitigation.

Levels of toxic air contaminant emissions from Port facilities and Port-related trucks traveling along adjacent streets will diminish in future years with the implementation of the recently approved CAAP and current and future rules adopted by the CARB and USEPA. Specifically, DPM emissions from trucks are anticipated to diminish by approximately 80 percent over the next 5 years with the implementation of the CAAP. It is unknown at this time whether these future emission reductions would reduce the cumulative health impacts in the Port region to less than significant levels. However, the Port is in the process of developing a Portwide HRA that will define the cumulative health impacts of Port emissions in proximity to the Port. Although levels of toxic air contaminant emissions from Port facilities and Port-related trucks traveling along adjacent streets will diminish in future years from these programs and rules, emissions from construction and operation of the proposed Project or Alternatives 1 through 6 are assumed to make a cumulatively considerable contribution to airborne cancer and noncancer levels at all receptor types under CEQA or NEPA.

4.2.2.9 Cumulative Impact AQ-8: Potential Conflict with or Obstruction of Implementation of an Applicable AQMP – Less than Cumulatively Considerable

Cumulative Impact AQ-8 represents the potential of the proposed Project along with other cumulative projects to conflict with or obstruct implementation of an applicable AQMP.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The related projects would result in significant cumulative air quality impact if they result in population growth or operational emissions that exceed the assumptions in the AQMP. The related projects would be subject to regional planning efforts and applicable land use plans (such as the General Plan, Community Plans, or Port Master Plan) or transportation plans such as the Regional Transportation Plan and the Regional Transportation Improvement Program. Because the AQMP accounts for population projections that are developed by the Southern California Association of Governments, and accounts for planned land use and transportation infrastructure growth, the related projects would be consistent with the AQMP. Because of this, the related projects would not result in significant cumulative impacts related to an obstruction of the AQMP.

Contribution of the Proposed Project (Prior to Mitigation)

The Proposed Project would produce emissions of nonattainment pollutants. The 2003 and 2007 AQMPs propose mobile source control measures and clean fuel programs that are designed to bring the South Coast Air Basin into attainment of the state and national ambient air quality standards. Many of these AQMP control measures are adopted as SCAQMD rules and regulations, which are then used to regulate sources of air pollution in the region. Proposed sources would have to comply with all applicable SCAQMD rules and regulations and in this manner, the Project would not conflict with or obstruct implementation of the AQMP.

The Port of Los Angeles regularly provides the Southern California Association of Governments with its Portwide cargo forecasts for development of the AQMPs. Therefore, the attainment demonstrations included in the 2003 and 2007 AQMPs account for the emissions generated by projected future growth at the Port. Because one objective of the proposed Project is to accommodate growth in cargo throughput at the Port, the AQMP accounts for the Project development. As a result, without mitigation, the Project would result in less than cumulatively considerable contributions in terms of conflicting with or obstructing implementation of an applicable AQMP under CEQA or NEPA.

Contribution of the Alternatives

As with the proposed Project, Alternatives 1 through 7 would result in less than cumulatively considerable contributions in terms of conflicting with or obstructing implementation of an applicable AQMP under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

None are required because cumulative impacts would be less than significant.

4.2.2.10 Cumulative Impact AQ-9: Potential Contribution to Global Climate Change – Cumulatively Considerable and Unavoidable

Cumulative Impact AQ-9 represents the potential of the proposed Project along with other cumulative projects to contribute to global climate change.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Scientific evidence indicates a trend of warming global surface temperatures over the past century due at least partly to the generation of greenhouse gases (GHG) emissions from human activities, as further discussed in Chapter 3.2 (Air Quality and Meteorology). Some observed changes include shrinking glaciers, thawing permafrost, and shifts in plant and animal ranges. Credible predictions of long-term impacts from increasing GHG levels in the atmosphere include sea level rise, changes to weather patterns, changes to local and regional ecosystems including the potential loss of species, and significant reductions in winter snow packs. These and other effects would have environmental, economic, and social consequences on a global scale. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors (California Energy Commission, 2006a). Therefore, the cumulative global emissions of GHGs contributing to global climate change can be

attributed to every nation, region, and city, and virtually every individual on Earth. In California alone, CO_2 emissions totaled approximately 477.77 million metric tons in year 2003 (CEC, 2006), which was an estimated 6.4 percent of global CO_2 emissions from fossil fuels. Based upon this information, past, current, and future global GHG emissions, including emissions from projects in the Ports of Los Angeles and Long Beach (Table 4-1) and elsewhere in California, are cumulatively significant.

Contribution of the Proposed Project (Prior to Mitigation)

The challenge in assessing the significance of an individual project's contribution to global GHG emissions and associated global climate change impacts is to determine whether a project's GHG emissions, which are at a micro-scale relative to global emissions, result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. As noted above, CO_2 emissions in California totaled approximately 477.77 million metric tons in year 2003 (CEC, 2006). As shown in Table 3.2-32, the proposed Project would produce higher GHG emissions in each future project year, compared to CEQA baseline levels. Any concurrent emissions-generating activity that occurs global-wide would add additional GHG emission burdens to these significant levels, which could further exacerbate environmental effects as discussed above and in Chapter 3.2.

Considering AQ-9, which states that any GHG increase over the CEQA baseline is significant, without mitigation, emissions from proposed Project construction and operation would produce cumulatively considerable contributions to global climate change under CEQA.

Contribution of the Alternatives

As with the proposed Project, emissions from Alternatives 1 through 7 construction and operation would produce cumulatively considerable contributions to global climate change under CEQA.

Mitigation Measures and Residual Cumulative Impacts

As shown in Table 3.2-33, with mitigation, the proposed Project and Alternatives 1 through 7 would produce higher GHG emissions in each future project year, compared to CEQA baseline levels. The way in which CO2 emissions associated with the proposed Project or alternatives might or might not influence actual physical effects of global climate change cannot be determined. For these reasons, it is uncertain whether emissions from the proposed Project or alternatives would make a significant contribution to the impact of global climate change when considered with the emissions generated by human activity. Nevertheless, as discussed in Chapter 3.2, existing GHG levels are projected to result in changes to the climate of the world, with significant warming seen in some areas, which, in turn, will have numerous indirect effects on the environment and humans.

Project GHG emissions would contribute to existing levels and, therefore, would contribute to the causes of global climate change. Considering AQ-9, which states that any increase in GHG emissions over the CEQA baseline is significant, emissions from construction and operation of the proposed Project and project alternatives would produce cumulatively considerable and unavoidable contributions to global climate change under CEQA.

4.2.3 Biological Resources

4.2.3.1 Scope of Analysis

The geographic region of analysis for biological resources differs by organism groups such as birds, fish, marine mammals, plankton, and benthic invertebrates. The mobility of species in these groups, their population distributions, and the normal movement range for individuals living in an area varies so that effects on biotic communities in one area can affect those communities in other nearby areas. For terrestrial biological resources (excluding water-associated birds), the geographic region of analysis is limited to those land areas at the proposed Project site and extending approximately 1 mile (1.6 km) in all directions. The resources present are common species that are abundant throughout the region and are adapted to industrial areas in the Harbor. For marine biological resources, excluding marine mammals, the geographical region of analysis for benthic communities, water column communities (plankton and fish), and water-associated birds is the water areas of the Los Angeles/Long Beach Harbor (inner and outer Harbor areas) because the basins, slips, channels, and open waters are hydrologically and ecologically connected. Effects on plankton are more restricted, however, but no distinct boundary can be established so the entire Harbor area is used. For marine mammals, the analysis area includes the Los Angeles-Long Beach Harbor as well as the Pacific Ocean from near Angels Gate out to Catalina Island in order to cover vessel traffic effects. The special status species have differing population sizes and dynamics, distributional ranges, breeding locations, and life history characteristics. Because the bird species are not year-long residents but migrate to other areas where stresses unrelated to the proposed Project and other projects in the Harbor area can occur, the area for cumulative analysis is limited to the Harbor. Sea turtles are not expected to occur in the Harbor and their presence in the nearshore areas where vessel traffic could affect them is unlikely and unpredictable; consequently, these animals are not considered in the cumulative analysis.

Past, present, and reasonably foreseeable future development that could contribute to cumulative impacts on terrestrial resources are those projects that involve land disturbance such as grading, paving, landscaping, construction of roads and buildings, and related noise and traffic impacts. Noise, traffic and other operational impacts can also be expected to have cumulative impacts on terrestrial species. Marine organisms could be affected by activities in the water such as dredging, filling, wharf demolition and construction, and vessel traffic. Runoff of pollutants from construction and operations activities on land into Harbor waters via storm drains or sheet runoff also has the potential to affect marine biota, at least near the drains.

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.3.4.2. These criteria are the same for both the CEQA and NEPA analyses.

4.2.3.2 Cumulative Impact BIO-1: Cumulative Impacts to Sensitive Species – Cumulatively Considerable and Unavoidable

Cumulative Impact BIO-1 represents the potential of the proposed Project along with other cumulative projects to adversely affect state and federally listed endangered, threatened, rare, protected, or Species of Special Concern, or to result in the loss of critical habitat.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction of past landfill projects in the Harbor has reduced the amount of marine surface water present and thus foraging and resting areas for special status bird species, but these projects have also added more land and structures that can be used for perching near the water. Construction of Terminal Island, Pier 300, and then Pier 400 provided new nesting sites for the California least tern, and the Pier 400 site is still being used. Shallow water areas to provide foraging habitat for the California least tern and other bird species have been constructed on the east side of Pier 300 and inside the San Pedro breakwater as mitigation for loss of such habitat from past projects, and more such habitat is to be constructed as part of the Channel Deepening project. Development of the vacant land on Pier 400 adjacent to the California least tern nesting site (Pier 400 Oil Marine Terminal Project [#11]) has the potential to adversely affect that species during construction. Construction of the Cabrillo Shallow Water Habitat Expansion and Eelgrass Habitat Area as part of the Channel Deepening Project has the potential to adversely affect California least tern foraging during construction activities. Any significant impacts to the California least tern could be mitigable through timing of construction activities in areas used for foraging to avoid work when the least terns are present. These potential impacts, which would not directly affect the nesting grounds, represent potential project-level impacts that would likely be mitigated. Because there are no other related projects in the vicinity that could affect least tern nesting or foraging grounds, significant cumulative impacts to the least tern would not occur. With respect to other special status species, it is not expected that any nesting, foraging habitat, or individuals would be lost as a result of related project developments.

Past, present, and future projects will increase vessel traffic. Ship strikes involving marine mammals and sea turtles, although uncommon, have been documented for the following listed species in the eastern North Pacific: blue whale, fin whale, humpback whale, sperm whale, southern sea otter, loggerhead sea turtle, green sea turtle, olive ridley sea turtle, and leatherback sea turtle (NOAA Fisheries and 19 USFWS 1998a, 1998b, 1998c, 1998d; Stinson 1984; Carretta et al. 2001).

Ship strikes have also been documented involving gray, minke, and killer whales. The blue whale, fin whale, humpback whale, sperm whale, gray whale, and killer whales are all listed as endangered under the ESA although the Eastern Pacific gray whale population was delisted in 1994. In Southern California, potential strikes to blue whales are of the most concern due to the migration patterns of blue whales and the established shipping channels. Blue whales normally passed through the Santa Barbara Channel en route from breeding grounds in Mexico to feeding grounds farther north. Blue whales were a target of commercial whaling activities worldwide. In the North Pacific, pre-whaling populations were estimated at approximately 4,900 blue whales, the current population estimate is approximately 3,300 blue whales (NMFS, 2008). Along the California coast, blue whale abundance has increased over the past two decades (Calambokidis *et al*., 1990; Barlow, 1994; Calambokidis, 1995).

However, the increase is too large to be accounted for by population growth alone and is more likely attributed to a shift in distribution. Incidental ship strikes and fisheries interactions are listed by NMFS as the primary threats to the California population. Operation of many of the past, present, and future projects would result in increased vessel trips to and from the Harbor Complex; therefore, the related projects could potentially increase whale mortalities from vessel strikes, which is considered to be an unavoidable significant cumulative impact.

The past projects that have increased vessel traffic have also increased underwater sound in the Harbor and in the ocean from the vessel traffic lanes to Angels Gate and Queens Gate. Ongoing and future terminal upgrade and expansion projects (e.g., Berths 136-147 [#2], San Pedro Waterfront [#3], Channel Deepening [#4], Evergreen Improvements [#7], Pier 400 Oil Marine Terminal [#11], Ultramar [#12], Berths 212-214 YTI [#28], Berths 121-131 [#29], Middle Harbor [#66], Piers G & J [#67], Pier T TTI [#70], Pier S [#71], and, if eventually approved, Sound Energy Solutions [#73]) would increase vessel traffic and its associated underwater sound. The increase in frequency of vessel sound events could cause some individual marine mammals to avoid the vessels as they move into, through, and out of the Harbor. The overall increase in sound would be less than 3 dBA because the number of vessels would not double; therefore, no significant cumulative in-water noise impacts would occur that could affect sensitive species.

In-water construction activities (e.g., Berths 136-147 [#2], San Pedro Waterfront [#3], Channel Deepening [#4], Cabrillo Way Marina [#5], Evergreen Improvements [#7], Pier 400 Oil Marine Terminal [#11], Berths 212-214 YTI [#28], Berths 121-131 [#29], Middle Harbor [#66], Piers G & J Redevelopment [#67], Pier T TTI [#70], Pier S [#71], Sound Energy Solutions [#73] (if eventually approved), and Schuyler F. Heim Bridge [#77]) could disturb or cause special-status birds, other than the California least tern addressed above, to avoid the construction areas for the duration of the activities. Because these projects would occur at different locations throughout the Harbor and only some are likely to overlap in time, the birds could use other undisturbed areas in the Harbor, and few individuals would be affected at any one time. Construction of the Schuyler F. Heim Bridge (#77), however, would have a project-level potential to adversely affect the peregrine falcon if any are nesting at the time of construction. If nesting were to be affected, impacts could be significant but would be mitigated by implementing Mitigation Measure B-7 Protecting American Peregrine Falcon (by scheduling the work to begin after the nesting season [January 15 through July 30] or by excluding nesting prior to the nesting season) (ACTA, 2007) Because no other related project would affect the peregrine falcon, significant cumulative impacts to the peregrine falcon would not occur.

In-water construction activities, and particularly pile driving, would also result in underwater sound pressure waves that could affect marine mammals if they are present and persist in the area. As discussed in Section 3.3.4.3.1.1, any seals or sea lions present in the West Basin during construction would likely avoid the disturbance areas and thus would not be injured. In addition, Harbor seals are unlikely to be present since few have been observed in the West Basin (MEC and Associates, 2002). The locations of these activities (e.g., pile and sheet pile driving) are in areas where few marine mammals occur. In addition, in-water construction from related projects near (Berths 136-147 [#2] and Berths 121-131 [#29]) the proposed Project could occur; however, concurrent construction activities in the Harbor are unlikely to have an adverse cumulative effect on the marine mammals because the Harbor contains few marine mammals and because ample area exists for any that happen to be in the Harbor to move to avoid any disturbance. As a consequence, construction of the related projects would not result in a significant cumulative impact to marine mammals.

Contribution of the Proposed Project (Prior to Mitigation)

As discussed in Section 3.3.4.3.1 (**Impact BIO-1a** and **1b**), the proposed Project would have less than significant impacts on the California least tern and other special status species under CEQA and NEPA. The Southwest Slip is not an important foraging habitat

for California least tern, and no important foraging habitat for this species occurs elsewhere in the Inner Harbor. The proposed Project would have no impact on critically habitat as a result of construction and operations because no critical habitat is present. Project construction is not expected to affect marine mammals because few marine mammals occur in the Harbor and because any marine mammals that could be present are likely to avoid the construction zone or remain enough of a distance that they would not be affected. Furthermore, the proposed Project would not affect nesting or foraging of the peregrine falcon. Construction activities would result in no loss of individuals or habitat for special status species. Therefore, proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact to least terns, peregrine falcons, or marine mammals from in-water noise or construction activities under CEQA and NEPA.

While the proposed Project would not significantly affect marine mammals through vessel strikes, overall increases in vessel traffic along the Southern California coast have contributed to marine mammal mortalities. Therefore, operation of the proposed Project could make a cumulatively considerable contribution to a significant cumulative impact to marine mammals (the potential contribution to whale mortality) from vessel strikes under CEQA and NEPA.

Contribution of the Alternatives

For the same reasons as discussed for the proposed Project, Alternatives 1 through 7 would not result in a cumulative considerable contribution to significant cumulative impacts under Impact BIO-1 to least terns, peregrine falcons, or marine mammals from in-water noise or construction activities under CEQA and NEPA. Alternatives 3 through 6, however, would also result in increases to vessel traffic, which could potentially contribute to whale mortalities resulting in a cumulatively considerable contribution to a significant cumulative impact finding under CEQA and NEPA. Alternative 7 would not result in container vessel calls and, therefore, would not result in a cumulatively considerable contribution to a significant cumulative impact on marine mammals related to vessel strikes.

Mitigation Measures and Residual Cumulative Impacts

While operation of the proposed Project and Alternatives 3 through 6 would not significantly affect marine mammals through vessel strikes, mitigation measure **MM BIO-2** would be implemented to minimize the potential for vessel strikes. No other mitigation is available to reduce cumulative impacts related to vessel strikes to below the level of significance; therefore, the potential for operation of the proposed Project or Alternatives 3 through 6 to make a cumulatively considerable contribution a significant cumulative impact related to vessel strikes under CEQA or NEPA would remain.

4.2.3.3 Cumulative Impact BIO-2: Cumulative Alteration or Reduction of Natural Habitats, Special Aquatic Sites, or Plant Communities – Less than Cumulatively Considerable with Mitigation

Cumulative Impact BIO-2 represents the potential of the proposed Project along with other cumulative projects to substantially reduce or alter state-, federally, or locally designated natural habitats, special aquatic sites, or plant communities, including wetlands.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Essential Fish Habitat (EFH) has been and will be lost due to past, present, and future landfill projects in the Harbor. EFH protection requirements began in 1996, and thus, only apply to projects since that time. The projects in Table 4-1 that could result in a loss of EFH are Pier 400 (#1), Berths 136-147 (#2), Channel Deepening (#4), Berths 302-305 APL (#23), Middle Harbor Terminal redevelopment (#66), Piers G & J (#67), Pier T (#70), and Schuyler Heim Bridge (#77). The losses since that date are the same, significant but mitigable under CEQA and NEPA, because the marine habitat losses described in **Cumulative Impact BIO-5** below and the use of mitigation bank credits for the latter impacts offset the losses of EFH. Temporary disturbances within EFH also occur during in-water construction activities from the following cumulative projects: Berths 136-147 (#2), San Pedro Waterfront (#3), Channel Deepening (#4), Cabrillo Way Marine (#5), Evergreen Improvements (#7), Pier 400 Oil Marine Terminal (#11), Berths 97-109 (#15), Berths 212-214 (#25), Berths 121-131 (#29), Middle Harbor Terminal Redevelopment (#66), Piers G & J (#67), Pier T (#70), Pier S (#71), and Sound Energy Solutions (#73). These disturbances in the Harbor occur at specific locations that are scattered in space and time within the Harbor. The concurrent construction activities at these sites area unlikely to increase impacts to EFH that would further degrade the habitat or ultimately result in significant increases in cumulative impacts since they will be relatively short in duration and dredge effect diminish rapidly with distance from the dredge activity. The loss of habitat, as mentioned, represents a significant cumulative impact; however, each project's EFH impact would be mitigated through offsets with mitigation bank credits (either Inner or Outer Harbor credits).

Natural habitats, special aquatic sites (e.g., eelgrass beds, mudflats), and plant communities (wetlands) have a limited distribution and abundance in the Harbor. The 40-acre Pier 300 expansion project caused a loss of eelgrass beds that was mitigated. The Southwest Slip fill in West Basin completed as part of the Channel Deepening Project resulted in a small loss of salt marsh that was also mitigated. Losses of eelgrass and salt marsh from early landfill projects are unknown. None of the other past, present, or future projects are expected to adversely affect any of these habitats.

Because past and present impacts to EFH were mitigated and because other reasonably foreseeable future projects that affect EFH would be fully mitigated (Table 3.3-5 shows the available mitigation bank credits allocated to other projects and the remaining credits available), no significant cumulative impacts to natural habitats would occur.

Contribution of the Proposed Project (Prior to Mitigation)

The proposed Project, with a loss of 2.54 acres of soft-bottom habitat and EFH, prior to mitigation, would make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA. By contrast, neither the temporary construction disturbances in the West Basin, proposed Project-related increases in vessel traffic, nor runoff from proposed Project backlands during construction and operations would be cumulatively considerable under CEQA or NEPA. These activities combined with those of other cumulative projects would not result in a loss or substantial degradation of EFH.

The proposed Project would not affect any other natural habitats, special aquatic sites, or plant communities and thus would not result in a cumulatively considerable contribution

to a significant cumulative impact to such habitats, sites or communities under CEQA or NEPA.

Contribution of the Alternatives

For the same reasons as discussed for the proposed Project, Alternatives 1, 2, 4, 5, and 7 would result in the loss of 1.3 acres of soft-bottom habitat and, therefore, would make a cumulatively considerable contribution to a significant cumulative impact under **Impact BIO-2**. Alternatives 3 and 6, like the proposed Project, would result in a loss of 2.54 acres of soft-bottom habitat and would therefore make a cumulatively considerable contribution to a significant cumulative impact under **Impact BIO-2**.

Similar to the proposed Project, neither temporary construction disturbances in the West Basin nor runoff associated with Alternatives 1 through 7 would make a cumulatively considerable contribution to a significant cumulative impact under **Impact BIO-2**. In addition, for the same reasons as described fro the proposed Project, Alternatives 1 through 7 would not result in a cumulatively considerable contribution to a significant cumulative impact to natural habitats, special aquatic sites, or plant communities under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

In 1984, the Port entered into an interagency agreement (LAHD et al., 1984) that accounted for gains and losses of habitat in the Harbor since the passage of the Clean Water Act in part to account for cumulative losses of water area in the Harbor. This accounting resulted in a credit of approximately 17 acres. Since that time, all significant habitat losses at the Port have been mitigated onsite through creation of shallow water areas (e.g., Pier 300 and Cabrillo Shallow Water Habitats) or offsite through the restoration/creation of shallow coastal embayment habitat (e.g., Batiquitos and Bolsa Chica restorations).

Mitigation Measure **MM BIO-1** would use existing mitigation credits to offset the loss of 2.54 acres of marine habitat due to filling of the West Basin in accordance with agreements between the Port and regulatory agencies for the proposed Project and Alternative 6. For Alternatives 1, 2, 4, 5, and 7, mitigation measure **MM BIO-1** would provide 1.3 acres of offset credits.

As discussed in Section 3.3.4, implementation of mitigation measure **MM BIO-1** would fully mitigate the impact so that no residual impact would remain. Upon implementation of **MM BIO-1**, neither the proposed Project nor the alternatives would make a cumulative considerable contribution to a significant cumulative impact related to soft-bottom habitat loss.

The proposed Project and Alternatives 1 through 7 would not make a cumulatively considerable contribution to a significant cumulative impact on natural habitats under CEQA or NEPA.

4.2.3.4 Cumulative Impact BIO-3: Cumulative Interference with Migration or Movement Corridors – No Impact

Cumulative Impact BIO-3 represents the potential of the proposed Project along with other cumulative projects to interfere with wildlife migration or movement corridors.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

No known terrestrial wildlife or aquatic species migration corridors are present in the Harbor. Migratory birds pass through the Harbor area, and some rest or breed, such as the California least tern, in this area. Past, present, and foreseeable future projects in the Harbor would not interfere with movement of these species because the birds are agile and would avoid obstructions caused by equipment and structures. Some species of fish move into and out of the Harbor during different parts of their life cycle or seasonally, but no identifiable corridors for this movement are known. Marine mammals migrate along the coast, and vessel traffic associated with the cumulative projects could interfere with their migration. However, because the area in which the marine mammals can migrate is large and the cargo vessels generally use designated travel lanes, the probability of interference with migrations is low.

The related projects would be developed on designated parcels in the urban environment and would not result in significant cumulative impacts to migration corridors.

Contribution of the Proposed Project (Prior to Mitigation)

The proposed Project would not affect any migration or movement corridors in the Harbor or along the coast. Consequently, it would not result in a cumulatively considerable contribution to a significant cumulative impact on wildlife migration or movement corridors under CEQA or NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, none of the alternatives would result in a cumulatively considerable contribution to a significant cumulative impact on wildlife migration or movement corridors under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

No mitigation is required, and no residual significant cumulative impacts would occur.

4.2.3.5 Cumulative Impact BIO-4: Cumulative Disruption of Local Biological Communities – Cumulatively Considerable and Unavoidable

Cumulative Impact BIO-4 represents the potential of the proposed Project along with other projects to cause a cumulatively substantial disruption of local biological communities (e.g., from the introduction of noise, light, or invasive species).

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Dredging and Wharf Work. Construction of past projects in the Harbor has involved in-water disturbances such as dredging and wharf construction that removed surface layers of soft-bottom habitat as well as temporarily removed or permanently added hard substrate habitat (e.g., piles and rocky dikes). These disturbances altered the benthic habitats present at the location of the specific projects, but effects on benthic communities were localized and of short duration. Invertebrates recolonized the habitats. Because these activities affected a small portion of the Harbor at a time and recovery has

occurred or is in progress, biological communities in the Harbor have not been substantially degraded. Similar construction activities (e.g., wharf construction reconstruction and dredging) would occur for these cumulative projects that are currently under way and for some of those that would be constructed in the future: Berths 136-147 (#2), San Pedro Waterfront (#3), Channel Deepening (#4), Cabrillo Way Marina (#5), Evergreen Improvements (#7), Pier 400 Oil Marine Terminal (#11), Berths 212-214 (#25), Berths 121-131 (#29), Middle Harbor Terminal Redevelopment (#66), Piers G & J (#67), Pier T (#70), Pier S (#71), and Sound Energy Solutions (#73). Because recolonization of dredged areas and new riprap and piles begins immediately and provides a food source for other species, such as fish, within a short time, multiple projects spread over time and space within the Harbor would not substantially disrupt benthic communities. Construction disturbances at specific locations in the water and at different times that are caused by the cumulative projects, which can cause fish and marine mammals to avoid the work area, are not expected to substantially alter the distribution and abundance of these organisms in the Harbor and thus would not substantially disrupt biological communities. Turbidity that results from in-water construction activities occurs in the immediate vicinity of the work and lasts during and for short durations after the activities that disturb bottom sediments. Effects on marine biota are thus localized to relatively small areas of the Harbor and of limited duration for each project. Those projects that are occurring at the same time but that are not nearby would thus not have additive effects.

Furthermore, based on biological baseline studies described in Section 3.3, the benthic marine resources of the Harbor have not declined during Port development activities occurring since the late 1970s. The biological baseline conducted by MEC (2002) identified healthy benthic communities in the Outer Harbor despite major dredging and filling activities associated with the Deep Draft Navigation Project for the Port (USACE and LAHD, 1992). However, between 2002 and 2005, the USACE and the Port dredged most of the Inner Harbor channels and basins from -45 feet to -53 feet (Channel Deepening Project, #4). The Inner Harbor has less biological resources value than the Outer Harbor, and this is reflected in the values of mitigation bank credits shown in Table 3.3-4 in Section 3.3 and in the interagency mitigation agreements. In addition, additional Channel Deepening dredging may be occurring in 2008 around selected berths in the West Basin. While these activities did not overlap physically with the Berths 97-109 dredging (Phase I), they were adjacent and the aerial extent of this activity includes a large portion of the Inner Harbor including the East Basin Channel, the Main Channel and West Basin Channel and West Basin. Recolonization of disturbed marine environments begins rapidly and is characterized by high production rates of a few colonizing species. However, establishment of a climax biological community typical of the West Basin and Inner Harbor could take from 2 to 5 years.

Based on the above, dredging, wharf construction, and other in-water construction of the past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts to the benthic community.

Landfilling. Landfilling has removed and would continue to remove marine habitat and to disturb adjacent habitats in the Harbor. Numerous landfill projects have been implemented in the Harbor since the Harbor was first developed, and these projects have resulted in an unquantified loss of marine habitat. The projects from Table 4-1 involving land fill construction are: Pier 400 (#1), Channel Deepening (#4), Berths 97-109 (#15), Berths 302-305 APL (#23), Middle Harbor Terminal redevelopment (#66), Piers G & J (#67), and Pier T (#70). Numerous other projects in the past (prior to those listed in

Table 4-1) also included landfill construction. These included Pier 300 and the remaining terminal land areas that were not built on land that existed prior to port development. During the filling process, suspension of sediments results in turbidity near the work with rapid dissipation upon completion of the fill to above the water level. Water column and soft-bottom habitats are lost while riprap habitats are gained. Although the total amount of marine habitat in the Harbor has decreased, a large amount remains, and the biological communities present in the remaining Harbor habitats have not been substantially disrupted as a result of those habitat losses. All marine habitat losses from landfill construction have been mitigated to insignificance through onsite (shallow water habitat construction) and offsite (Batiquitos and Bolsa Chica restorations) mitigation since implementation of the agreement with the regulatory agencies (see **Cumulative Impact BIO-5**). The landfill impacts of past projects on marine biological habitat, prior to the application of mitigation offsets or mitigation agreements, is unquantified; however, due to the level of development that has occurred, the past projects are assumed to have resulted in a significant cumulative impact that now constitutes the current baseline settings.

The landfill impacts of present and reasonably foreseeable future projects have been or would be mitigated by offsets of mitigation bank credits. As a result, present, and reasonably foreseeable future projects would not result in additional significant cumulative impacts related to the loss of marine habitat.

Backland Construction and Operations. Runoff from construction activities on land has reached Harbor waters at some locations during past project construction, particularly for projects implemented prior to the 1970s when environmental regulations were passed. The past projects included Pier 300, Pier J, and the remaining terminal land areas within the Los Angeles-Long Beach Harbor. Runoff also has the potential to occur during present and future projects (all projects in Table 4-1 because all drainage in the area containing the cumulative projects listed is ultimately to the Harbor). Construction runoff would only occur during construction activities so that projects that are not concurrent would not have cumulative effects. Construction runoff would add to ongoing runoff from operation of existing projects in the Harbor at specific project locations and only during construction activities. For past, present, and future projects, the duration and location of such runoff would vary over time. Measures such as berms, silt curtains, and sedimentation basins are used to prevent or minimize runoff from construction, and this keeps the concentration of pollutants below thresholds that could measurably affect marine biota. Runoff from past construction projects (e.g., turbidity and any pollutants) dissipated shortly after construction was either completed or caused solids to settle to the bottom sediments. For projects more than 20 years in the past, subsequent settling of suspended sediments has covered the pollutants, or the pollutants have been removed by subsequent dredging projects. Runoff from operation of these past projects continues, but it is regulated. Biological baseline surveys in the Harbor (MEC, 1988; MEC and Associates, 2002) have not shown any disruption of biological communities resulting from runoff. Effects of runoff from construction activities and operations would not substantially disrupt local biological communities in the Harbor, and as a consequence, past, present, and reasonably foreseeable future projects would not result in significant cumulative biological resource impacts related to runoff.

Much of the development in the Harbor has occurred and continues to occur on landfills that were constructed for that purpose. As a result, those developments did not affect terrestrial biota. Redevelopment of existing landfills to upgrade or change backland operations temporarily affected the terrestrial biota (e.g., landscape plants, rodents, and

common birds) that had come to inhabit or use these industrial areas. Future cumulative developments such as hotels and other commercial developments on lands adjacent to the Harbor would be in areas that do not support natural terrestrial communities or are outside the region of analysis. Projects in Table 4-1 that are within the geographical region of analysis and could affect terrestrial biological resources are: Berths 136-147 (#2), San Pedro Waterfront (#3), Channel Deepening (#4), Evergreen Expansion (#7), SSA Outer Harbor Fruit Facility Relocation (#9), Crescent Warehouse Company Relocation (#10), Ultramar (#12), Berths 171-181 (#16), Berths 206-209 (#17), South Wilmington Grade Separation (#24), Avalon Boulevard Corridor Project (#25), C Street/Figueroa Street Interchange (#26), Port Transportation Master Plan (#27), Berths 212-224 (#28), Berths 121-131 (#29), Banning Elementary School #1 (#55), East Wilmington Greenbelt Community Center (#56), Pier A West Remediation (#68), Pier A East (#69), and Schuyler Heim Bridge Replacement (#77).

Based on this, past, present, and reasonably foreseeable future projects would not result in significant cumulative biological resource impacts related to upland development within the geographical scope.

Vessel Traffic. Cumulative marine terminal projects (e.g., San Pedro Waterfront, Channel Deepening, Evergreen Improvements, Pier 400 Oil Marine Terminal, Ultramar, China Shipping, LAXT Crude Oil, YTI, Yang Ming, Middle Harbor, Piers G & J, Pier T TTI, and Pier S) that involve vessel transport of cargo into and out of the Harbor have increased vessel traffic in the past and would continue to do so in the future. These vessels have introduced invasive exotic species into the Harbor through ballast water discharges and via their hulls. Ballast water discharges are now regulated so that the potential for introduction of invasive exotic species by this route has been greatly reduced. The potential for introduction of exotic species via vessel hulls has remained about the same, and use of antifouling paints and periodic cleaning of hulls to minimize frictional drag from growth of organisms keeps this source low. While exotic species are present in the Harbor, there is no evidence that these species have disrupted the biological communities in the Harbor. Biological baseline studies conducted in the Harbor continue to show the existence of diverse and abundant biological communities. However, absent the ability to completely eliminate the introduction of new species through ballast water or on vessel hulls, it is possible that additional invasive exotic species could become established in the Harbor over time, even with these control measures.

As a consequence, past, present, and reasonably foreseeable future projects would result in significant cumulative biological resource impacts related to the introduction of invasive species to Harbor water.

In addition, operation of the related projects would result in increased vessel traffic to and from the Port. There is the possibility, although remote, of accidental spills from one or more vessel that conceivably could release enough fuel into ocean waters to result in significant impacts to biological resources. Cumulative impacts to biological resources from vessel spills during operation of the related projects, therefore, are considered to be potentially significant.

Contribution of the Proposed Project (Prior to Mitigation)

Dredging and Wharf Work. Dredging along the wharves at Berths 197-109 and wharf construction/reconstruction activities for the proposed Project removed (Phase I) and would remove (Phases II and III) some colonies of benthic invertebrates and temporarily disturb benthic habitat in a small portion of the West Basin. Recolonization of disturbed

marine environments begins rapidly and is characterized by high production rates of a few colonizing species, but establishment in the disturbed area of a climax biological community typically found in the West Basin and Inner Harbor could take from 2 to 5 years. The proposed Project would result in dredge work that would disturb the benthic community, but the community would begin recolonization soon after in-water construction ends. Loss of benthic habitat is discussed below under **Cumulative Impact Bio-5**. As a result, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact to the local biological community of the West Basin and Inner Harbor (i.e., climax benthic community) under CEQA and NEPA.

Landfilling. The proposed Project would result the placement of 2.54 acres of submerged fill within the West Basin (covering of 2.54 acres of highly modified soft-bottom marine habitat in the Inner Harbor with submerged rock or hard substrate), which would cause short-term turbidity associated with fill activities. The increase in turbidity would dissipate to background levels shortly after activity completion and would not result in cumulatively considerable contribution to a significant cumulative impact to biological resources. The loss of 2.54 acres of soft-bottom habitat from the fill placement would result in a significant project-level impact to the benthic community, which would represent a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA. Project-level mitigation described below and in Section 3.3.4.3 would fully mitigate the loss of soft-bottom habitat.

Backland Construction and Operations. Runoff from temporary disturbance areas on land during construction of proposed Project backland facilities would add to the cumulative amount of construction runoff from all other projects in the Harbor that are being constructed concurrently with the Berth 97-109 Project. Construction activities are closely regulated, and runoff of pollutants in quantities that could adversely affect marine biota is not likely to occur. Furthermore, runoff from the proposed Project and most of the cumulative projects would not occur simultaneously but rather would be events scattered over time so that total runoff to Harbor waters would be dispersed, in both frequency and location. The proposed Project would have minimal effects on terrestrial habitats in an existing industrial area that would not disrupt biological communities. Construction of the proposed Project would not result in any cumulatively considerable effects on biological communities, under CEQA or NEPA, because current levels of development in the Harbor would affect minimal amounts of marine habitat, and because runoff control measures, such as identified in SWPPPs, would be implemented as required in project permits and contract specifications. The proposed Project would add 2,500 feet of new wharves from which runoff would occur during operations, and this would add to runoff from the backlands developed for the proposed Project and other developed sites in the Harbor. Construction and operation of the proposed Project would not result in cumulatively considerable effects on biological communities under CEQA or NEPA because runoff control measures, such as identified in SWPPPs, would be implemented as required in project permits and contract specifications. The amount of new impervious surface would contribute a controlled runoff that would not result in exceedance of water quality standards.

Vessel Traffic. The small increase in vessel traffic in the Harbor (8 percent) caused by the proposed Project would add to the cumulative potential for introduction of exotic species. Many exotic species have already been introduced into the Harbor, and many of these introductions occurred prior to implementation of ballast water regulations. These regulations would reduce the potential for introduction of non-native species. Cumulative effects relative to the introduction of non-native species have the potential to

be significant, and the proposed Project could result in a cumulatively considerable contribution to a significant cumulative impact related to the introduction of non-native species under CEQA and NEPA.

In addition, there is a remote possibility of an accidental spill from vessels during Project operation. Although remote, due to the large amounts of fuel that is onboard oceangoing vessels, an accidental spill is considered to be a potentially significant impact on biological communities. Therefore, if such an accidental spill occurred, it would represent a cumulatively considerable contribution to a potentially significant cumulative impact.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, dredging for (or as applied to) Alternatives 1 through 7 would not make a cumulatively considerable contribution to a significant cumulative impact to the local biological community of the West Basin and Inner Harbor (i.e., climax benthic community) under CEQA and NEPA. Similarly, upland construction of the alternatives would not result in a cumulatively considerable contribution to a significant cumulative impact on biological communities under CEQA or NEPA.

Alternatives 1 through 7 would result in the loss of soft-bottom habitat, which would represent a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA.

Alternatives 3 through 6 could result in a cumulatively considerable contribution to a significant cumulative impact related to the introduction of non-native species under CEQA and NEPA, but Alternatives 1, 2, and 7 would not because they do not have operational ship calls of oceangoing vessels.

Similar to the proposed Project, there is a remote possibility of an accidental spill from vessels during operation of Alternatives 3 through 6, and if an accidental spill occurred, it would represent a cumulatively considerable contribution to a potentially significant cumulative impact to biological resources.

Mitigation Measures and Residual Cumulative Impacts

Mitigation Measure BIO-1 would use existing mitigation credits to offset the loss of 2.54 acres of marine habitat due to filling of the West Basin in accordance with agreements between the Port and regulatory agencies for the proposed Project and Alternative 6. For Alternatives 1, 2, 4, 5, and 7, mitigation measure **MM BIO-1** would provide 1.3 acres of offset credits.

As discussed in Section 3.3.4, implementation of mitigation measure **MM BIO-1** would fully mitigate the impact so that no residual impact would remain. Upon implementation of **MM BIO-1**, neither the proposed Project nor the alternatives would make a cumulative considerable contribution to a significant cumulative impact related to the loss of marine habitat.

Regarding the cumulatively considerable contribution to the significant cumulative biological resources impact related to the potential introduction of invasive species of the proposed Project and Alternatives 3 through 6, no feasible mitigation beyond legal requirements is currently available to totally prevent introduction of invasive species via vessel hulls or ballast water, due to the lack of a proven technology. New technologies are being explored, and, if methods become available in the future, they would be

implemented as required at that time. Consequently, the proposed Project and Alternatives 3 through 6 would make a cumulatively considerable residual contribution to a significant cumulative impact (to biological resources) under CEQA and NEPA.

Regarding the cumulatively considerable contribution to a potentially significant cumulative biological resources impact from accidental vessel spills during operation of the proposed Project and Alternatives 3 through 6, the terminal operator is required to specifically prepare a Spill Response Plan for inclusion in the required Spill Prevention, Control, and Countermeasure/Oil Spill Contingency Plan (SPCC/OSCP) in the event of a vessel accident that results in a fuel spill. However, the nature of the spill may be such that significant impacts to biological resources may still occur. Consequently, operation of the proposed Project and Alternatives 3 through 6 would make a cumulatively considerable residual contribution to a potentially significant cumulative impact related to accidental vessel spills under CEQA and NEPA.

4.2.3.6 Cumulative Impact BIO-5: Cumulative Loss of Marine Habitat – Less than Cumulatively Considerable with Mitigation

Cumulative Impact BIO-5 represents the potential of the proposed Project along with other cumulative projects to result in a permanent loss of marine habitat.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Numerous landfill projects have been implemented in the Harbor since the Harbor was first developed, and these projects have resulted in an unquantified loss of marine habitat. For the cumulative projects listed in Table 4-1, approximately 570 acres of landfill have been completed in the Harbor (Pier 400 [#1] and Channel Deepening [#4]), another 75 acres are in the process of being filled (Piers G & J [#67] and Pier T [#70]), and future planned landfills (without the proposed Project) total about 72.5 acres (Berths 136-147 (#2), Channel Deepening [#4], and Middle Harbor Terminal Redevelopment [#66]). Thus, well over 700 acres of marine habitat have been or will be lost in the Harbor. Losses of marine habitat prior to implementation of the agreements among the Ports and regulatory agencies, as described under **Impact BIO-5** in Section 3.3.4.3.1.1, were not mitigated. Losses since that time have been, and will be for future projects, mitigated by use of existing mitigation bank credits from marine habitat restoration off site and through creation of shallow water habitat within the Outer Harbor as established in the agreements with the regulatory agencies.

The loss of habitat impacts of past projects, prior to the application of mitigation offsets or mitigation agreements, is unquantified; however, due to the level of development that has occurred, the past projects are assumed to have resulted in a significant cumulative impact that now constitutes the current baseline settings.

The loss of habitat impacts of present and reasonably foreseeable future projects have been or would be mitigated by offsets of mitigation bank credits. As a result, present, and reasonably foreseeable future projects would not result in additional significant cumulative impacts related to the loss of marine habitat.

Contribution of the Proposed Project (Prior to Mitigation)

The proposed Project would result in the loss of 2.54 acres of soft-bottom marine habitat (replaced with 2.54 acres of submerged rock and hard substrate), or less than 0.4 percent, of the more than 700 acres of fill completed or proposed for the Harbor prior to mitigation. This would make a cumulatively considerable contribution to a significant cumulative impact related to the loss of habitat, under CEQA and NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 7 would result in a cumulatively considerable contribution to a significant cumulative impact related to loss of habitat under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

Without mitigation measure **MM BIO-1**, the proposed Project and Alternatives 1 through 7 would result in a significant impact related to the loss of soft-bottom habitat. **MM BIO-1** would use existing mitigation credits to offset the loss of 2.54 acres of marine habitat (1.3 acres for Alternatives 1, 2, 4, 5, and 7) due to filling of the West Basin in accordance with agreements between the Port and regulatory agencies.

As discussed in Section 3.3.4.3 (**Impact BIO-1a**), implementation of **MM BIO-1** would fully mitigate the project-level impact so that no residual impact would remain; therefore, following implementation of **MM BIO-1**, the proposed Project and Alternatives 1 through 7 would not result in a cumulatively considerable contribution to a significant cumulative impact related to the permanent loss of marine habitat under CEQA or NEPA. No Section 10/404 permits would be issued without mitigation for filling of Harbor waters.

4.2.4 Cultural, Archaeological, and Paleontological Resources

4.2.4.1 Scope of Analysis

The geographic region of analysis for cumulative impacts on archaeological, ethnographic, architectural, and paleontological resources related to Port projects consists of the areas at the Port and in the immediate vicinity within natural landforms (i.e., excluding modern Port in-fill development). Under CEQA and NEPA, it also includes areas in water where there may be submerged prehistoric remains and/or where there is evidence that historical maritime activity could have occurred. Thus, past, present, planned and foreseeable future development that would contribute to cumulative impacts on archaeological and ethnographic resources under CEQA and NEPA includes projects that would have the potential for ground disturbance in this region of analysis. Those projects on land that have the potential to modify and/or demolish structures over 50 years of age have the potential under CEQA to contribute to cumulative impacts on historical architectural resources. Projects that involve grading of intact, natural landforms (i.e., not modern landfill areas) have the potential under CEQA and NEPA to contribute to cumulative impacts on paleontological resources.

4.2.4.2 Cumulative Impact CR-1: Cumulative Impacts on Archaeological or Ethnographic Resources – No Impact with Mitigation

Cumulative Impact CR-1 represents the potential of the proposed Project along with other projects to disturb, damage, or degrade listed, eligible, or otherwise unique or important archaeological or ethnographic resources.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Archaeologists estimate that past and present projects within urban areas including the project vicinity have destroyed over 80 percent of all prehistoric sites without proper assessment and systematic collection of information beforehand. As prehistoric sites are non-renewable resources, the cumulative direct and indirect impacts of these actions are significant. Such projects have eliminated our ability to study sites that may have been likely to yield information important in prehistory. In other words, the vast majority of the prehistoric record has already been lost.

Construction activities (i.e., excavation, dredging, and land filling) associated with present and future Port projects, including the Berth 136-147 Project (#2), Pier 400 Container Terminal Project (#11), Ultramar Lease Renewal Project (#12), Channel Deepening Project (#4), Pier 400 Oil Marine Terminal Project (#11), and Evergreen Backlands Improvements Project (#7), would potentially require excavation. These activities, however, would be in areas of historical estuary habitats and recent landfills, and therefore would not affect prehistoric or historical archaeological or ethnographic resources.

Although much of the area has been previously disturbed, there is the potential for other related upland Port projects including the South Wilmington Grade Separation (#24), Avalon Boulevard Corridor Development (#25), and C Street/Figueroa Street Interchange (#26) on the periphery of the Port (i.e., in upland areas) to disturb unknown, intact subsurface prehistoric or historical archaeological resources. Reasonably foreseeable future projects within upland areas, i.e. the Community of San Pedro (#43, #45, #49, #50, #51, #52, #53, #54), Community of Wilmington (#57), Harbor City, Lomita, and Torrance (#61, #62, #63, #65), and City of Long Beach (#80), could disturb unknown, intact subsurface prehistoric or historical archaeological resources. However, these related projects would not result in significant cumulative impacts to archaeological resources much of the area's prehistoric and historical archaeological and ethnographic resources have already been destroyed.

Contribution of the Proposed Project (Prior to Mitigation)

As documented in Section 3.4.4.3.1.1 (**Impact CR-1**), there are no recorded listed, eligible, or otherwise unique or important archaeological or ethnographic resources within the proposed Project site. Due to the absence of known archaeological and ethnographic resources and the extent of disturbed soils, past site activities, and newly created fill (in the Southwest Slip) in the Berth 97-109 Container Terminal area, the probability of encountering any intact, unknown archaeological and ethnographic resources is extremely remote. Thus, the potential for disturbing, damaging, or degrading unknown prehistoric or historic remains or ethnographic resources considered significant to contemporary Native Americans prior to mitigation in the Berth 97-109 Container

Terminal area is extremely remote. Therefore, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative effect on known archaeological or ethnographic resources.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 2, 3, 4, 6, and 7 would not result in a cumulatively considerable contribution to a significant cumulative impact on known archaeological or ethnographic resources. Alternatives 1 and 5 would use the site constructed under Phase I, and no archaeological resources were encountered during Phase I. As a consequence, Alternatives 1 and 5 would not result in a cumulatively considerable contribution to a significant cumulative impact on known archaeological or ethnographic resources.

Mitigation Measures and Residual Cumulative Impacts

Although project-level impacts are not anticipated, **MM CR-1**, as described in Section 3.4, provides that work shall be immediately stopped and relocated from the area in the unlikely event that potentially significant, intact archaeological or ethnographic resources are encountered during construction. Prior to the implementation of **MM CR-1**, impacts would be less than significant; however, **MM CR-1** was added in the remote chance that previously unknown archaeological or ethnographic resources are encountered during construction. There are no known archaeological and ethnographic resources in the project area that would be significantly affected by the proposed Project or Alternatives 2, 3, 4, 6, and 7; therefore, the proposed Project or Alternatives 1 through 7 would not make a cumulatively considerable contribution to a significant cumulative impact on archaeological and ethnographic resources.

There are no cumulative impacts on archaeological or ethnographic resources associated with upland projects; therefore, there would be no cumulative residual effect under CEQA or NEPA.

4.2.4.3 Cumulative Impact CR-2: Cumulative Impacts on Historic Architectural Resources – No Impact

Cumulative Impact CR-2 represents the potential of the proposed Project along with other cumulative projects to disturb structures that have been determined eligible for the California Register of Historical Resources or the National Register of Historic Places, or are otherwise considered unique or important historic architectural resources under CEQA.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past, present, and future Port projects have and are anticipated to require the demolition of structures over 45 years of age. These may include; the Pan-Pacific Fisheries Cannery Buildings Demolition Project (#20) and the Canner's Steam Demolition Project (#30) within the Port of Los Angeles; the Administration Building Replacement Project (#68) within the Port of Long Beach; and the 1437 Lomita Boulevard Condominiums project (#59) within the City of Lomita. However, because the proposed Project or any alternative would have no impact on Historical Resources, they cannot have any cumulatively considerable contribution to a significant cumulative impact on historic resources.

4.2.4.4 Cumulative Impact CR-3: Cumulative Impacts on Paleontological Resources – No Impact

Cumulative Impact CR-3 represents the potential of the proposed Project along with other cumulative projects to result in the permanent loss of, or loss of access to, a paleontological resource of regional or statewide significance.

The proposed Project and alternatives would not result in ground disturbance within areas of high paleontological sensitivity; rather, excavations would occur in areas extensively and previously disturbed, and no impact to paleontological resources would occur. Because the proposed Project or any alternative would have no impact on paleontological resources, they would not make a cumulatively considerable contribution to a significant cumulative impact on paleontological resources.

4.2.5 Geology

4.2.5.1 Scope of Analysis

The geographic scope for cumulative impacts varies for geological resources, depending on the geologic issue. The geographic scope with respect to seismicity is the POLA/POLB Harbor area, because an earthquake capable of creating substantial damage or injury at the proposed Project site could similarly cause substantial damage or injury throughout this area of man-made fill, which is prone to liquefaction and differential settlement. The geographic scope with respect to tsunamis is the area of potential inundation due to a large tsunami, which could extend throughout the low-lying coastal areas of Los Angeles and Orange counties. The geographic scope with respect to subsidence/settlement, expansive soils, and unstable soil conditions would be confined to the proposed Project area because these impacts are site-specific and relate primarily to construction techniques. There is no geographic scope with respect to landslides, mudflows, and modification of topography or unique geologic features because the Port area is generally flat, not subject to slope instability, and contains no unique geologic features. The geographic scope with respect to mineral resources is the Wilmington Oil Field, which traverses the northern portion of the proposed Project area and extends to the northwest and southeast, and mineral resource impacts relate primarily to potential loss of petroleum reserves in the Wilmington Oil Field.

Past, present, and reasonably foreseeable future developments that could contribute to cumulative impacts associated with geologic resources, under both CEQA and NEPA, are those that involve the addition of new land area, infrastructure, and personnel that would be subject to earthquakes and tsunamis, or would preclude additional development of the Wilmington Oil Field.

All projects located in the Port of Los Angeles and Port of Long Beach are subject to severe seismically induced ground shaking due to an earthquake on a local or regional fault. Structural damage and risk of injury as a result of such an earthquake are possible for most cumulative projects listed in Table 4-1, with the exception of, for example, the Channel Deepening Project and the Artificial Reef Project because these projects do not involve existing or proposed structural engineering or onsite personnel.

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.5.4.2, and for both the CEQA and NEPA analyses.

4.2.5.2 Cumulative Impact GEO-1: Fault Rupture, Seismic Ground Shaking, Liquefaction, or Other Seismically Induced Ground Failure – Cumulatively Considerable and Unavoidable

Cumulative Impact GEO-1 addresses the degree to which the proposed Project, along with other cumulative projects, places structures and/or infrastructure in danger of substantial damage or exposes people to substantial risk following a seismic event.

Southern California is recognized as one of the most seismically active areas in the United States. The region has been subjected to at least 52 major earthquakes (i.e., of magnitude 6 or greater) since 1796. Earthquakes of magnitude 7.8 or greater occur at the rate of about two or three per 1,000 years, corresponding to a 6 to 9 percent probability in 30 years. Therefore, it is reasonable to expect a strong ground motion seismic event during the lifetime of any proposed project in the region.

Ground motion in the region is generally the result of sudden movements of large blocks of the earth's crust along faults. Numerous active faults in the Los Angeles region are capable of generating earthquake-related hazards, particularly in the Harbor area, where the Palos Verdes Fault is present and hydraulic and alluvial fill are pervasive. Also noteworthy, due to its proximity to the site, is the Newport-Inglewood Fault, which has generated earthquakes of magnitudes ranging from 4.7 to 6.3 Richter scale (LAHD, 1991a). Large events could occur on more distant faults in the general area, but the effects at the cumulative geographic scope would be reduced due to the greater distance.

Seismic groundshaking is capable of providing the mechanism for liquefaction, usually in fine-grained, loose to medium dense, saturated sands and silts. The effects of liquefaction may result in structural collapse if total and/or differential settlement of structures occurs on liquefiable soils.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past, present, and reasonably foreseeable future projects (and the proposed Project) would not change the risk of seismic ground shaking. However, past projects have resulted in the backfilling of natural drainages at Port of Los Angeles berths with various undocumented fill materials. In addition, dredged materials from the Harbor area were spread across lower Wilmington from 1905 until 1910 or 1911 (Ludwig, 1927). In combination with natural soil and groundwater conditions in the area (i.e., unconsolidated, soft, and saturated natural alluvial deposits and naturally occurring shallow groundwater), backfilling of natural drainages and spreading of dredged materials associated with past development at the Port has resulted in conditions with increased potential for liquefaction following seismic ground shaking.

In addition, past development has increased the amount of infrastructure, structural improvements, and the number of people working onsite in the POLA/POLB Harbor area (i.e., the cumulative geographic scope). This past development has placed commercial, industrial and residential structures and their occupants in areas that are susceptible to seismic ground shaking. Thus, these developments have had the effect of increasing the potential for seismic ground shaking to result in damage to people and property.

With the exception of the Channel Deepening Project (#4) and the Artificial Reef Project (#6), which do not involve existing or proposed structural engineering or onsite personnel,

the present and reasonably foreseeable future projects listed in Table 4-1, would result in increased infrastructure, structure, and number of people working onsite in the cumulative geographic scope, which would expose people and property to substantial seismic risks. As a consequence, a significant cumulative impact would occur.

Contribution of the Proposed Project (Prior to Mitigation)

As discussed in Sections 3.5.4.3.1.1 and 3.5.4.3.1.2, the proposed Project would result in significant impacts relative to **Impact GEO-1**, even with incorporation of modern construction engineering and safety standards. The proposed Project would not increase the risk of seismic ground shaking, but it would contribute to the potential for seismically induced ground shaking to result in damage to people and structures, because it would increase the amount of structures and people working at the Port. The proposed Project would make a cumulatively considerable contribution to a significant cumulative geology impact related to seismic activity under both CEQA and NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 7 would result in a cumulatively considerable contribution to a significant cumulative impact related to seismic activity.

Mitigation Measures and Residual Cumulative Impacts

The Port of Los Angeles uses a combination of probabilistic and deterministic seismic hazard assessment for seismic design prior to any construction projects. Structures and infrastructure planned for areas with high liquefaction potential must have installation or improvements comply with regulations to ensure proper construction and consideration for associated hazards.

However, even with incorporation of modern construction engineering and safety standards, no mitigation is available that would reduce impacts to less than cumulatively considerable in the event of a major earthquake. Therefore, the proposed Project and the alternatives would result in a cumulatively considerable and unavoidable impact.

4.2.5.3 Cumulative Impact GEO-2: Tsunamis or Seiches – Cumulatively Considerable and Unavoidable

Cumulative Impact GEO-2 addresses the degree to which the proposed Project, along with other cumulative projects, exposes people and structures to substantial risk from local or distant tsunamis or seiches.

Tsunamis are a relatively common natural hazard, although most of the events are small in amplitude and not particularly damaging. As has been shown historically, the potential loss of human life following a seismic event can be great if a large submarine earthquake or landslide occurs that causes a tsunami or seiche that affect a populated area. As discussed in Chapter 3.5.2.1.4, abrupt sea level changes associated with tsunamis in the past had a great impact on human life. Tsunamis also have reportedly caused damage to moored vessels within the outer portions of the Los Angeles Harbor. Gasoline from damaged boats have caused a major spill in the Harbor waters and created a fire hazard following a seiche. Currents of up to 8 knots and a 6-foot rise of water in a few minutes have been observed in the West Basin.

For onsite personnel, the risk of tsunami or seiches is a part of any ocean-shore interface, and hence personnel working in the cumulative effects area cannot avoid some risk of exposure. Similarly, berth infrastructure, cargo/containers, and tanker vessels would be subject to some risk of damage as well. Designing new facilities based on existing building codes may not prevent substantial damage to structures from coastal flooding.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past, present, and reasonably foreseeable future projects (and the proposed Project) would not change the risk of tsunamis or seiches. However, past projects have resulted in the backfilling of natural drainages and creation of new low-lying land areas, which are subject to inundation by tsunamis or seiches. In addition, past development has increased the amount of infrastructure, structural improvements, and the number of people working onsite in the POLA/POLB Harbor area. This past development has placed commercial and industrial structures and their occupants in areas that are susceptible to tsunamis and seiches. Thus, these developments have had the effect of increasing the potential for tsunamis and seiches to result in damage to people and property.

With the exception of the Channel Deepening Project (#4) and the Artificial Reef Project (#6), which do not involve existing or proposed structural engineering or onsite personnel, the present and reasonably foreseeable future projects listed in Table 4-1, would result in increased infrastructure, structure, and number of people working onsite in the cumulative geographic scope, which would expose people and property to risks related to tsunamis and seiches. As a consequence, a significant cumulative impact would occur.

Contribution of the Proposed Project (Prior to Mitigation)

As discussed in Sections 3.5.4.3.1.1 and 3.5.4.3.1.2, tsunamis and seiches are typical for the entire California coastline and the risks of such events occurring would not be increased by construction or operation of the proposed Project. However, because the proposed Project elevation is located within 10 to 15 feet above MLLW, there is a substantial risk of coastal flooding at the proposed Project site in the event of a tsunami and/or seiche and impacts would be significant. The additional infrastructure, structural improvements, and onsite personnel associated with the proposed Project would contribute to the potential for damage to infrastructure and harm to people. The proposed Project would make a cumulatively considerable contribution to a significant cumulative impact related to a tsunami or seiche under both CEQA and NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project and Alternatives 1 through 7 would result in a cumulatively considerable contribution to a significant cumulative impact related to a tsunami or seiche.

Mitigation Measures and Residual Cumulative Impacts

Mitigation Measure GEO-1, Emergency Response Planning would apply to the proposed Project's contribution. This measure states that the terminal operator shall work with Port of Los Angeles engineers and Port police to develop tsunami response training and procedures to assure that construction and operations personnel will be prepared to act in the event of a large seismic event and/or tsunami warning. Such procedures shall include immediate evacuation requirements in the event that a large

seismic event is felt at the proposed Project site, and/or a tsunami warning is given as part of overall emergency response planning for this proposed Project.

Such procedures shall be included in any bid specifications for construction or operations personnel, with a copy of such bid specifications to be provided to LAHD, including a completed copy of its operations emergency response plan prior to commencement of construction activities and/or operations.

Emergency planning and coordination between the Terminal operator and LAHD would contribute in reducing injuries to onsite personnel during a tsunami. However, even with incorporation of emergency planning, substantial damage and/or injury could occur in the event of a tsunami or seiche. No mitigation is available that would reduce impacts to a level less than cumulatively significant, or the contribution of the proposed Project (and alternatives) to a level less than cumulatively considerable, in the event of a major tsunami. Therefore, the proposed Project and the alternatives would make a cumulatively considerable contribution to a significant cumulative impact related to a tsunami or seiche after mitigation, which is an unavoidable impact.

4.2.5.4 Cumulative Impact GEO-3: Land Subsidence/Settlement – Less than Cumulatively Considerable

Cumulative Impact GEO-3 addresses the degree to which the proposed Project, along with other cumulative projects, could result in substantial damage to structures or infrastructure or expose people to substantial risk of injury as a result of subsidence or soil settlement. In the absence of proper engineering, new structures could be cracked and warped as a result of saturated, unconsolidated/compressible sediments.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The cumulative geographic scope is the same as the proposed Project site, because the effects of subsidence/settlement are site-specific and related primarily to construction techniques. Past projects on the site of the proposed Project site have required excavation and fill, and therefore have affected the risk of subsidence/settlement on the Project site. However, with the past projects are no longer present on the Project site, and neither would any of the related projects listed in Table 4-1. As a consequence, part, present, and reasonably foreseeable future projects would not result in a significant cumulative impact related to subsidence or settlement.

Contribution of the Proposed Project (Prior to Mitigation)

Settlement impacts in proposed Project backland areas would be less than significant under CEQA because the proposed Project would be designed and constructed in compliance with the recommendations of the geotechnical engineer, consistent with Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, and in conjunction with criteria established by LAHD and Caltrans, and would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury. Because the proposed Project would result in less than significant (individual) impacts for **GEO-3,** and no other past (other than those projects on the proposed Project site), present, or reasonably foreseeable future projects would result in a significant cumulative impact related to subsidence or settlement, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA or NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project and Alternatives 1 through 7 would not result in a cumulatively considerable contribution to a significant cumulative impact related to subsidence or settlement.

Mitigation Measures and Residual Cumulative Impacts

None are required because the proposed Project or any alternative would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA.

4.2.5.5 Cumulative Impact GEO-4: Expansive Soils – Less than Cumulatively Considerable

Cumulative Impact GEO-4 addresses the degree to which the proposed Project, along with other cumulative projects, results in substantial damage to structures or infrastructure or expose people to substantial risk of injury as a result of expansive soils. Expansive soil may be present in dredged or imported soils used for grading. Expansive soils beneath a structure could result in cracking, warping, and distress of the foundation.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The cumulative geographic scope is the same as the proposed Project site, because the effects of expansive soils are site-specific and related primarily to construction techniques. Past projects on the site of the proposed Project site could have contributed to fill and therefore potential risk of expansive soils, depending on the fill characteristics. However, with the past projects are no longer present on the Project site, and neither would any of the related projects listed in Table 4-1. As a consequence, part, present, and reasonably foreseeable future projects would not result in a significant cumulative impact related to expansive soils.

Contribution of the Proposed Project (Prior to Mitigation)

Expansive soil impacts in proposed Project backland areas would be less than significant under CEQA because the proposed Project would be designed and constructed in compliance with the recommendations of the geotechnical engineer, consistent with implementation of Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, and in conjunction with criteria established by LAHD and would not result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury. Because the proposed Project would result in less than significant (individual) impacts for **GEO-4,** and no other past (other than those projects on the proposed Project site), present, or reasonably foreseeable future projects would result in significant cumulative impacts, the proposed Project would not make a cumulatively considerable contribution to a significant impact under CEQA or NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project and Alternatives 1 through 7 would not result in a cumulatively considerable contribution to a significant cumulative impact related to expansive soils.

Mitigation Measures and Residual Cumulative Impacts

None are required because the proposed Project or any alternative would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA.

4.2.5.6 Cumulative Impact GEO-5: Landslides or Mudflows – No Impact

Cumulative Impact GEO-5 addresses the degree to which the proposed Project, along with other cumulative projects, exposes people or property to a substantial risk of landslides or mudslides.

Because the topography in the cumulative geographic area and the project area is flat and not subject to landslides or mudflows, the proposed Project would not expose places, structures, or people to substantial damage or substantial risk of harm. As there would be no project-specific impact, the proposed Project and the alternatives would not make a cumulatively considerable contribution to a significant cumulative impact related to landslides or mudflows.

4.2.5.7 Cumulative Impact GEO-6: Unstable Soil Conditions from Excavation, Grading or Fill – Less than Cumulatively Considerable

Cumulative Impact GEO-6 addresses the degree to which the proposed Project, along with other cumulative projects, results in substantial damage to structures or infrastructure or expose people to substantial risk of injury as a result of collapsible or unstable soils.

Excavations that occur in natural alluvial and estuarine deposits, as well as artificial fill consisting of dredged deposits or imported soils, may encounter relatively fluid materials near and below the shallow groundwater table. Groundwater is locally present at depths ranging from 7 to 20 feet below the ground surface. In the absence of proper engineering, new structures could be cracked and warped as a result of saturated, unstable or collapsible soils.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The cumulative geographic scope is the same as the proposed Project site, because the effects of unstable soil conditions are site-specific and related primarily to construction techniques. Past projects on the site of the proposed Project site have contributed to fill and therefore risk of unstable soil conditions. However, with the past projects are no longer present on the Project site, and neither would any of the related projects listed in Table 4-1. As a consequence, part, present, and reasonably foreseeable future projects would not result in a significant cumulative impact related to unstable soil conditions.

Contribution of the Proposed Project (Prior to Mitigation)

Due to implementation of standard engineering practices regarding saturated, collapsible soils, people and structures on the proposed Project site would not be exposed to substantial adverse effects from the proposed Project, and impacts associated with shallow groundwater would be less than significant under CEQA. Because the proposed

Project would result in less than significant (individual) impacts for **GEO-6,** and no other past (other than those projects on the proposed Project site), present, or reasonably foreseeable future projects would cause significant cumulative impacts, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact under either CEQA or NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 7 would not result in a cumulatively considerable contribution to a significant cumulative impact related to subsidence or settlement.

Mitigation Measures and Residual Cumulative Impacts

None are required because the proposed Project or any alternative would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA.

4.2.5.8 Cumulative Impact GEO-7: Destruction or Modification of One or More Prominent Geologic or Topographic Features – No Impact

Cumulative Impact GEO-7 addresses the degree to which the proposed Project, along with other cumulative projects, results in one or more distinct and prominent geologic or topographical features being destroyed, permanently covered, or materially and adversely modified. Such features include hilltops, ridges, hillslopes, canyons, ravines, rock outcrops, water bodies, streambeds, and wetlands.

Because the proposed Project area is relatively flat and paved, with no prominent geologic or topographic features, operations of the proposed Project and the alternatives would not result in any distinct and prominent geologic or topographic features being destroyed, permanently covered, or materially and adversely modified. Therefore, the proposed Project and the alternatives would not make a cumulatively considerable contribution to a significant cumulative impact.

4.2.5.9 Cumulative Impact GEO-8: Permanent Loss of Availability of a Known Significant Mineral Resource – No Impact

Cumulative Impact GEO-8 addresses the degree to which the proposed Project, along with other cumulative projects, results in permanent loss of availability of a known mineral resource that would be of future value to the region and the residents of the state.

The proposed Project site is located in an area where no significant aggregate mineral deposits are present and where little likelihood exists for their presence. With respect to petroleum resources, the Project site is located adjacent to, but outside the Wilmington Oil Field. Because no mineral resources are present on or beneath the Project site, neither project construction nor operation would affect mineral resources. Therefore, the proposed Project and the alternatives would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA or NEPA.

4.2.6 Transportation and Circulation

4.2.6.1 Scope of Analysis

The transportation environmental setting for the cumulative ground transportation analysis includes those streets and intersections that would be used by both automobile and truck traffic to gain access to and from the Berths 97-109 terminal, as well as those streets that would be used by construction traffic (i.e., equipment and commuting workers). The streets most likely to be impacted by cumulative project-related auto and truck traffic include the following: Harbor Boulevard, Front Street, John S. Gibson Boulevard, Harry Bridges Boulevard, Figueroa Street, Alameda Street, Anaheim Street, and Sepulveda Boulevard. Beyond these locations, the project would generate fewer than 43 project trips (thus falling below the City of Los Angeles threshold for analysis), or in the case of Alameda Street, the downstream intersections are all grade separated (aligned at different heights such that they do not disrupt the flow of traffic on one another when they cross) and thus experience no traffic delays (i.e., the crossing at Pacific Coast Highway and Sepulveda Boulevard).

4.2.6.2 Cumulative Impact TRANS-1: Construction Traffic – Cumulatively Considerable and Unavoidable

Cumulative Impact TRANS-1 represents the potential of the proposed Project along with other cumulative projects to result in a short-term, temporary increase in construction truck and auto traffic. In the case of construction activity impacts, the most important cumulative projects include the project plus the other West Basin projects. To provide a reasonably conservative construction period analysis, it has been assumed that construction of all West Basin terminal construction (projects #15 and #29), as well as projects #43, #45 through #53, #57, and #59 through #65, would occur concurrently. These are the projects tracked by LADOT in terms of generating a sufficient number of trips for analysis (the threshold of 43 trips cited above) and as being permitted for construction and eventual operation. However, none of the other cumulative projects (except the West Basin terminals) would affect the cumulative construction scenario; nor can they be analyzed because they are too speculative. Most construction activity for the remaining cumulative projects would occur outside the project study area. In addition, the timing of construction as well as the number of construction trips is unknown and speculative for the remaining cumulative projects. There would be temporary impacts on the study area roadway system during construction of the proposed Project for Berths 97-109, Berths 121-131 and Berths 136-147 because the construction activities would generate vehicular traffic associated with construction workers' vehicles and trucks delivering equipment and fill material to the site. This site-generated traffic would result in increased traffic volumes on the study area roadways for the duration of the construction period, which would span a period of 2 to 3 years for the various project components.

The average levels of traffic generated by the construction activities and hours of construction operation have been estimated for each component of the proposed Project and West Basin terminal cumulative projects, as shown below. The construction schedule and traffic levels have been estimated based the construction period activities on a number of similar construction projects at the Port of Los Angeles.

+ Construction Traffic
  - Berths 97-109
    - Auto Trips per Day: 200
    - Truck Trips per Day: 200
    - Total Daily Traffic: 400
  - Berths 121-131
    - Auto Trips per Day: 100
    - Truck Trips per Day: 50
    - Total Daily Traffic: 150
  - Berths 136-139 (proposed Project)
    - Auto Trips per Day: 50
    - Truck Trips per Day: 50
    - Total Daily Traffic: 100
  - Berths 142-147 (proposed Project)
    - Auto Trips per Day: 100
    - Truck Trips per Day: 100
    - Total Daily Traffic: 200
  - Total Cumulative Construction Trips
    - Auto Trips per Day: 450
    - Truck Trips per Day: 400
    - Total Daily Traffic: 850
  - Hours of Construction Operation
    - Monday through Friday: 7:00 a.m. to 5:00 p.m.
    - Saturday: 8:00 a.m. to 5:00 p.m.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past construction activities resulted in short-term, temporary impacts at selected roadway links, intersections and ramps. Construction period traffic handling measures were implemented to mitigate these impacts. Once construction was completed, no further construction traffic impacts occurred.

The construction worker and truck trips were assessed cumulatively for all three West Basin Container Terminals at all study intersections during the a.m. and p.m. peak hours. Thus for the a.m. peak hour there would be an assumed 225 inbound worker trips and 40 truck trips (400 daily truck trips divided into 10-hour work shifts), and during the p.m. peak hour there would be 225 outbound worker trips and 40 truck trips. These truck trips were estimated based on other similar Port construction projects. While construction would likely occur in phases for each of the three West Basin Container Terminals, the construction analysis assumes that construction would occur at all three West Basin Terminals simultaneously to represent a conservative construction analysis. Based on the results of the construction traffic analysis, the cumulative construction scenario would result in significant cumulative circulation system impacts at five study intersections.

+ The LOS at the Alameda Street/Anaheim Street intersection would experience a significant traffic impact during the A.M. and P.M. peak hours during the construction phase and the level of Project-related construction traffic would exceed the City of Los Angeles threshold for significant impact.

+ The LOS at the Harbor Boulevard/SR-47 Westbound On-Ramp intersection would experience a significant traffic impact during the P.M. peak hour during the construction phase and the level of Project-related construction traffic would exceed the City of Los Angeles threshold for significant impact.
+ The LOS at the Harbor Boulevard/Swinford Street/SR-47 Ramps intersection would experience a significant traffic impact during the P.M. peak hour during the construction phase and the level of Project-related construction traffic would exceed the City of Los Angeles threshold for significant impact.
+ The LOS at the Figueroa Street/C Street/I-110 Ramp intersection would experience a significant traffic impact for both the A.M. and P.M. peak hours during the construction phase and the level of Project-related construction traffic would exceed the City of Los Angeles threshold for significant impact.
+ The LOS at the Broad Avenue/Harry Bridges Boulevard intersection would experience a significant traffic impact during the P.M. peak hour during the construction phase and the level of Project-related construction traffic would exceed the City of Los Angeles threshold for significant impact.

Contribution of the Proposed Project (Prior to Mitigation)

Construction-related impacts due to the Berths 97-109 proposed Project presented in Section 3.6.3.3.1.1 would not result in a significant circulation system impact during the construction phase. However, because concurrent construction activities would result in a significant cumulative impact to the intersections above, construction of the proposed Project would make a cumulatively considerable contribution to the significant cumulative transportation impact.

Contribution of the Alternatives

For the same reasons as described for the proposed Project and Alternatives 2, 3, 4, 6, and 7 would result in a cumulatively considerable contribution to a significant cumulative construction-related transportation impact. Alternatives 1 and 5 would use the Phase I terminal that has been constructed, and no additional construction would occur. Due to the possibility of concurrent construction of Phase I with construction of other past projects. Alternatives 1 and 5 could have made a cumulatively considerable contribution to a significant cumulative construction-related impact.

Mitigation Measures and Residual Cumulative Impacts

As a standard practice, the Port requires contractors to prepare a detailed traffic management plan for Port projects, which includes the following: detour plans, coordination with emergency services and transit providers, coordination with adjacent property owners and tenants, advanced notification of temporary bus stop loss and/or bus line relocation, identify temporary alternative bus routes, advanced notice of temporary parking loss, identify temporary parking replacement or alternative adjacent parking within a reasonable walking distance, use of designated haul routes, use of truck staging areas, observance of hours of operation restrictions and appropriate signing for construction activities. The traffic management plan would be submitted to LAHD for approval before beginning construction. Despite implementation of the traffic management plans, the residual contribution of construction-related traffic from the proposed Project or Alternatives 2, 3, 4, 6, and 7 to the cumulatively significant intersection impacts would remain cumulatively considerable and unavoidable. In addition, the contribution of construction-related traffic from the Alternatives 1 and 5 are

assumed to have made a cumulatively considerable contribution to significant intersection impacts related to Phase I construction.

4.2.6.3 Cumulative Impact TRANS-2: Intersection Volume/ Capacity Ratio Effects –Less than Cumulatively Considerable (Except Alternative 7)

Cumulative Impact TRANS-2 represents the potential of the proposed Project along with other cumulative projects to significantly impact volume/capacity ratios, or level of service, at intersections within the cumulative transportation area of analysis.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past cumulative project traffic, including port growth and other local and regional growth, has added daily and peak hour trips to the roadway system. Even with this growth, most local intersections are operating at acceptable LOS.

Existing 2000 traffic conditions are described in Section 3.6.2.2. The data in Section 3.6.2.2 indicate that the existing study intersections currently operate at LOS C or better during the peak hours.

The long-term operation of the proposed Project, in combination with other current and reasonably foreseeable future projects shown in Table 4-1, would result in significant cumulative impacts on the road transportation network by degrading the LOS at some intersections to unacceptable levels. To analyze the cumulative impacts, transportation modeling was used to predict the future LOS at key intersections based on the proposed Project along with other projected future port growth and all other cumulative projects in Table 4-1 as well as other sources of local and regional growth. Tables 4-2, 4-3, 4-4, and 4-5 show the cumulative traffic impact for years 2005, 2015, 2030, and 2045, respectively. The existing and future cumulative intersection operating conditions for each year were compared to determine the cumulative impact, and then the cumulative impacts were assessed using the City of Los Angeles criteria for significant impacts. Based on this assessment, the following cumulatively significant impacts are forecast for the following intersections:

+ 2005 – Harbor Boulevard/Swinford Street/SR-47 Ramps (a.m. and p.m. peak hours)
  Figueroa Street/C Street/I-110 Ramps (p.m. peak hour)
+ 2015 – Alameda Street/Anaheim Street (a.m. and p.m. peak hours)
  Henry Ford/Anaheim Street (p.m. peak hour)
  Harbor Boulevard/Swinford Street/SR-47 Ramps (p.m. peak hours)
  John S. Gibson Boulevard/I-110 NB Ramps (p.m. peak hour)
  Fries Avenue/Harry Bridges Boulevard (a.m. and p.m. peak hours)
  Broad Avenue/Harry Bridges Boulevard (p.m. peak hour)
  Navy Way/Seaside Avenue (p.m. peak hour)
+ 2030 – Avalon Boulevard/Harry Bridges Boulevard (p.m. peak hour)
  Alameda Street/Anaheim Street (a.m. and p.m. peak hours)
  Henry Ford/Anaheim Street (a.m. and p.m. peak hours)
  Harbor Boulevard/Swinford Street/SR-47 Ramps (a.m. and p.m. peak hours)
  John S. Gibson Boulevard/I-110 NB Ramps (a.m. and p.m. peak hours)
  Fries Avenue/Harry Bridges Boulevard (a.m. and p.m. peak hours)
  John S. Gibson Boulevard/Channel Street (p.m. peak hour)
  Navy Way/Seaside Avenue (a.m. and p.m. peak hours)

Table 4-2. 2005 Intersection Level of Service Analysis – 2005 Cumulative vs. Existing 2000

Study Intersection	Existing 2000				Year 2005 Cumulative With Project				Change in V/C		Cumulatively Significant Impact
	a.m. Peak Hour		p.m. Peak Hour		a.m. Peak Hour		p.m. Peak Hour				
	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	a.m.	p.m.	
Figueroa Street/Harry Bridges Boulevard (b)	A	0.362	A	0.398	A	0.502	A	0.574	0.140	0.176	No
Avalon Boulevard and Harry Bridges Boulevard	A	0.294	A	0.310	A	0.426	A	0.508	0.132	0.198	No
Alameda Street and Anaheim Street	A	0.513	A	0.484	B	0.643	B	0.635	0.130	0.151	No
Henry Ford Avenue and Anaheim Street	A	0.409	A	0.574	A	0.479	B	0.677	0.070	0.103	No
Harbor Boulevard and SR-47 WB On-Ramp (a)	A	8.9	A	9.2	A	9.8	B	12.8	0.9	3.6	No
Harbor Boulevard and Swinford Street/SR-47 Ramps	C	0.703	C	0.722	D	0.885	F	1.144	0.182	0.422	a.m., p.m.
John S. Gibson Boulevard/I-110 NB Ramps	A	0.503	A	0.468	A	0.563	A	0.557	0.060	0.089	No
Figueroa Street/C Street/I-110 Ramps (b)	C	17.4	C	21.3	D	32.7	F	63.2	15.3	41.9	p.m.
Pacific Avenue and Front Street	A	0.463	A	0.403	A	0.515	A	0.456	0.052	0.053	No
Fries Avenue and Harry Bridges Boulevard	A	0.259	A	0.338	A	0.374	A	0.506	0.115	0.168	No
Neptune Avenue and Harry Bridges Boulevard	A	0.186	A	0.284	A	0.274	A	0.365	0.088	0.081	No
ICTF Driveway #1/Sepulveda Boulevard	A	0.312	A	0.516	A	0.316	A	0.552	0.004	0.036	No
ICTF Driveway #2/Sepulveda Boulevard	A	0.354	A	0.398	A	0.358	A	0.409	0.004	0.011	No
Santa Fe Avenue and Anaheim Street	A	0.336	A	0.470	A	0.362	A	0.509	0.026	0.039	No
John S. Gibson Boulevard/Channel Street	A	0.514	B	0.600	A	0.536	B	0.625	0.022	0.025	No
Broad Avenue/Harry Bridges Boulevard	A	0.212	A	0.285	A	0.319	A	0.471	0.107	0.186	No
Navy Way/Seaside Avenue	A	0.504	A	0.472	A	0.529	A	0.593	0.025	0.121	No

Note: Unless indicated by an (a) or (b), all intersections are signalized.

(a) unsignalized intersection

(b) all-way stop-controlled intersection

*City of Los Angeles intersections were analyzed using Critical Movement Analysis (CMA) methodology. Unsignalized intersections were analyzed using the Highway Capacity Manual methodology, which is based on estimated vehicle delay.

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Table 4-3. 2015 Intersection Level of Service Analysis – 2015 Cumulative vs. Existing 2000

Study Intersection	Existing 2000				Year 2015 Cumulative With Project				Change in V/C		Cumulatively Significant Impact
	a.m. Peak Hour		p.m. Peak Hour		a.m. Peak Hour		p.m. Peak Hour				
	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	a.m.	p.m.	
Figueroa Street/Harry Bridges Boulevard (b)	A	0.362	A	0.398	-----	-----	-----	-----	-----	-----	No
Avalon Boulevard and Harry Bridges Boulevard	A	0.294	A	0.310	A	0.529	C	0.746	0.235	0.436	No
Alameda Street and Anaheim Street	A	0.513	A	0.484	D	0.804	C	0.788	0.291	0.304	a.m., p.m.
Henry Ford Avenue and Anaheim Street	A	0.409	A	0.574	A	0.583	D	0.825	0.174	0.251	p.m.
Harbor Boulevard and SR-47 WB On-Ramp (a)	A	8.9	A	9.2	A	0.337	A	0.457	-----	-----	No
Harbor Boulevard and Swinford Street/SR-47 Ramps	C	0.703	C	0.722	B	0.690	D	0.870	-0.013	0.148	p.m.
John S. Gibson Boulevard/I-110 NB Ramps	A	0.503	A	0.468	B	0.631	C	0.728	0.128	0.260	p.m.
Figueroa Street/C Street/I-110 Ramps (b)	C	17.4	C	21.3	A	0.523	A	0.517	-----	-----	No
Pacific Avenue and Front Street	A	0.463	A	0.403	A	0.544	A	0.477	0.081	0.074	No
Fries Avenue and Harry Bridges Boulevard	A	0.259	A	0.338	D	0.852	D	0.868	0.593	0.530	a.m., p.m.
Neptune Avenue and Harry Bridges Boulevard	A	0.186	A	0.284	A	0.376	A	0.517	0.190	0.233	No
ICTF Driveway #1/Sepulveda Boulevard	A	0.312	A	0.516	A	0.319	A	0.560	0.007	0.044	No
ICTF Driveway #2/Sepulveda Boulevard	A	0.354	A	0.398	A	0.360	A	0.418	0.006	0.020	No
Santa Fe Avenue and Anaheim Street	A	0.336	A	0.470	A	0.391	A	0.550	0.055	0.080	No
John S. Gibson Boulevard/Channel Street	A	0.514	B	0.600	A	0.591	B	0.692	0.077	0.092	No
Broad Avenue/Harry Bridges Boulevard	A	0.212	A	0.285	A	0.390	C	0.781	0.178	0.496	p.m.
Navy Way/Seaside Avenue	A	0.504	A	0.472	B	0.691	C	0.762	0.187	0.290	p.m.

Note:

(a) signalized intersection in the future due to Harbor Boulevard Interchange Improvement

(b) signalized intersection in the future due to C Street Interchange Improvement, future analyses assume new intersection of John S. Gibson/Harry Bridges Boulevard/Figueroa Street/I-110 ramps per current design plans

*City of Los Angeles intersections were analyzed using Critical Movement Analysis (CMA) methodology. Unsignalized intersections were analyzed using the Highway Capacity Manual methodology that is based on estimated vehicle delay.

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Table 4-4. 2030 Intersection Level of Service Analysis – 2030 Cumulative vs. Existing 2000

Study Intersection	Existing 2000				Year 2030 Cumulative With Project				Change in V/C		Cumulatively Significant Impact
	a.m. Peak Hour		p.m. Peak Hour		a.m. Peak Hour		p.m. Peak Hour				
	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	a.m.	p.m.	
Figueroa Street/Harry Bridges Boulevard (b)	A	0.362	A	0.398	-----	-----	-----	-----	-----	-----	No
Avalon Boulevard and Harry Bridges Boulevard	A	0.294	A	0.310	B	0.607	C	0.780	0.313	0.470	p.m.
Alameda Street and Anaheim Street	A	0.513	A	0.484	E	0.981	E	0.952	0.468	0.468	a.m., p.m.
Henry Ford Avenue and Anaheim Street	A	0.409	A	0.574	C	0.742	F	1.037	0.333	0.463	a.m., p.m.
Harbor Boulevard and SR-47 WB On-Ramp (a)	A	8.9	A	9.2	A	0.402	A	0.569	-----	-----	No
Harbor Boulevard and Swinford Street/SR-47 Ramps	C	0.703	C	0.722	D	0.809	F	1.115	0.106	0.393	a.m., p.m.
John S. Gibson Boulevard/I-110 NB Ramps	A	0.503	A	0.468	C	0.738	C	0.738	0.235	0.270	a.m., p.m.
Figueroa Street/C Street/I-110 Ramps (b)	C	17.4	C	21.3	A	0.564	A	0.563	-----	-----	No
Pacific Avenue and Front Street	A	0.463	A	0.403	A	0.599	A	0.525	0.136	0.122	No
Fries Avenue and Harry Bridges Boulevard	A	0.259	A	0.338	E	0.942	D	0.880	0.683	0.542	a.m., p.m.
Neptune Avenue and Harry Bridges Boulevard	A	0.186	A	0.284	A	0.433	A	0.562	0.247	0.278	No
ICTF Driveway #1/Sepulveda Boulevard	A	0.312	A	0.516	A	0.327	A	0.555	0.015	0.039	No
ICTF Driveway #2/Sepulveda Boulevard	A	0.354	A	0.398	A	0.368	A	0.413	0.014	0.015	No
Santa Fe Avenue and Anaheim Street	A	0.336	A	0.470	A	0.437	B	0.607	0.101	0.137	No
John S. Gibson Boulevard/Channel Street	A	0.514	B	0.600	B	0.655	C	0.766	0.141	0.166	p.m.
Broad Avenue/Harry Bridges Boulevard	A	0.212	A	0.285	A	0.411	B	0.615	0.199	0.330	No
Navy Way/Seaside Avenue	A	0.504	A	0.472	E	0.918	E	0.983	0.414	0.511	a.m., p.m.

Note:

(a) signalized intersection in the future due to Harbor Boulevard Interchange Improvement

(b) signalized intersection in the future due to C Street Interchange Improvement, future analyses assume new intersection of John S. Gibson/Harry Bridges Boulevard/Figueroa Street/I-110 ramps per current design plans

*City of Los Angeles intersections were analyzed using Critical Movement Analysis (CMA) methodology. Unsignalized intersections were analyzed using the Highway Capacity Manual methodology, which is based on, estimated vehicle delay.

Table 4-5. 2045 Intersection Level of Service Analysis – 2045 Cumulative vs. Existing 2000

Study Intersection	Existing 2000				Year 2045 Cumulative With Project				Change in V/C		Cumulatively Significant Impact
	a.m. Peak Hour		p.m. Peak Hour		a.m. Peak Hour		p.m. Peak Hour				
	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	a.m.	p.m.	
Figueroa Street/Harry Bridges Boulevard (b)	A	0.362	A	0.398	-----	-----	-----	-----	-----	-----	No
Avalon Boulevard and Harry Bridges Boulevard	A	0.294	A	0.310	B	0.651	D	0.833	0.357	0.523	p.m.
Alameda Street and Anaheim Street	A	0.513	A	0.484	F	1.109	F	1.078	0.596	0.594	a.m., p.m.
Henry Ford Avenue and Anaheim Street	A	0.409	A	0.574	D	0.814	F	1.154	0.405	0.580	a.m., p.m.
Harbor Boulevard and SR-47 WB On-Ramp (a)	A	8.9	A	9.2	A	0.468	B	0.663	-----	-----	No
Harbor Boulevard and Swinford Street/SR-47 Ramps	C	0.703	C	0.722	E	0.919	F	1.265	0.216	0.543	a.m., p.m.
John S. Gibson Boulevard/I-110 NB Ramps	A	0.503	A	0.468	D	0.840	D	0.817	0.337	0.349	a.m., p.m.
Figueroa Street/C Street/I-110 Ramps (b)	C	17.4	C	21.3	B	0.638	B	0.641	-----	-----	No
Pacific Avenue and Front Street	A	0.463	A	0.403	B	0.658	A	0.576	0.195	0.173	No
Fries Avenue and Harry Bridges Boulevard	A	0.259	A	0.338	F	1.250	F	1.032	0.991	0.694	a.m., p.m.
Neptune Avenue and Harry Bridges Boulevard	A	0.186	A	0.284	A	0.467	B	0.608	0.281	0.324	No
ICTF Driveway #1/Sepulveda Boulevard	A	0.312	A	0.516	A	0.365	B	0.610	0.053	0.094	No
ICTF Driveway #2/Sepulveda Boulevard	A	0.354	A	0.398	A	0.404	A	0.453	0.050	0.055	No
Santa Fe Avenue and Anaheim Street	A	0.336	A	0.470	A	0.479	B	0.667	0.143	0.197	No
John S. Gibson Boulevard/Channel Street	A	0.514	B	0.600	C	0.749	D	0.869	0.235	0.269	a.m., p.m.
Broad Avenue/Harry Bridges Boulevard	A	0.212	A	0.285	A	0.492	D	0.869	0.280	0.584	p.m.
Navy Way/Seaside Avenue	A	0.504	A	0.472	F	1.015	F	1.081	0.511	0.609	a.m., p.m.

Note:

(a) signalized intersection in the future due to Harbor Boulevard Interchange Improvement

(b) signalized intersection in the future due to C Street Interchange Improvement, future analyses assume new intersection of John S. Gibson/Harry Bridges Boulevard/Figueroa Street/I-110 ramps per current design plans

*City of Los Angeles intersections were analyzed using Critical Movement Analysis (CMA) methodology. Unsignalized intersections were analyzed using the Highway Capacity Manual methodology, which is based on, estimated vehicle delay.

+ 2045 – Avalon Boulevard/Harry Bridges Boulevard (p.m. peak hour)
Alameda Street/Anaheim Street (a.m. and p.m. peak hours)
Henry Ford/Anaheim Street (a.m. and p.m. peak hours)
Harbor Boulevard/Swinford Street/SR-47 Ramps (a.m. and p.m. peak hours)
John S. Gibson Boulevard/I-110 NB Ramps (a.m. and p.m. peak hours)
Fries Avenue/Harry Bridges Boulevard (a.m. and p.m. peak hours)
John S. Gibson Boulevard/Channel Street (a.m. and p.m. peak hours)
Broad Avenue/Harry Bridges Boulevard (p.m. peak hour)
Navy Way/Seaside Avenue (a.m. and p.m. peak hours)

Contribution of the Proposed Project (Prior to Mitigation)

Project-related impacts due to the Berths 97-109 proposed Project would result in significant circulation system impacts at six study intersections, relative to baseline conditions without the proposed Project (i.e., as documented in Section 3.6.3.3, baseline year 2000 traffic volumes plus other growth not related to the Project; this other growth includes traffic due to proposed local development projects, regional traffic growth, and traffic increases resulting from Port terminal throughput growth). The six intersections that would be impacted by the project are as follows:

+ Avalon Boulevard and Harry Bridges Boulevard
+ Alameda Street and Anaheim Street
+ John S. Gibson Boulevard and I-110 NB Ramps
+ Fries Avenue and Harry Bridges Boulevard
+ Broad Avenue and Harry Bridges Boulevard
+ Navy Way and Seaside Avenue

CEQA Evaluation

Future traffic conditions with the proposed Project for the years 2005, 2015, 2030, and 2045 were estimated by adding traffic resulting from the terminal expansion and associated throughput growth. Port traffic growth was developed using the "QuickTrip" truck generation model (see Section 3.6.3.3.1.2). Table 4-6 summarizes the TEU throughput for the CEQA baseline and Project and also includes the assumed operating parameters that were used to develop the trip generation forecasts. Traffic generated by the Project was estimated to determine potential impacts of the Project on study area roadways. The following section summarizes some of the key parameters used in the trip generation estimate. These operating parameters are derived from and consistent with the parameters developed and applied in the *Port of Los Angeles Baseline Transportation Study* and the *Port of Los Angeles Roadway Study*:

+ **Work shifts.** Consistent with ongoing Port-area transportation studies, the gate moves are expected to be temporarily distributed as follows: 80 percent day shift, 10 percent night shift, 10 percent hoot shift (3 a.m. to 8 a.m.) in 2005; 80 percent day shift, 10 percent night shift, 10 percent hoot shift in 2015; and 60 percent day shift, 20 percent night shift, and 20 percent hoot shift in 2030 and 2045. Shift splits as of 2000 showed over 90 percent of TEU throughput during the day shift. The 80/10/10 split assumption was determined jointly by Ports of Long Beach and Los Angeles staff. This shift split was considered to be realistic and reasonably conservative for purposes of CEQA traffic studies. A greater reduction in daytime throughput only was assumed in the longer term (2030 and 2045) to be reasonably conservative given expected changes in long-term port operations.

Table 4-6. Trip Generation Analysis Assumptions and Input Data for Berths 97-109 Terminal

Berths 97-109	CEQA Baseline	Proposed Project			
	2000	2005	2015	2030	2045
Gross Acres	11	72	142	142	142
Resultant TEUs (annual)	45,135	403,200	1,164,400	1,551,100	1,551,100
Peak Month Factor	-----	0.091	0.091	0.083	0.083
Monthly TEUs	4,313	36,691	105,960	128,741	128,741
Key Trip Generation Model Input Factors					
Shift Split (%) (day/2nd/night)	80/10/10	80/10/10	80/10/10	60/20/20	60/20/20
On-Dock Rail %	20%	20%	20%	17%	17%
% Double Cycle Trucks	45%	35%	35%	45%	45%
Percentage of Weekly Gate Traffic Allocated to Weekend	15%	15%	15%	15%	15%
Trip Generation Results – a.m. Peak					
Project Added Auto Trips	-----	43	133	121	121
Project Added Truck Trips	-----	78	240	277	277
Project Added Total Trips	-----	121	373	398	398
Trip Generation Results – p.m. Peak					
Project Added Auto Trips	-----	58	181	164	164
Project Added Truck Trips	-----	111	342	295	295
Project Added Total Trips	-----	169	523	459	459
Note: The trips generated for the proposed Project represent incremental increases relative to CEQA baseline.					

+ **Auto Trip Generation**. The baseline and with-Project employee trip rates are based on the *Ports of Long Beach and Los Angeles Transportation Study* trip generation methodology which estimates employment trips based on TEU throughput using trip generation rates.

  - **TEU Throughput Growth**. Additional TEUs per month resulting from the Project are shown in Table 4-6. These are based on forecasts of overall port wide growth and estimates of terminal capacity.
  - **On-Dock Rail Usage**. On-dock rail refers to a rail terminal that is located within or adjacent to the terminal that is used to build trains that take containers to and from the terminal via rail. Those containers thus do not travel by truck; they enter or leave the terminal on rail cars. As the percentage of containers moved via on-dock rail is increased, the percentage of containers moved by truck is decreased since the container must move via either truck or rail car. Building and operating on-dock rail facilities is a key method to reduce truck trips to and from the container terminal. It is expected that the use of on-dock rail will increase throughout the Port over time for many reasons, including the construction of expanded on-dock rail facilities, improvements and enhancements to existing on-dock rail facilities, improvements in rail operations technologies, increased demand for rail movements as opposed to truck movements, improved container management procedures and other factors. The amount of throughout that can be handled by on-dock rail versus by truck is based on the capacity of the on-dock rail facility, including the overall size of the on-dock rail yard, the number of linear feet of rail track in the facility, the number and type of

equipment servicing the rail yard, the physical layout of the rail yard and how it interacts with the rest of the terminal and other design and operational factors. Those factors determine the number of trains that can be built within given time periods, the size of the trains and the overall level of terminal throughput that can be carried in and out of the terminal on rail cars, Increased on-dock rail usage due to expanded rail yards at the project site is based on the above assumptions, and is as follows:

- Year 2005
  - Eastbound: 10.9 percent (of total throughput)
  - Westbound: 8.6 percent (includes 3 percent westbound empties)
- Year 2015
  - Eastbound: 11.4 percent (of total throughput)
  - Westbound: 8.9 percent (includes 3 percent westbound empties)
- Year 2030
  - Eastbound: 9.9 percent (of total throughput)
  - Westbound: 7.1 percent (includes 3 percent westbound empties)
- Year 2045
  - Eastbound: 9.9 percent (of total throughput)
  - Westbound: 7.1 percent (includes 3 percent westbound empties)

- **Weekend Terminal Operations.** Weekend throughput is assumed to be 15 percent in 2005, 2015, 2030 and 2045.

The net increase in truck trip generation includes the increased percent of cargo moved via the expanded on-dock rail facilities, as noted. A rail yard capacity analysis was conducted for the expanded terminal to ensure that the proposed new rail yard could accommodate the projected on-dock container volumes. The Project trip generation estimates are summarized in Table 4-6. Note that TEU growth increases for future years, but peak hour trips do not increase proportionately with TEU growth. This is because in future years, on-dock rail usage would increase and work shift splits would change as described above. Both of these actions would shift more activity to the second shift and night shift and away from the day shift. Therefore, although total trips increase in 2005, 2015, 2030, and 2045, some of the increase occurs during off-peak time periods due to the operating parameters described above.

Appendix F contains the CEQA baseline, NEPA baseline and future with-Project traffic forecasts and LOS calculation worksheets. Figure 3.10-2 in Section 3.6.3.3.1.2 illustrates the assumed trip distribution percentages of Project traffic. Trip distribution was based on data from the Port Travel Demand Model, which is based on truck driver origin/destination surveys (actual surveys of truck drivers at the gates), as well as from Longshore Worker place of residence data.

Tables 4-7, 4-8, 4-9, and 4-10 summarize the Future baseline and Future with-Project intersection operating conditions at each study intersection for the 2005, 2015, 2030, and 2045 scenarios, respectively. The Future without-Project and with-Project intersection operating conditions for each year were compared to determine regional impacts, and then the impacts were assessed using the City of Los Angeles criteria for significant impacts.

Table 4-7. 2005 Intersection Level of Service Analysis – Proposed Project vs. 2005 Future Baseline

Study Intersection	Year 2005 without Project				Year 2005 with Project				Project Contribution Change in V/C		Significantly Impacted
	a.m. Peak Hour		p.m. Peak Hour		a.m. Peak Hour		p.m. Peak Hour				
	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	a.m.	p.m.	
Figueroa Street/Harry Bridges Boulevard	A	0.496	A	0.559	A	0.502	A	0.574	0.006	0.015	No
Avalon Boulevard and Harry Bridges Boulevard	A	0.413	A	0.493	A	0.426	A	0.508	0.013	0.015	No
Alameda Street and Anaheim Street	B	0.631	B	0.626	B	0.643	B	0.635	0.012	0.009	No
Henry Ford Avenue and Anaheim Street	A	0.479	B	0.675	A	0.479	B	0.677	0.000	0.002	No
Harbor Boulevard and SR-47 WB On-Ramp (a)	A	9.7	B	11.9	A	9.8	B	12.8	0.1	0.9	No
Harbor Boulevard and Swinford Street/SR-47 Ramps	D	0.882	F	1.135	D	0.885	F	1.144	0.003	0.009	No
John S. Gibson Boulevard/I-110 NB Ramps	A	0.548	A	0.531	A	0.563	A	0.557	0.015	0.026	No
Figueroa Street/C Street/I-110 Ramps (b)	D	31.3	F	59.5	D	32.7	F	63.2	1.4	3.7	No
Pacific Avenue and Front Street	A	0.505	A	0.445	A	0.515	A	0.456	0.010	0.011	No
Fries Avenue and Harry Bridges Boulevard	A	0.361	A	0.462	A	0.374	A	0.506	0.013	0.044	No
Neptune Avenue and Harry Bridges Boulevard	A	0.260	A	0.350	A	0.274	A	0.365	0.014	0.015	No
ICTF Driveway #1/Sepulveda Boulevard	A	0.316	A	0.548	A	0.316	A	0.552	0.000	0.004	No
ICTF Driveway #2/Sepulveda Boulevard	A	0.357	A	0.406	A	0.358	A	0.409	0.001	0.003	No
Santa Fe Avenue and Anaheim Street	A	0.362	A	0.508	A	0.362	A	0.509	0.000	0.001	No
John S. Gibson Boulevard/Channel Street	A	0.536	B	0.625	A	0.536	B	0.625	0.000	0.000	No
Broad Avenue/Harry Bridges Boulevard	A	0.306	A	0.460	A	0.319	A	0.471	0.013	0.011	No
Navy Way/Seaside Avenue	A	0.528	A	0.588	A	0.529	A	0.593	0.001	0.005	No

Note: Unless indicated by an (a) or (b), all intersections are signalized.

(a) unsignalized intersection

(b) all-way stop-controlled intersection

*City of Los Angeles intersections were analyzed using Critical Movement Analysis (CMA) methodology. Unsignalized intersections were analyzed using the Highway Capacity Manual methodology, which is based on estimated vehicle delay.

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Table 4-8. 2015 Intersection Level of Service Analysis – Proposed Project vs. 2015 Future Baseline

Study Intersection	Year 2015 without Project				Year 2015 with Project				Project Contribution Change in V/C		Significantly Impacted
	a.m. Peak Hour		p.m. Peak Hour		a.m. Peak Hour		p.m. Peak Hour				
	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	a.m.	p.m.	
Figueroa Street/Harry Bridges Boulevard (b)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	No
Avalon Boulevard and Harry Bridges Boulevard	A	0.485	A	0.569	A	0.529	C	0.746	0.044	0.177	p.m.
Alameda Street and Anaheim Street	C	0.767	C	0.760	D	0.804	C	0.788	0.037	0.028	a.m.
Henry Ford Avenue and Anaheim Street	A	0.582	D	0.821	A	0.583	D	0.825	0.001	0.004	No
Harbor Boulevard and SR-47 WB On-Ramp (a)	A	0.329	A	0.433	A	0.337	A	0.457	0.008	0.024	No
Harbor Boulevard and Swinford Street/SR-47 Ramps	B	0.688	D	0.868	B	0.690	D	0.870	0.002	0.002	No
John S. Gibson Boulevard/I-110 NB Ramps	A	0.595	B	0.611	B	0.631	C	0.728	0.036	0.117	p.m.
Figueroa Street/C Street/I-110 Ramps (b)	A	0.478	A	0.481	A	0.523	A	0.517	0.045	0.036	No
Pacific Avenue and Front Street	A	0.538	A	0.472	A	0.544	A	0.477	0.006	0.005	No
Fries Avenue and Harry Bridges Boulevard	D	0.809	C	0.788	D	0.852	D	0.868	0.043	0.080	a.m., p.m.
Neptune Avenue and Harry Bridges Boulevard	A	0.360	A	0.422	A	0.376	A	0.517	0.016	0.095	No
ICTF Driveway #1/Sepulveda Boulevard	A	0.316	A	0.551	A	0.319	A	0.560	0.003	0.009	No
ICTF Driveway #2/Sepulveda Boulevard	A	0.358	A	0.408	A	0.360	A	0.418	0.002	0.010	No
Santa Fe Avenue and Anaheim Street	A	0.390	A	0.548	A	0.391	A	0.550	0.001	0.002	No
John S. Gibson Boulevard/Channel Street	A	0.590	B	0.691	A	0.591	B	0.692	0.001	0.001	No
Broad Avenue/Harry Bridges Boulevard	A	0.350	A	0.526	A	0.390	C	0.781	0.040	0.255	p.m.
Navy Way/Seaside Avenue	B	0.687	C	0.748	B	0.691	C	0.762	0.004	0.014	No

Notes:

(a) Signalized intersection in the future due to Harbor Boulevard Interchange Improvement

(b) Signalized intersection in the future due to C Street Interchange Improvement, future analyses assume new intersection of John S. Gibson Boulevard/Harry Bridges Boulevard/Figueroa Street/I-110 ramps per current design plans

*City of Los Angeles signalized intersections were analyzed using Critical Movement Analysis (CMA) methodology. Unsignalized intersections were analyzed using the Highway Capacity Manual methodology that is based on estimated vehicle delay.

Table 4-9. 2030 Intersection Level of Service Analysis – Proposed Project vs. 2030 Future Baseline

Study Intersection	Year 2030 without Project				Year 2030 with Project				Project Contribution Change in V/C		Significantly Impacted
	a.m. Peak Hour		p.m. Peak Hour		a.m. Peak Hour		p.m. Peak Hour				
	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	a.m.	p.m.	
Figueroa Street/Harry Bridges Boulevard (b)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	No
Avalon Boulevard and Harry Bridges Boulevard	A	0.570	B	0.603	B	0.607	C	0.780	0.037	0.177	p.m.
Alameda Street and Anaheim Street	E	0.963	E	0.927	E	0.981	E	0.952	0.018	0.025	a.m., p.m.
Henry Ford Avenue and Anaheim Street	C	0.740	F	1.034	C	0.742	F	1.037	0.002	0.003	No
Harbor Boulevard and SR-47 WB On-Ramp (a)	A	0.388	A	0.547	A	0.402	A	0.569	0.014	0.022	No
Harbor Boulevard and Swinford Street/SR-47 Ramps	D	0.807	F	1.113	D	0.809	F	1.115	0.002	0.002	No
John S. Gibson Boulevard/I-110 NB Ramps	B	0.671	B	0.634	C	0.738	C	0.738	0.067	0.104	a.m., p.m.
Figueroa Street/C Street/I-110 Ramps (b)	A	0.525	A	0.531	A	0.564	A	0.563	0.039	0.032	No
Pacific Avenue and Front Street	A	0.593	A	0.521	A	0.599	A	0.525	0.006	0.004	No
Fries Avenue and Harry Bridges Boulevard	E	0.904	D	0.837	E	0.942	D	0.880	0.038	0.043	a.m., p.m.
Neptune Avenue and Harry Bridges Boulevard	A	0.406	A	0.460	A	0.433	A	0.562	0.027	0.102	No
ICTF Driveway #1/Sepulveda Boulevard	A	0.321	A	0.547	A	0.327	A	0.555	0.006	0.008	No
ICTF Driveway #2/Sepulveda Boulevard	A	0.363	A	0.404	A	0.368	A	0.413	0.005	0.009	No
Santa Fe Avenue and Anaheim Street	A	0.435	B	0.606	A	0.437	B	0.607	0.002	0.001	No
John S. Gibson Boulevard/Channel Street	B	0.654	C	0.765	B	0.655	C	0.766	0.001	0.001	No
Broad Avenue/Harry Bridges Boulevard	A	0.376	A	0.585	A	0.411	B	0.615	0.035	0.030	No
Navy Way/Seaside Avenue	E	0.910	E	0.970	E	0.918	E	0.983	0.008	0.013	p.m.

Note:

(a) signalized intersection in the future due to Harbor Boulevard Interchange Improvement

(b) signalized intersection in the future due to C Street Interchange Improvement, future analyses assume new intersection of John S. Gibson/Harry Bridges Boulevard/Figueroa Street/I-110 ramps per current design plans

*City of Los Angeles intersections were analyzed using Critical Movement Analysis (CMA) methodology. Unsignalized intersections were analyzed using the Highway Capacity Manual methodology, which is based on, estimated vehicle delay.

Table 4-10. 2045 Intersection Level of Service Analysis – Proposed Project vs. 2045 Future Baseline

Study Intersection	Year 2045 without Project				Year 2045 with Project				Project Contribution Change in V/C		Significantly Impacted
	a.m. Peak Hour		p.m. Peak Hour		a.m. Peak Hour		p.m. Peak Hour				
	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	a.m.	p.m.	
Figueroa Street/Harry Bridges Boulevard (b)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	No
Avalon Boulevard and Harry Bridges Boulevard	B	0.614	C	0.776	B	0.651	D	0.833	0.037	0.057	p.m.
Alameda Street and Anaheim Street	F	1.091	F	1.053	F	1.109	F	1.078	0.018	0.025	a.m., p.m.
Henry Ford Avenue and Anaheim Street	D	0.812	F	1.150	D	0.814	F	1.154	0.002	0.004	No
Harbor Boulevard and SR-47 WB On-Ramp (a)	A	0.454	B	0.641	A	0.468	B	0.663	0.014	0.022	No
Harbor Boulevard and Swinford Street/SR-47 Ramps	E	0.917	F	1.263	E	0.919	F	1.265	0.002	0.002	No
John S. Gibson Boulevard/I-110 NB Ramps	C	0.773	C	0.713	D	0.840	D	0.817	0.067	0.104	a.m., p.m.
Figueroa Street/C Street/I-110 Ramps (b)	A	0.595	B	0.606	B	0.638	B	0.641	0.043	0.035	No
Pacific Avenue and Front Street	B	0.652	A	0.572	B	0.658	A	0.576	0.006	0.004	No
Fries Avenue and Harry Bridges Boulevard	E	0.973	E	0.945	F	1.250	F	1.032	0.277	0.087	a.m., p.m.
Neptune Avenue and Harry Bridges Boulevard	A	0.440	A	0.575	A	0.467	B	0.608	0.027	0.033	No
ICTF Driveway #1/Sepulveda Boulevard	A	0.360	B	0.601	A	0.365	B	0.610	0.005	0.009	No
ICTF Driveway #2/Sepulveda Boulevard	A	0.398	A	0.444	A	0.404	A	0.453	0.006	0.009	No
Santa Fe Avenue and Anaheim Street	A	0.477	B	0.665	A	0.479	B	0.667	0.002	0.002	No
John S. Gibson Boulevard/Channel Street	C	0.749	D	0.869	C	0.749	D	0.869	0.000	0.000	No
Broad Avenue/Harry Bridges Boulevard	A	0.404	B	0.638	A	0.492	D	0.869	0.088	0.231	p.m.
Navy Way/Seaside Avenue	F	1.007	F	1.068	F	1.015	F	1.081	0.008	0.013	p.m.

Note:

(a) signalized intersection in the future due to Harbor Boulevard Interchange Improvement

(b) signalized intersection in the future due to C Street Interchange Improvement, future analyses assume new intersection of John S. Gibson/Harry Bridges Boulevard/Figueroa Street/I-110 ramps per current design plans

*City of Los Angeles intersections were analyzed using Critical Movement Analysis (CMA) methodology. Unsignalized intersections were analyzed using the Highway Capacity Manual methodology, which is based on, estimated vehicle delay.

Based on the results of the traffic study as presented in Tables 4-7, 4-8, 4-9, and 4-10 and more fully set forth in Appendix F, the proposed Project would result in significant circulation system impacts at six study intersections, relative to future without-Project conditions.

Specifically, the LOS at the Avalon Boulevard/Harry Bridges Boulevard intersection would experience a significant traffic impact during the p.m. peak hour in 2015, 2030, and 2045. Avalon Boulevard/Harry Bridges Boulevard would operate at LOS C during the p.m. peak hour in 2015 and 2030, and LOS D during the p.m. peak hour in 2045. The level of Project-related traffic would exceed the City of Los Angeles threshold for significant impact.

The Alameda Street/Anaheim Street intersection would experience a significant traffic impact during the a.m. peak hour for 2015, and during both the a.m. and p.m. peak hours for 2030 and 2045. At 2015, Alameda Street/Anaheim Street would operate at LOS D for the a.m. peak hour. At 2030, Alameda Street/Anaheim Street would operate at LOS E for both the a.m. and p.m. peak hours. At 2045, Alameda Street/Anaheim Street would operate at LOS F for both the a.m. and p.m. peak hours. The level of Project-related traffic would exceed the City of Los Angeles threshold for significant impact.

The John S. Gibson Boulevard/I-110 NB Ramps intersection would experience significant project-related traffic during the p.m. peak hour for 2015, and during both the a.m. and p.m. peak hours for 2030 and 2045. At 2015, John S. Gibson Boulevard/I-110 NB Ramps would operate at LOS C during the a.m. peak hour. At 2030, John S. Gibson Boulevard/I-110 NB Ramps would operate at LOS C during both the a.m. and p.m. peak hours. At 2045, John S. Gibson Boulevard/I-110 NB Ramps would operate at LOS D during both the a.m. and p.m. peak hours. The level of Project-related traffic would exceed the City of Los Angeles threshold for significant impact.

The Fries Avenue/Harry Bridges Boulevard intersection would experience a significant traffic impact during both the a.m. and p.m. peak hours for 2015, 2030 and 2045. At 2015, Fries Avenue/Harry Bridges Boulevard would operate at LOS D for both the a.m. and p.m. peak hours. At 2030, Fries Avenue/Harry Bridges Boulevard would operate at LOS E for the a.m. peak hour, and LOS D for the p.m. peak hour. At 2045, Fries Avenue/Harry Bridges Boulevard would operate at LOS F for both the a.m. and p.m. peak hours. The level of Project-related traffic would exceed the City of Los Angeles threshold for significant impact.

The Broad Avenue/Harry Bridges Boulevard intersection would experience a significant traffic impact during the p.m. peak hour for 2015 and 2045. At 2015, Broad Avenue/Harry Bridges Boulevard would operate at LOS C during the p.m. peak hour. At 2045, Broad Avenue/Harry Bridges Boulevard would operate at LOS D during the p.m. peak hour. The level of Project-related traffic would exceed the City of Los Angeles threshold for significant impact.

The Navy Way/Seaside Avenue intersection would experience a significant traffic impact during the p.m. peak hour for 2030 and 2045. At 2030, Navy Way/Seaside Avenue would operate at LOS E during the p.m. peak hour. At 2045, Navy Way/Seaside Avenue would operate at LOS F during the p.m. peak hour. The level of Project-related traffic would exceed the City of Los Angeles threshold for significant impact.

The amount of Project-related traffic that would be added at all other study locations would not be of sufficient magnitude to meet or exceed the threshold of significance

of the respective city. This is true even for some intersections that would operate in the future at LOS E or F, but the level of Project-related traffic would be small enough that it would not trigger a significant traffic impact, based on the established thresholds.

In summary, the following significant intersection impacts under CEQA are forecasted for the proposed Project:

+ 2015 – Avalon Boulevard and Harry Bridges Boulevard – (p.m. peak hour)
  Alameda Street and Anaheim Street – (a.m. peak hour)
  John S. Gibson Boulevard and I-110 NB Ramps – (p.m. peak hour)
  Fries Avenue and Harry Bridges Boulevard – (a.m. and p.m. peak hours)
  Broad Avenue and Harry Bridges Boulevard – (p.m. peak hour)
+ 2030 – Avalon Boulevard and Harry Bridges Boulevard – (p.m. peak hour)
  Alameda Street and Anaheim Street – (a.m. and p.m. peak hours)
  John S. Gibson Boulevard and I-110 NB Ramps – (a.m. and p.m. peak hours)
  Fries Avenue and Harry Bridges Boulevard – (a.m. and p.m. peak hours)
  Navy Way and Seaside Avenue – (p.m. peak hour)
+ 2045 – Avalon Boulevard and Harry Bridges Boulevard – (p.m. peak hour)
  Alameda Street and Anaheim Street – (a.m. and p.m. peak hours)
  John S. Gibson Boulevard and I-110 NB Ramps – (a.m. and p.m. peak hours)
  Fries Avenue and Harry Bridges Boulevard – (a.m. and p.m. peak hours)
  Broad Avenue and Harry Bridges Boulevard – (p.m. peak hour)
  Navy Way and Seaside Avenue – (p.m. peak hour)

Therefore, operation of the proposed Project would make a cumulatively considerable contribution to the significant cumulative impact under CEQA.

Mitigation Measures

The following intersection mitigation measures would be implemented to mitigate the significant impact of the contribution of the proposed Project. Tables 4-11, 4-12, and 4-13 present the level-of-service results with implementation of the mitigation measures for 2015, 2030, and 2045, respectively.

MM TRANS 1: ***Avalon Boulevard and Harry Bridges Boulevard*** **– Provide an additional eastbound and westbound left-turn lane on Harry Bridges Boulevard. This measure shall be implemented by 2015.**

MM TRANS 2: ***Alameda Street and Anaheim Street*** **– Provide an additional eastbound through-lane on Anaheim Street. This measure shall be implemented by 2015.**

MM TRANS 3: ***John S. Gibson Boulevard and I-110 NB Ramps*** **– Provide an additional southbound and westbound right-turn lane on John S. Gibson Boulevard and I-110 NB Ramps. Reconfigure the eastbound approach to one eastbound through-left-turn lane, and one eastbound through-right-turn lane. Provide an additional westbound right-turn lane with westbound right-turn overlap phasing. This measure shall be implemented by 2015.**

Table 4-11. 2015 Intersection Level of Service Analysis – Proposed Project vs. 2015 Future Baseline

Study Intersection	Year 2015 without Project				Year 2015 with Project				Year 2015 with Mitigation			
	a.m. Peak Hour		p.m. Peak Hour		a.m. Peak Hour		p.m. Peak Hour		a.m. Peak Hour		p.m. Peak Hour	
	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay
Figueroa Street/Harry Bridges Boulevard (b)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Avalon Boulevard and Harry Bridges Boulevard	A	0.485	A	0.569	A	0.529	C	0.746	A	0.509	A	0.527
Alameda Street and Anaheim Street	C	0.767	C	0.760	D	0.804	C	0.788	B	0.667	B	0.699
Henry Ford Avenue and Anaheim Street	A	0.582	D	0.821	A	0.583	D	0.825	-----	-----	-----	-----
Harbor Boulevard and SR-47 WB On-Ramp (a)	A	0.329	A	0.433	A	0.337	A	0.457	-----	-----	-----	-----
Harbor Boulevard and Swinford Street/SR-47 Ramps	B	0.688	D	0.868	B	0.690	D	0.870	-----	-----	-----	-----
John S. Gibson Boulevard/I-110 NB Ramps	A	0.595	B	0.611	B	0.631	C	0.728	A	0.585	A	0.587
Figueroa Street/C Street/I-110 Ramps (b)	A	0.478	A	0.481	A	0.523	A	0.517	-----	-----	-----	-----
Pacific Avenue and Front Street	A	0.538	A	0.472	A	0.544	A	0.477	-----	-----	-----	-----
Fries Avenue and Harry Bridges Boulevard	D	0.809	C	0.788	D	0.852	D	0.868	C	0.718	C	0.730
Neptune Avenue and Harry Bridges Boulevard	A	0.360	A	0.422	A	0.376	A	0.517	-----	-----	-----	-----
ICTF Driveway #1/Sepulveda Boulevard	A	0.316	A	0.551	A	0.319	A	0.560	-----	-----	-----	-----
ICTF Driveway #2/Sepulveda Boulevard	A	0.358	A	0.408	A	0.360	A	0.418	-----	-----	-----	-----
Santa Fe Avenue and Anaheim Street	A	0.390	A	0.548	A	0.391	A	0.550	-----	-----	-----	-----
John S. Gibson Boulevard/Channel Street	A	0.590	B	0.691	A	0.591	B	0.692	-----	-----	-----	-----
Broad Avenue/Harry Bridges Boulevard	A	0.350	A	0.526	A	0.390	C	0.781	A	0.353	A	0.438
Navy Way/Seaside Avenue	B	0.687	C	0.748	B	0.691	C	0.762	-----	-----	-----	-----

Notes:

(a) Signalized intersection in the future due to Harbor Boulevard Interchange Improvement

(b) Signalized intersection in the future due to C Street Interchange Improvement, future analyses assume new intersection of John S. Gibson Boulevard/Harry Bridges Boulevard/Figueroa Street/I-110 ramps per current design plans

*City of Los Angeles signalized intersections were analyzed using Critical Movement Analysis (CMA) methodology. Unsignalized intersections were analyzed using the Highway Capacity Manual methodology that is based on estimated vehicle delay.

Table 4-12. 2030 Intersection Level of Service Analysis – Proposed Project vs. 2030 Future Baseline

Study Intersection	Year 2030 without Project				Year 2030 with Project				Year 2030 with Mitigation			
	a.m. Peak Hour		p.m. Peak Hour		a.m. Peak Hour		p.m. Peak Hour		a.m. Peak Hour		p.m. Peak Hour	
	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay
Figueroa Street/Harry Bridges Boulevard (b)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Avalon Boulevard and Harry Bridges Boulevard	A	0.570	B	0.603	B	0.607	C	0.780	A	0.539	A	0.555
Alameda Street and Anaheim Street	E	0.963	E	0.927	E	0.981	E	0.952	D	0.808	D	0.848
Henry Ford Avenue and Anaheim Street	C	0.740	F	1.034	C	0.742	F	1.037	-----	-----	-----	-----
Harbor Boulevard and SR-47 WB On-Ramp (a)	A	0.388	A	0.547	A	0.402	A	0.569	-----	-----	-----	-----
Harbor Boulevard and Swinford Street/SR-47 Ramps	D	0.807	F	1.113	D	0.809	F	1.115	-----	-----	-----	-----
John S. Gibson Boulevard/I-110 NB Ramps	B	0.671	B	0.634	C	0.738	C	0.738	B	0.672	B	0.610
Figueroa Street/C Street/I-110 Ramps (b)	A	0.525	A	0.531	A	0.564	A	0.563	-----	-----	-----	-----
Pacific Avenue and Front Street	A	0.593	A	0.521	A	0.599	A	0.525	-----	-----	-----	-----
Fries Avenue and Harry Bridges Boulevard	E	0.904	D	0.837	E	0.942	D	0.880	D	0.822	C	0.766
Neptune Avenue and Harry Bridges Boulevard	A	0.406	A	0.460	A	0.433	A	0.562	-----	-----	-----	-----
ICTF Driveway #1/Sepulveda Boulevard	A	0.321	A	0.547	A	0.327	A	0.555	-----	-----	-----	-----
ICTF Driveway #2/Sepulveda Boulevard	A	0.363	A	0.404	A	0.368	A	0.413	-----	-----	-----	-----
Santa Fe Avenue and Anaheim Street	A	0.435	B	0.606	A	0.437	B	0.607	-----	-----	-----	-----
John S. Gibson Boulevard/Channel Street	B	0.654	C	0.765	B	0.655	C	0.766	-----	-----	-----	-----
Broad Avenue/Harry Bridges Boulevard	A	0.376	A	0.585	A	0.411	B	0.615	-----	-----	-----	-----
Navy Way/Seaside Avenue	E	0.910	E	0.970	E	0.918	E	0.983	C	0.795	E	0.913

Notes:

(a) Signalized intersection in the future due to Harbor Boulevard Interchange Improvement

(b) Signalized intersection in the future due to C Street Interchange Improvement, future analyses assume new intersection of John S. Gibson Boulevard/Harry Bridges Boulevard/Figueroa Street/I-110 ramps per current design plans

*City of Los Angeles signalized intersections were analyzed using Critical Movement Analysis (CMA) methodology. Unsignalized intersections were analyzed using the Highway Capacity Manual methodology, which is based on estimated vehicle delay.

Table 4-13. 2045 Intersection Level of Service Analysis – Proposed Project vs. 2045 Future Baseline

Study Intersection	Year 2045 without Project				Year 2045 with Project				Year 2045 with Mitigation			
	a.m. Peak Hour		p.m. Peak Hour		a.m. Peak Hour		p.m. Peak Hour		a.m. Peak Hour		p.m. Peak Hour	
	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay
Figueroa Street/Harry Bridges Boulevard (b)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Avalon Boulevard and Harry Bridges Boulevard	B	0.614	C	0.776	B	0.651	D	0.833	A	0.576	A	0.595
Alameda Street and Anaheim Street	F	1.091	F	1.053	F	1.109	F	1.078	E	0.919	E	0.945
Henry Ford Avenue and Anaheim Street	D	0.812	F	1.150	D	0.814	F	1.154	-----	-----	-----	-----
Harbor Boulevard and SR-47 WB On-Ramp (a)	A	0.454	B	0.641	A	0.468	B	0.663	-----	-----	-----	-----
Harbor Boulevard and Swinford Street/SR-47 Ramps	E	0.917	F	1.263	E	0.919	F	1.265	-----	-----	-----	-----
John S. Gibson Boulevard/I-110 NB Ramps	C	0.773	C	0.713	D	0.840	D	0.817	C	0.772	B	0.681
Figueroa Street/C Street/I-110 Ramps (b)	A	0.595	B	0.606	B	0.638	B	0.641	-----	-----	-----	-----
Pacific Avenue and Front Street	B	0.652	A	0.572	B	0.658	A	0.576	-----	-----	-----	-----
Fries Avenue and Harry Bridges Boulevard	E	0.973	E	0.945	F	1.250	F	1.032	C	0.886	D	0.824
Neptune Avenue and Harry Bridges Boulevard	A	0.440	A	0.575	A	0.467	B	0.608	-----	-----	-----	-----
ICTF Driveway #1/Sepulveda Boulevard	A	0.360	B	0.601	A	0.365	B	0.610	-----	-----	-----	-----
ICTF Driveway #2/Sepulveda Boulevard	A	0.398	A	0.444	A	0.404	A	0.453	-----	-----	-----	-----
Santa Fe Avenue and Anaheim Street	A	0.477	B	0.665	A	0.479	B	0.667	-----	-----	-----	-----
John S. Gibson Boulevard/Channel Street	C	0.749	D	0.869	C	0.749	D	0.869	-----	-----	-----	-----
Broad Avenue/Harry Bridges Boulevard	A	0.404	B	0.638	A	0.492	D	0.869	A	0.395	A	0.495
Navy Way/Seaside Avenue	F	1.007	F	1.068	F	1.015	F	1.081	D	0.873	F	1.001

Notes:

(a) Signalized intersection in the future due to Harbor Boulevard Interchange Improvement

(b) Signalized intersection in the future due to C Street Interchange Improvement, future analyses assume new intersection of John S. Gibson Boulevard/Harry Bridges Boulevard/Figueroa Street/I-110 ramps per current design plans

*City of Los Angeles signalized intersections were analyzed using Critical Movement Analysis (CMA) methodology. Unsignalized intersections were analyzed using the Highway Capacity Manual methodology, which is based on estimated vehicle delay.

MM TRANS 4: ***Fries Avenue and Harry Bridges Boulevard*** **– Provide an additional westbound through-lane on Harry Bridges Boulevard. Provide an additional northbound, eastbound, and westbound right-turn lane on Fries Avenue and Harry Bridges Boulevard. This measure shall be implemented by 2015.**

MM TRANS 5: ***Broad Avenue and Harry Bridges Boulevard*** **– Provide an additional eastbound and westbound left-turn lane on Harry Bridges Boulevard. This measure shall be implemented by 2015.**

MM TRANS 6: ***Navy Way and Seaside Avenue*** **– Provide an additional eastbound through-lane on Seaside Avenue. Reconfigure the westbound approach to one left-turn lane and three through-lanes. This measure shall be implemented by 2030.**

Residual Impact

With implementation of the above mitigation measures, the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative traffic impact.

NEPA Impact Determination

Table 4-14 summarizes the TEU throughput for the NEPA baseline and proposed Project along with the assumed operating parameters that were used to develop the trip generation forecasts. The net increase in truck trip generation includes the increased percent of cargo moved via the expanded on-dock rail facilities. Tables 4-15, 4-16, 4-17, and 4-18 summarize the NEPA baseline and Project intersection operating conditions at each study intersection for the 2005, 2015, 2030, and 2045 scenarios, respectively.

The proposed Project measured against the NEPA baseline would result in adverse impacts based on the City of Los Angeles impact criteria. The level of impact would be similar or compared to the CEQA baseline. Six intersections would be adversely impacted based on comparison to the NEPA baseline, as follows:

+ 2015 – Avalon Boulevard and Harry Bridges Boulevard – (p.m. peak hour)
  Alameda Street and Anaheim Street – (a.m. peak hour)
  John S. Gibson Boulevard and I-110 NB Ramps – (p.m. peak hour)
  Fries Avenue and Harry Bridges Boulevard – (a.m. and p.m. peak hours)
  Broad Avenue and Harry Bridges Boulevard – (p.m. peak hour)
+ 2030 – Avalon Boulevard and Harry Bridges Boulevard – (p.m. peak hour)
  Alameda Street and Anaheim Street – (a.m. and p.m. peak hours)
  John S. Gibson Boulevard and I-110 NB Ramps – (a.m. and p.m. peak hours)
  Fries Avenue and Harry Bridges Boulevard – (a.m. and p.m. peak hours)
  Navy Way and Seaside Avenue – (p.m. peak hour)
+ 2045 – Avalon Boulevard and Harry Bridges Boulevard – (p.m. peak hour)
  Alameda Street and Anaheim Street – (a.m. and p.m. peak hours)
  John S. Gibson Boulevard and I-110 NB Ramps – (a.m. and p.m. peak hours)
  Fries Avenue and Harry Bridges Boulevard – (a.m. and p.m. peak hours)
  Broad Avenue and Harry Bridges Boulevard – (p.m. peak hour)
  Navy Way and Seaside Avenue – (p.m. peak hour)

Table 4-14. Trip Generation Analysis Assumptions and Input Data for Berths 97-109 Terminal

	NEPA Baseline				Proposed Project			
Berths 97-109	2005	2015	2030	2045	2005	2015	2030	2045
Gross Acres	72	117	117	117	72	142	142	142
Resultant TEUs (annual)	403,200	631,800	632,500	632,500	403,200	1,164,400	1,551,100	1,551,100
Peak Month Factor	0.091	0.091	0.083	0.083	0.091	0.091	0.083	0.083
Monthly TEUs	36,691	57,498	52,498	52,498	36,691	105,960	128,741	128,741
Key Trip Generation Model Input Factors								
Shift Split (%) (day/2nd/night)	80/10/10	80/10/10	60/20/20	60/20/20	80/10/10	80/10/10	60/20/20	60/20/20
On-Dock Rail %	20%	28%	28%	28%	20%	12%	17%	17%
% Double Cycle Trucks	35%	35%	45%	45%	35%	35%	45%	45%
Percentage of Weekly Gate Traffic Allocated to Weekend	15%	15%	15%	15%	15%	15%	15%	15%
Trip Generation Results – a.m. Peak								
Project Added Auto Trips	-----	-----	-----	-----	43	133	121	121
Project Added Truck Trips	-----	-----	-----	-----	78	240	277	277
Project Added Total Trips	-----	-----	-----	-----	121	373	398	398
Trip Generation Results – p.m. Peak								
Project Added Auto Trips	-----	-----	-----	-----	58	181	164	164
Project Added Truck Trips	-----	-----	-----	-----	111	342	295	295
Project Added Total Trips	-----	-----	-----	-----	169	523	459	459
Note: The trips generated for the Project represent incremental increases relative to the NEPA baseline.								

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Table 4-15. 2005 Intersection Level of Service Analysis – Proposed Project vs. NEPA Baseline

Study Intersection	2005 – NEPA (No Federal Action)				Year 2005 with Project				Change in V/C		Adverse Impacts
	a.m. Peak Hour		p.m. Peak Hour		a.m. Peak Hour		p.m. Peak Hour				
	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	a.m.	p.m.	
Figueroa Street/Harry Bridges Boulevard	A	0.496	A	0.559	A	0.502	A	0.574	0.006	0.015	No
Avalon Boulevard and Harry Bridges Boulevard	A	0.413	A	0.493	A	0.426	A	0.508	0.013	0.015	No
Alameda Street and Anaheim Street	B	0.631	B	0.626	B	0.643	B	0.635	0.012	0.009	No
Henry Ford Avenue and Anaheim Street	A	0.479	B	0.675	A	0.479	B	0.677	0.000	0.002	No
Harbor Boulevard and SR-47 WB On-Ramp (a)	A	9.7	B	11.9	A	9.8	B	12.8	0.1	0.9	No
Harbor Boulevard and Swinford Street/SR-47 Ramps	D	0.882	F	1.135	D	0.885	F	1.144	0.003	0.009	No
John S. Gibson Boulevard/I-110 NB Ramps	A	0.548	A	0.531	A	0.563	A	0.557	0.015	0.026	No
Figueroa Street/C Street/I-110 Ramps (b)	D	31.3	F	59.5	D	32.7	F	63.2	1.4	3.7	No
Pacific Avenue and Front Street	A	0.505	A	0.445	A	0.515	A	0.456	0.010	0.011	No
Fries Avenue and Harry Bridges Boulevard	A	0.361	A	0.462	A	0.374	A	0.506	0.013	0.044	No
Neptune Avenue and Harry Bridges Boulevard	A	0.260	A	0.350	A	0.274	A	0.365	0.014	0.015	No
ICTF Driveway #1/Sepulveda Boulevard	A	0.316	A	0.548	A	0.316	A	0.552	0.000	0.004	No
ICTF Driveway #2/Sepulveda Boulevard	A	0.357	A	0.406	A	0.358	A	0.409	0.001	0.003	No
Santa Fe Avenue and Anaheim Street	A	0.362	A	0.508	A	0.362	A	0.509	0.000	0.001	No
John S. Gibson Boulevard/Channel Street	A	0.536	B	0.625	A	0.536	B	0.625	0.000	0.000	No
Broad Avenue/Harry Bridges Boulevard	A	0.306	A	0.460	A	0.319	A	0.471	0.013	0.011	No
Navy Way/Seaside Avenue	A	0.528	A	0.588	A	0.529	A	0.593	0.001	0.005	No

Note: Unless indicated by an (a) or (b), all intersections are signalized.

(a) unsignalized intersection

(b) all-way stop-controlled intersection

*City of Los Angeles intersections were analyzed using Critical Movement Analysis (CMA) methodology. Unsignalized intersections were analyzed using the Highway Capacity Manual methodology, which is based on estimated vehicle delay.

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Table 4-16. 2015 Intersection Level of Service Analysis – Proposed Project vs. NEPA Baseline

Study Intersection	2015 – NEPA (No Federal Action)				Year 2015 with Project				Change in V/C		Adverse Impacts
	a.m. Peak Hour		p.m. Peak Hour		a.m. Peak Hour		p.m. Peak Hour				
	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	a.m.	p.m.	
Figueroa Street/Harry Bridges Boulevard (b)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	No
Avalon Boulevard and Harry Bridges Boulevard	A	0.485	A	0.569	A	0.529	C	0.746	0.044	0.177	p.m.
Alameda Street and Anaheim Street	C	0.767	C	0.760	D	0.804	C	0.788	0.037	0.028	a.m.
Henry Ford Avenue and Anaheim Street	A	0.582	D	0.821	A	0.583	D	0.825	0.001	0.004	No
Harbor Boulevard and SR-47 WB On-Ramp (a)	A	0.329	A	0.433	A	0.337	A	0.457	0.008	0.024	No
Harbor Boulevard and Swinford Street/SR-47 Ramps	B	0.688	D	0.868	B	0.690	D	0.870	0.002	0.002	No
John S. Gibson Boulevard/I-110 NB Ramps	A	0.595	B	0.611	B	0.631	C	0.728	0.036	0.117	p.m.
Figueroa Street/C Street/I-110 Ramps (b)	A	0.478	A	0.481	A	0.523	A	0.517	0.045	0.036	No
Pacific Avenue and Front Street	A	0.538	A	0.472	A	0.544	A	0.477	0.006	0.005	No
Fries Avenue and Harry Bridges Boulevard	D	0.809	C	0.788	D	0.852	D	0.868	0.043	0.080	a.m., p.m.
Neptune Avenue and Harry Bridges Boulevard	A	0.360	A	0.422	A	0.376	A	0.517	0.016	0.095	No
ICTF Driveway #1/Sepulveda Boulevard	A	0.316	A	0.551	A	0.319	A	0.560	0.003	0.009	No
ICTF Driveway #2/Sepulveda Boulevard	A	0.358	A	0.408	A	0.360	A	0.418	0.002	0.010	No
Santa Fe Avenue and Anaheim Street	A	0.390	A	0.548	A	0.391	A	0.550	0.001	0.002	No
John S. Gibson Boulevard/Channel Street	A	0.590	B	0.691	A	0.591	B	0.692	0.001	0.001	No
Broad Avenue/Harry Bridges Boulevard	A	0.350	A	0.526	A	0.390	C	0.781	0.040	0.255	p.m.
Navy Way/Seaside Avenue	B	0.687	C	0.748	B	0.691	C	0.762	0.004	0.014	No

Notes:

(a) Signalized intersection in the future due to Harbor Boulevard Interchange Improvement

(b) Signalized intersection in the future due to C Street Interchange Improvement, future analyses assume new intersection of John S. Gibson Boulevard/Harry Bridges Boulevard/Figueroa Street/I-110 ramps per current design plans

*City of Los Angeles signalized intersections were analyzed using Critical Movement Analysis (CMA) methodology. Unsignalized intersections were analyzed using the Highway Capacity Manual methodology that is based on estimated vehicle delay.

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Table 4-17. 2030 Intersection Level of Service Analysis – Proposed Project vs. NEPA Baseline

Study Intersection	2030 – NEPA (No Federal Action)				Year 2030 with Project				Change in V/C		Adverse Impacts
	a.m. Peak Hour		p.m. Peak Hour		a.m. Peak Hour		p.m. Peak Hour				
	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	a.m.	p.m.	
Figueroa Street/Harry Bridges Boulevard (b)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	No
Avalon Boulevard and Harry Bridges Boulevard	A	0.570	B	0.603	B	0.607	C	0.780	0.037	0.177	p.m.
Alameda Street and Anaheim Street	E	0.963	E	0.927	E	0.981	E	0.952	0.018	0.025	a.m., p.m.
Henry Ford Avenue and Anaheim Street	C	0.740	F	1.034	C	0.742	F	1.037	0.002	0.003	No
Harbor Boulevard and SR-47 WB On-Ramp (a)	A	0.388	A	0.547	A	0.402	A	0.569	0.014	0.022	No
Harbor Boulevard and Swinford Street/SR-47 Ramps	D	0.807	F	1.113	D	0.809	F	1.115	0.002	0.002	No
John S. Gibson Boulevard/I-110 NB Ramps	B	0.671	B	0.634	C	0.738	C	0.738	0.067	0.104	a.m., p.m.
Figueroa Street/C Street/I-110 Ramps (b)	A	0.525	A	0.531	A	0.564	A	0.563	0.039	0.032	No
Pacific Avenue and Front Street	A	0.593	A	0.521	A	0.599	A	0.525	0.006	0.004	No
Fries Avenue and Harry Bridges Boulevard	E	0.904	D	0.837	E	0.942	D	0.880	0.038	0.043	a.m., p.m.
Neptune Avenue and Harry Bridges Boulevard	A	0.406	A	0.460	A	0.433	A	0.562	0.027	0.102	No
ICTF Driveway #1/Sepulveda Boulevard	A	0.321	A	0.547	A	0.327	A	0.555	0.006	0.008	No
ICTF Driveway #2/Sepulveda Boulevard	A	0.363	A	0.404	A	0.368	A	0.413	0.005	0.009	No
Santa Fe Avenue and Anaheim Street	A	0.435	B	0.606	A	0.437	B	0.607	0.002	0.001	No
John S. Gibson Boulevard/Channel Street	B	0.654	C	0.765	B	0.655	C	0.766	0.001	0.001	No
Broad Avenue/Harry Bridges Boulevard	A	0.376	A	0.585	A	0.411	B	0.615	0.035	0.030	No
Navy Way/Seaside Avenue	E	0.910	E	0.970	E	0.918	E	0.983	0.008	0.013	p.m.

Notes:

(a) Signalized intersection in the future due to Harbor Boulevard Interchange Improvement

(b) Signalized intersection in the future due to C Street Interchange Improvement, future analyses assume new intersection of John S. Gibson Boulevard/Harry Bridges Boulevard/Figueroa Street/I-110 ramps per current design plans

*City of Los Angeles signalized intersections were analyzed using Critical Movement Analysis (CMA) methodology. Unsignalized intersections were analyzed using the Highway Capacity Manual methodology that is based on estimated vehicle delay.

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Table 4-18. 2045 Intersection Level of Service Analysis – Proposed Project vs. NEPA Baseline

Study Intersection	2045 – NEPA (No Federal Action)				Year 2045 with Project				Change in V/C		Adverse Impacts
	a.m. Peak Hour		p.m. Peak Hour		a.m. Peak Hour		p.m. Peak Hour				
	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	a.m.	p.m.	
Figueroa Street/Harry Bridges Boulevard (b)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	No
Avalon Boulevard and Harry Bridges Boulevard	B	0.614	C	0.776	B	0.651	D	0.833	0.037	0.057	p.m.
Alameda Street and Anaheim Street	F	1.091	F	1.053	F	1.109	F	1.078	0.018	0.025	a.m., p.m.
Henry Ford Avenue and Anaheim Street	D	0.812	F	1.150	D	0.814	F	1.154	0.002	0.004	No
Harbor Boulevard and SR-47 WB On-Ramp (a)	A	0.454	B	0.641	A	0.468	B	0.663	0.014	0.022	No
Harbor Boulevard and Swinford Street/SR-47 Ramps	E	0.917	F	1.263	E	0.919	F	1.265	0.002	0.002	No
John S. Gibson Boulevard/I-110 NB Ramps	C	0.773	C	0.713	D	0.840	D	0.817	0.067	0.104	a.m., p.m.
Figueroa Street/C Street/I-110 Ramps (b)	A	0.595	B	0.606	B	0.638	B	0.641	0.043	0.035	No
Pacific Avenue and Front Street	B	0.652	A	0.572	B	0.658	A	0.576	0.006	0.004	No
Fries Avenue and Harry Bridges Boulevard	E	0.973	E	0.945	F	1.250	F	1.032	0.277	0.087	a.m., p.m.
Neptune Avenue and Harry Bridges Boulevard	A	0.440	A	0.575	A	0.467	B	0.608	0.027	0.033	No
ICTF Driveway #1/Sepulveda Boulevard	A	0.360	B	0.601	A	0.365	B	0.610	0.005	0.009	No
ICTF Driveway #2/Sepulveda Boulevard	A	0.398	A	0.444	A	0.404	A	0.453	0.006	0.009	No
Santa Fe Avenue and Anaheim Street	A	0.477	B	0.665	A	0.479	B	0.667	0.002	0.002	No
John S. Gibson Boulevard/Channel Street	C	0.749	D	0.869	C	0.749	D	0.869	0.000	0.000	No
Broad Avenue/Harry Bridges Boulevard	A	0.404	B	0.638	A	0.492	D	0.869	0.088	0.231	p.m.
Navy Way/Seaside Avenue	F	1.007	F	1.068	F	1.015	F	1.081	0.008	0.013	p.m.

Notes:

(a) Signalized intersection in the future due to Harbor Boulevard Interchange Improvement

(b) Signalized intersection in the future due to C Street Interchange Improvement, future analyses assume new intersection of John S. Gibson Boulevard/Harry Bridges Boulevard/Figueroa Street/I-110 ramps per current design plans

*City of Los Angeles signalized intersections were analyzed using Critical Movement Analysis (CMA) methodology. Unsignalized intersections were analyzed using the Highway Capacity Manual methodology that is based on estimated vehicle delay.

Therefore, operation of the proposed Project would make a cumulatively considerable contribution to the significant cumulative impact under NEPA.

Mitigation Measures

MM TRANS 1, MM TRANS 2, MM TRANS 3, MM TRANS 5, MM TRANS 5, and **MM TRANS 6** would apply to the NEPA proposed Project impact determination.

Residual Impact

With implementation of the above mitigation measures, the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative traffic impact under NEPA.

Contribution of the Alternatives

Operation of Alternatives 3, 4, 5, 6, and 7 would result in significant project-level impacts and would also contribute to the increased congestion at intersections near the project site. As a consequence, operations under Alternatives 3, 4, 5, 6, and 7 would make a cumulatively considerable contribution to a significant cumulative traffic impact. Alternatives 1 and 2 would not result in new trip generation and would therefore not make a cumulatively considerable contribution to a significant cumulative traffic impact.

Mitigation Measures and Residual Cumulative Impacts

Implementation of Mitigation Measures **MM TRANS -1** through **MM TRANS –6** would mitigate the cumulative traffic impacts of the proposed Project and Alternatives 3 through 6 to less than significant for both CEQA and NEPA.

Alternative 7 would also require implementation of **MM TRANS 7** through **MM TRANS 14**; however, even with implementation of mitigation, Alternative 7 would result in significant traffic impacts. As a consequence, Alternative 7 makes a cumulatively considerable contribution to a significant cumulative traffic impact after mitigation.

4.2.6.4 Cumulative Impact TRANS-3: Public Transit Use – Less than Cumulatively Considerable (Except Alternative 7)

Cumulative Impact TRANS-3 represents the potential of the proposed Project along with other cumulative projects to result in a significant increase in related public transit use.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The past projects have contributed to the current transit baseline, and the present and future projects would result in additional transit demand due to employees, the increase in work-related trips, and increases in school and shopping related transit trips. Cumulatively, the projects combined could result in an increase in demand for transit that would exceed transit supply. The local and regional transit providers (METRO, DASH, Long Beach Transit, etc.) continually monitor cumulative transit demand and enhance or adjust services to meet demand, based on available funding. Section 3.6.3.3.1.2 describes the transit impact assessment for the project.

Contribution of the Proposed Project (Prior to Mitigation)

An increase in onsite employees due to the Berths 97-109 proposed Project presented in Section 3.6.3.3.1.2 would result in less than cumulatively considerable contribution to related public transit use, as described below.

Although the proposed Project would result in additional onsite employees, the increase in work-related trips using public transit would be negligible. Port terminals generate extremely low transit demand for several reasons. The primary reason that Port workers do not use public transit is that many terminal workers must first report to union halls for dispatch before proceeding to the terminal to which they have been assigned. Most workers prefer to use a personal automobile to facilitate this disjointed travel pattern. In addition, Port workers live throughout the Southern California region and do not have access to the few bus routes that serve the Port. Additionally, Port workers' incomes are generally higher than similarly skilled jobs in other areas and higher incomes correlates to lower transit usage (Pucher and Renne, 2003). Finally, parking at the Port is readily available and free, which encourages workers to drive to work. Therefore, it is expected that less than 10 work trips per day would be made on public transit, which could easily be accommodated by existing bus transit services and would not result in a demand for transit services. Observations of transit usage in the area for bus routes that serve the proposed Project area (MTA routes 446 and 447) revealed that the buses are currently not operating near capacity and would be able to accommodate this level of increase in demand without exceeding supply. There are no other cumulative projects that are expected to generate increased demand for transit services along the same transit routes serving the proposed Project. Consequently, the impact of the proposed Project will not result in a cumulatively considerable contribution to a significant cumulative impact under CEQA or NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 6 would not result in a cumulatively considerable contribution to a significant cumulative impact to public transit use. Alternative 7 would result in a significant unavoidable impact to public transit use, and as a result, Alternative 7 would result in a cumulatively considerable contribution to a significant public transit impact.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required for the proposed Project or Alternatives 3 through 6 because none would make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA. For Alternative 7, no mitigation is available, and Alternative 7 would result in a cumulatively considerable residual contribution to a significant public transit impact.

4.2.6.5 Cumulative Impact TRANS-4: Freeway Congestion – Cumulatively Considerable and Unavoidable

Cumulative Impact TRANS-4 represents the potential of the proposed Project along with other cumulative projects to result in a significant increase in freeway congestion.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Freeway traffic levels have continued to increase in and near the study area due to development activity in San Pedro, Wilmington, Harbor City, and the Southern California region as a whole. Not only has local development resulted in additional freeway traffic on I-110 and SR-47, but also regional increases in traffic have resulted in increased diversion of traffic from other congested facilities such as I-405 to the freeways near the project study area. Historically, traffic volumes on all nearby freeways have increased over the past decade. The cumulative projects would be expected to result in significant impacts on the freeway system in the future as well. The cumulative projects will add traffic to the freeways, some of which are already operating at level of service F, which exceeds the State of California Congestion Management Program (CMP) threshold for acceptable operating conditions. Regional improvements are programmed through the Regional Transportation Plan (RTP) and the State Transportation Improvement Program (STIP). The projects that are programmed are intended to mitigate the impacts of cumulative and regional traffic growth, but the extent to which they will mitigate future cumulative impacts on the freeway system within the study area is unknown.

Contribution of the Proposed Project (Prior to Mitigation)

Project-related traffic due to the Berths 97-109 proposed Project presented in Section 3.6.3.3.1.2 would result in a less than cumulatively considerable contribution to freeway congestion.

According to the CMP, Traffic Impact Analysis (TIA) Guidelines (Los Angeles Metropolitan Transportation Authority 2004 Congestion Management program for Los Angeles County), a traffic impact analysis is required at the following:

+ CMP arterial monitoring intersections, including freeway on-ramp or off-ramp, where the proposed Project would add 50 or more trips during either the a.m. or the p.m. weekday peak hours.

+ CMP freeway monitoring locations where the proposed Project would add 150 or more trips during either the a.m. or the p.m. weekday peak hours.

Per CMP guidelines, an increase of 0.02 or more in the V/C ratio with a resulting LOS F is deemed a significant impact.

The closest CMP arterial monitoring station to the proposed Project is Alameda Street/ Pacific Coast Highway (PCH). The proposed Project would add 87 and 94 additional trips to the a.m. and p.m. peak hours respectively through this intersection in the 2030 and 2045 scenarios, therefore, CMP system analysis is required at this location. This intersection was recently improved as part of the Alameda Corridor Project, and the north-south through movements are grade separated. Since most proposed Project traffic at this location is north-south oriented, the proposed Project traffic would be on the newly grade separated portion of the intersection. O Street is the connector between PCH and Alameda Street. Thus, the analyzed intersection is O Street/Alameda Street. The analysis results indicate that the proposed Project would not result in more than a 0.02-increase in the V/C ratio at this location; therefore, there is no CMP system impact. The results of the CMP arterial analysis are shown in Appendix F.

The closest freeway monitoring stations are located at I-110 at C Street and I-710 at Willow Street. The results of the analysis indicate that the proposed Project would result in 170 and 191 additional proposed Project trips for the a.m. and p.m. peak hours

respectively at I-110. The C Street CMP system analysis, therefore, is required at this location. The analysis results indicate that this intersection operates at LOS F for the p.m. peak hour in 2045. However, the V/C ratio would only increase by 0.011, below the 0.02 threshold according to the CMP guidelines. Therefore, there would be less than significant impacts at this location.

The results of the analysis indicate that the proposed Project would result in 34 and 39 additional proposed Project trips for the a.m. and p.m. peak hours respectively at I-710 and Willow Street; therefore, CMP system analysis is not required at this location. The results of the CMP freeway analysis are shown in Appendix F.

However, as discussed above, the cumulative projects (including other Port terminal and non-Port projects) would add traffic to the freeway system and at the CMP monitoring stations. The cumulative traffic would exceed the CMP thresholds and increase V/C ratios by more than 0.02 at the monitoring stations, thus creating significant cumulative impact. Although the proposed Project's trips would not constitute a significant project-level impact, the proposed Project's trips would nonetheless contribute to the total traffic on the freeway system; therefore, the proposed Project would make a cumulatively considerable contribution to the significant cumulative impact under CEQA or NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 3 through 7 would result in a cumulatively considerable contribution to a significant cumulative impact related to freeway congestion. Alternatives 1 and 2 would not result in a cumulatively considerable contribution to a significant cumulative impact related to freeway congestion because these alternatives would not result in trip generation.

Mitigation Measures and Residual Cumulative Impacts

There are no feasible mitigation measures available. The proposed Project and Alternatives 3 through 7 will make a cumulatively considerable contribution to the significant cumulative impact.

4.2.6.6 Cumulative Impact TRANS-5: Traffic Delay Due to Increase in Rail Activity – Cumulatively Considerable and Unavoidable

Cumulative Impact TRANS-5 represents the potential of the proposed Project along with other cumulative projects to cause an increase in rail activity, causing delay in traffic.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The only at-grade crossings potentially affected by the proposed Project are at Avalon Boulevard and Henry Ford Avenue. The grade crossing at Fries Avenue would be eliminated as part of the South Wilmington Grade Separation project (#24 in Table 4-1). Impacts from the proposed Project along with other cumulative projects on the regional rail corridors north of the proposed Project site would not be significant since the Alameda Corridor project has been completed. The completion of the corridor has eliminated the regional at-grade rail/highway crossings between the Port and the downtown rail yards; therefore, there would be no change in vehicular delay at any of those crossings due to proposed Project-related rail activity (they are now all grade

separated). Significant cumulative impacts would occur at Avalon Boulevard and Henry Ford Avenue crossings. Cumulatively, there would also be a significant impact on the at-grade rail crossings east of downtown Los Angeles. This cumulative impact would be due to the overall growth in rail activity that would occur to serve the added cargo throughput in the Southern California region and the nation.

Contribution of the Proposed Project (Prior to Mitigation)

An increase in rail activity due to the Berths 97-109 proposed Project would result in additional delay in regional traffic and would make a cumulatively considerable contribution to cumulatively significant impacts at both the Henry Ford Avenue and Avalon Boulevard crossings.

Rail activity causes delay at at-grade crossings where the trains pass and cause auto and truck traffic to stop. The amount of delay is related to the length of the train, the speed of the train and the amount of auto and truck traffic that is blocked. The proposed Project would cause an increase in either the number of trains or the amount of auto and truck traffic; however, the increase in auto and truck traffic would only affect some of the at-grade crossings. In the case of this proposed Project, the affected at-grade crossings are at Avalon Boulevard and Henry Ford Avenue. The grade crossing at Fries Avenue would be eliminated as part of the South Wilmington Grade Separation project.

The proposed Project would not have any significant impact on regional rail corridors north of the proposed Project site since the Alameda Corridor project has been completed. The completion of the corridor has eliminated the regional at-grade rail/highway crossings between the Port and the downtown rail yards; therefore, there would be no change in vehicular delay at any of those crossings due to Project-related rail activity (they are now all grade separated).

The Project will not cause significant rail related impacts on lines that lead north or east of the downtown rail yards. Rail trips are not controlled by the Port. Currently, the unit trains built at the on-dock and near dock facilities can be picked up by BNSF and/or UP. Both rail companies use the Alameda Corridor to travel to the downtown rail yards. To the east of the downtown rail yards, some of the trains are broken down, reconfigured and otherwise modified at the location of the downtown rail yards from that point to the east. Other trains remain unit trains through the downtown rail yard; there are approximately nine major routes with a number of subroutes that the trains can take to leave the State. The rail operators, and not the Port, make the choice of what routes the trains will take, the day they will move and the time of day the trains will move. Furthermore, the rail mainline tracks were designed and built to accommodate the anticipated rail activity in the region. Rail volumes on the mainline are controlled and limited by the capacity of the mainline itself, thus by definition the project's trains could not traverse the mainline unless it still has remaining capacity. The number of trains generated by the project would not cause the mainline rail tracks to exceed the regional capacity. Once the regional mainline rail track capacity would be exceeded due to increases in regional rail activity, separate environmental studies on the mainline expansion would be undertaken by the rail companies, not by each shipper or carrier generating rail volumes.

Thus, rail related impacts due to the proposed Project are limited to the at-grade crossings that are located south of the downtown rail yards, and are focused on the at-grade crossings on local lines in and near the Port.

Between the proposed Project rail yards and the beginning of the corridor, there are two local grade crossings (Avalon Boulevard and Henry Ford Avenue). The rail impact

analysis is based on peak hour vehicle delay at those two affected rail crossings. Although proposed Project operations alone would not result in an additional train during the peak hour on a regular basis, it is possible that the cumulative development of the West Basin (Berths 97-109, Berths 121-131, Berth 136-147) may together result in an added train during the peak hour. Therefore, it is assumed that one additional train would occur during the peak hour. This is a very conservative analysis methodology since the proposed Project itself would not regularly result in a full train added during the peak hour.

An additional train would result in additional vehicle delay at the two crossing locations. Vehicular traffic must stop at these crossings and wait while the trains pass by, and the duration of the traffic delay is dependent upon the speed and length of the train. For example, a typical train in the Port is a 28-car train, is approximately 8,760 feet long, and travels at an average speed of about 14 km per hour (9 miles per hour) outside the port. Assuming that the automatic gates at each crossing would close 28 seconds prior to the arrival of a train and that they would open 8 seconds after the train clears the crossing, each train passage would block a given street for 11.7 minutes. These assumptions are based on typical train lengths and speeds that occur in the Port.

The severity of impact created by a train blockage depends upon the time of day that the blockage occurs and, correspondingly, the volume of traffic that is affected by the blockage. For example, if a blockage occurs during the peak periods of traffic flow, the resulting delays and the number of stopped vehicles would be greater than if the blockage occurred at a non-peak time. Also, the total amount of delay would be greater at locations with high traffic volumes as compared to low-volume locations because the train crossing would stop more vehicles

For this analysis, the following formula has been used to determine the amount of delay at each crossing for each train passage.

$$Delay = \left(\frac{Tb^2 \times q \times nl}{2 \times 60 \times \left(1 - \frac{q}{25}\right)} \right) \times f$$

Where:

- Tb = gate blockage time in minutes
- q = average arrival rate in vehicles per minute per lane
- f = train frequency in trains per hour
- nl = number of lanes

This formula has been applied to the two "public" railroad crossings between the proposed Project and beginning of the corridor (crossings internal to port terminals that do not serve public roadways are not assessed in this study). Since the average arrival rate for vehicles is dependent upon the time of day that the train movement occurs, it has been assumed that the train movements occur throughout the 24-hour day and that the probability of a blockage during any particular hour is 1:24, which represents an even distribution of train movements. For the peak hour, one train is assumed, which is a conservative assumption since there would not be a train on many days during the peak hour.

Total traffic delays at each individual grade crossing were computed for the a.m. and p.m. peak hours. This is the worst case, since many train movements would occur outside the peak hours. There are no adopted or standard guidelines for determining whether an impact due to rail blockage of a roadway is significant. In the case of the proposed Project, the two at-grade crossings are located on relatively low-volume minor arterial roadways, which serve primarily port traffic.

Table 4-19 summarizes the vehicle delay that is anticipated at the crossings due to the proposed Project rail activity during the peak hours. As shown, the delay calculations were performed at crossings at Avalon Boulevard and Henry Ford Avenue. The results indicate that the added average vehicle delay would range up to a maximum of 97 seconds per vehicle at Henry Ford Avenue with the proposed Project. Average vehicle delay is the average of all vehicles at the crossing during the assessed timer period. Thus, some vehicles will not experience any delay since they will arrive just as the gate is rising and some will experience more delay if they arrive just as the gate if coming down at the beginning of the crossing. The average represents all vehicles at the crossing during the time the train passes and the gate is going down, is down and is rising back up. Also, other port terminal projects, including the Berth 136-147 Terminal project, would further increase delay at the grade crossings. Based on the threshold of significance of 55 seconds of average vehicle delay, the proposed Project would make a cumulatively considerable and unavoidable contribution to the significant cumulative impact.

Table 4-19. Rail Crossing Vehicle Delay Due to Proposed Project

a.m. Peak Hour				
	Average Delay per Vehicle (sec/veh)			
Rail Crossing	Year 2005	Year 2015	Year 2030	Year 2045
1. Avalon Boulevard (With Project)	71	72	72	72
2. Henry Ford Avenue (With Project)	79	82	86	88
p.m. Peak Hour				
	Average Delay per Vehicle (sec/veh)			
Rail Crossing	Year 2005	Year 2015	Year 2030	Year 2045
1. Avalon Boulevard (With Project)	74	74	75	75
2. Henry Ford Avenue (With Project)	82	86	93	97

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 3-5 would result in a cumulatively considerable contribution to a significant cumulative impact to rail crossing delays. Alternatives 1, 2, 6, and 7 would not result in additional train trips that could cause delays at these rail crossing; therefore, these alternatives would not result in a cumulatively considerable contribution to a significant impact related to rail crossing delays.

Mitigation Measures and Residual Cumulative Impacts

The proposed Project and Alternatives 3 through 5 will make a cumulatively considerable and unavoidable contribution to the significant cumulative impact at the Henry Ford Avenue and Avalon Boulevard grade crossings resulting from contributions to rail traffic.

4.2.7 Groundwater and Soils

4.2.7.1 Scope of Analysis

The geographic scope for cumulative impacts on groundwater and soils varies, depending on the impact. The geographic scope with respect to contaminated soils would be confined to the proposed Project area because these impacts are site-specific and relate primarily to potential exposure of contaminants to onsite personnel during construction, or to onsite personnel. There is no geographic scope with respect to change in potable water levels and potential violation of regulatory water quality standards at an existing production well because drinking water is provided to the area where the proposed Project would be located by the City of Los Angeles Department of Water and Power. Local groundwater would not be utilized as a water source. Similarly, there is no geographic scope with respect to potential reduction in groundwater recharge because the proposed Project site is not used for groundwater recharge and groundwater in the project area is not used as a potable water supply.

With respect to CEQA, past, present, planned, and reasonably foreseeable future developments that could contribute to cumulative impacts associated with groundwater and soils are limited to projects that would result in paving and potential reduction in groundwater recharge. With respect to NEPA, there are no offsite past, present, planned, and foreseeable future development that could contribute to cumulative impacts associated with groundwater and soils. NEPA related soils impacts would be limited to potentially encountering onshore contaminated soil at the onshore/in-water interface, during excavations for wharf construction, and during construction of backlands that are not included in the NEPA baseline (e.g., 12 acres in Phase III, as described in Section 2.4.3, Federal Project); however, such impacts do not extend beyond individual project boundaries. See Section 4.2.13 with respect to potentially contaminated offshore sediments.

The cumulative area of influence is predominantly underlain by deep, unconfined potable aquifers, with an overlying shallow, perched water-bearing zone of saline, non-potable water. Spills of petroleum products and hazardous substances, due to long-term industrial land use in the area, have resulted in contamination of some onshore soils and shallow groundwater. Most of the cumulative area of influence has been disturbed in the past, may contain buried contaminated soils, and is covered in nonpermeable surfaces.

4.2.7.2 Cumulative Impact GW-1: Exposure of Soils Containing Toxic Substances and Petroleum Hydrocarbons – Less than Cumulatively Considerable

Cumulative Impact GW-1 addresses the degree to which the proposed Project, along with other cumulative projects, results in exposing soils containing toxic substances and petroleum hydrocarbons, associated with prior operations, which would be deleterious to humans. Exposure to contaminants associated with historical uses of the Port could result

in short-term effects (duration of construction) to construction workers, onsite personnel and/or long-term impacts to future site occupants.

"Hazardous materials" refers to any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released. Hazardous materials that are commonly found in soil and groundwater include petroleum products, fuel additives, heavy metals, and volatile organic compounds. Depending on the type and degree of contamination that is present in soil and groundwater, any of several governmental agencies may have jurisdiction over investigation or remediation.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The cumulative geographic scope is the same as the proposed Project site, because the effects of soil contamination are site-specific (from past uses at the site), and consist primarily of the potential to expose onsite personnel to contaminants during construction, or to onsite personnel subsequent to construction. Past projects on the site of the proposed Project site, including those discussed in Section 3.7.2.3 and summarized in Table 3.7-1, have contributed to soil contamination. As described in Section 3.7, past uses of the Project site have resulted in groundwater and soil contamination on site, and remediation activities have only partially remediated the contamination. As a consequence, contamination is still present on the site. Because the past projects have caused contamination and future projects could encounter that contamination, a significant cumulative impact would occur.

Contribution of the Proposed Project (Prior to Mitigation)

As discussed in Section 3.7.2.3 and summarized in Table 3.7-1, soil and groundwater in the Berth 97-109 backland areas have been impacted by hazardous substances and petroleum products as a result of spills and industrial and petroleum-related activities associated with historic land uses of the site. Much of he contaminated soil in these areas has been remediated, but contaminated groundwater is still present beneath the Project site.

Grading and construction (e.g., excavations for utilities and foundations) in backland areas required for the proposed Project could potentially expose construction personnel, existing operations personnel, and future occupants of the site to contaminated soil and groundwater. Human health and safety impacts would be significant pursuant to exposure levels established by the CalEPA Office of Environment Health Hazard Assessment (OEHHA). Because the construction of the proposed Project could result in health and safety impacts that are individually significant, the Project would have a cumulatively considerable contribution to this cumulatively significant impact, under both CEQA and NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 7 would result in a cumulatively considerable contribution to a significant cumulative impact related to health and safety issues for workers during construction.

Mitigation Measures and Residual Cumulative Impacts

Mitigation Measure **MM GW-1:** Site Remediation**,** would apply to the contribution of the Proposed Project. This measure, described in more detail in Section 3.7.4.3.1.1, states that unless otherwise authorized by the lead regulatory agency for any given site, the LAHD shall remediate all encountered contaminated soils at the Project site or contaminated soils/groundwater in the excavation zone prior to or during grading and excavation activities. Remediation shall occur in compliance with local, state, and federal regulations, as described in Section 3.7.3, and as directed by the Los Angeles Fire Department, DTSC, and/or RWQCB. Contamination will be remediated to below the health screening levels established by CalEPA and OEHHA.

Mitigation Measure **MM GW-2:** A Contamination Contingency Plan would be developed and implemented during construction to address previously unknown contamination that could be encountered during construction. The Plan would require monitoring and detection, removal, and disposal/remediation protocols that would be implemented if unforeseen contamination were encountered.

Implementing **MM GW-1** and **MM GW-2** would reduce health and safety impacts to onsite personnel in backland areas such that residual impacts from the proposed Project and the project alternatives would be reduced in the event of toxic substance or petroleum hydrocarbon exposure. In addition, **MM GW-1** would reduce the amount of contaminated material onsite from past projects. Implementing these mitigation measures would reduce the potential impacts such that the proposed Project and alternatives would not make a cumulatively considerable contribution to a significant cumulative impact.

4.2.7.3 Cumulative Impact GW-2: Movement of, Expansion of, or Increase in Existing Contaminants – Less than Cumulatively Considerable

Cumulative Impact GW-2 addresses the degree to which the proposed Project, along with other cumulative projects, changes the rate or direction of movement of existing contaminants; expansion of the area affected by contaminants; or increased level of groundwater contamination, which would increase the risk of harm to humans. Backlands pavement required for the proposed Project would serve as an impermeable surface layer over the Project site that would prevent runoff from percolating through contamination. In addition, potential remediation activities under **MM GW-1** and **MM GW-2** would result in the beneficial effect of removing soil contamination as a source of groundwater contamination.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The cumulative geographic scope is the same as the proposed Project site, because the effects of soil contamination are site-specific in that they relate primarily to potential exposure of contaminants to onsite personnel during construction, or to onsite personnel or recreational users, subsequent to construction. Past projects on the site of the proposed Project site, as discussed in Section 3.7.2.3 and summarized in Table 3.7-1, have been identified as the primary causes of soil and groundwater contamination on the Project site. With the exception of the proposed Project, present and reasonably foreseeable future projects would have no effect on soil contamination onsite because these projects would

not be located on the Project site. Due to the contamination that remains on the Project site, a significant cumulative impact has occurred from the past site uses.

Contribution of the Proposed Project (Prior to Mitigation)

As discussed in Section 3.7, the proposed Project is not expected to change the rate, direction, or extent of existing soil and/or groundwater contamination due to the placement of an impermeable surface layer over the project site (backlands pavement). In addition, as discussed for **Impact GW-1,** soil and groundwater in Berths 97-109, if contamination were encountered during construction, it would be remediated prior to the placement of backlands pavement. The removal of site contamination prior to backlands placement would further minimize the potential for the movement or expansion of existing contamination. Because the contribution from the proposed Project would lessen the effects of contamination movement, the proposed Project would not make a cumulatively considerable contribution to the cumulatively significant impact (from past uses) under both CEQA and NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 7 would not result in a cumulatively considerable contribution to a significant cumulative impact related to the movement or expansion of contamination.

Mitigation Measures and Residual Cumulative Impacts

The placement of an impermeable surface over the project site (backlands pavement or development of the Regional Center) would reduce the potential for existing contamination to move or migrate, compared to baseline conditions, which would keep the project from cumulatively affecting existing contamination. **MM GW-1** and **MM GW-1** could be implemented to protect worker health and safety and to establish procedures to manage unforeseen encounters with contamination during Project construction (under **Impact GW-1**), which would also have the beneficial effect of reducing the amount of existing contamination on the Project site. The proposed Project and the alternatives would not make a cumulatively considerable contribution to a significant cumulative impact.

4.2.7.4 Cumulative Impact GW-3: Change in Potable Water Levels – No Impact

Cumulative Impact GW-3 addresses the degree to which the proposed Project or the alternatives, along with other cumulative projects, results in a change in potable water levels sufficient to:

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

As described in Section 3.7, the groundwater beneath the Project site and in the Project area is saline and not suitable as a potable water supply. In addition, there are no designate groundwater recharge areas in the Port of Los Angeles or the project area that

could be affected by the related projects in Table 4-1. As such, there would be no cumulative impact to groundwater recharge. Furthermore, the proposed Project (or any of the alternatives) would not affect groundwater recharge, and therefore, would not make a considerable contribution to a significant cumulative groundwater recharge impact, under both CEQA and NEPA.

4.2.7.5 Cumulative Impact GW-4: Reduction in Potable Groundwater Recharge Capacity – No Impact

Cumulative Impact GW-4 represents the potential of the proposed Project, along with other cumulative projects, to result in a demonstrable and sustained reduction in potable groundwater recharge capacity. There are no groundwater recharge areas on the Project site or in the Project area, and only saline or otherwise non-potable groundwater underlies the coastal areas of the Los Angeles Basin. Deeper groundwater recharge occurs further inland and upstream, and is important in sustaining the aquifers used as industrial and municipal water supply outside the Port area. Although past, present and reasonably foreseeable future projects, including projects listed in Table 4-1, would likely include new and/or repaved impermeable surface areas, they would not affect any groundwater recharge areas because none are present in the Project area. Consequently, no cumulative impact to groundwater recharge would occur. Furthermore, the proposed Project (or any of the alternatives) would not affect groundwater recharge or potable water supplies, and therefore, would not make a considerable contribution to a significant cumulative groundwater recharge impact, under both CEQA and NEPA.

4.2.7.6 Cumulative Impact GW-5: Violation of Regulatory Water Quality Standards at an Existing Production Well – No Impact

Cumulative Impact GW-5 addresses the degree to which the proposed Project (or any of the alternatives), along with other cumulative projects, results in violation of regulatory water quality standards at an existing production well, as defined in the California Code of Regulations (CCR), Title 22, Division 4, Chapter 15 and in the Safe Drinking Water Act. Because no existing production wells are located in the vicinity of the proposed Project site, the proposed Project would not contribute to any cumulative potential to violate regulatory water quality standards at existing production wells, cumulative impacts would not occur and the proposed Project or any project alternative would not make a cumulatively considerable contribution to a significant cumulative impact under both CEQA and NEPA.

4.2.8 Hazards and Hazardous Materials

4.2.8.1 Scope of Analysis

The geographic scope for cumulative impacts associated with spills of hazardous materials encompasses two main areas: the West Basin area of the Port of Los Angeles, and areas within the regional cargo distribution network. The importance of regional projects diminishes with distance from the Port as potential adverse impacts diminish in magnitude with distance. Thus, past, present, and reasonably foreseeable future projects that could contribute to these cumulative impacts include those projects that transport hazardous materials near the Port.

4.2.8.2 Cumulative Impact RISK-1: Increase to Frequency or Severity of Potential Accidental Release or Explosion of a Hazardous Substance – Less than Cumulatively Considerable

Impact RISK-1, as applied to cumulative impacts, represents the potential of the proposed Project along with other cumulative projects to 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.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

During the period 1997-2004 there were 40 "hazardous material" spills directly associated with container terminals in the Ports of Los Angeles and Long Beach. This equates to approximately five spills per year for the entire port complex. During this period, the total accumulated throughput of the container terminals was 76,874,841 TEU. Therefore, the probability of a spill at a container terminal can be estimated at 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 resulting from these spills (injuries, fatalities, and evacuations), with potential consequences limited to port workers (two worker injuries that were treated at the scene and 20 workers evaluated as a precaution). The 40 spills occurred over a 7-year period, which averages approximately 5.7 spills per year. Other reasonably present and foreseeable projects in Table 4-1 would contribute to higher TEU levels, and therefore higher potential spill levels. In looking at Table 3.8-3, Risk Matrix (in Section 3.8.4.1), this cumulative spill probability qualifies the probability as "Frequent." With no injuries, fatalities, or evacuations that affected the public, and with only minor injuries to workers, the consequences of the spills would be categorized as "Slight." Based on the Risk Matrix, the cumulative risk of the past, present, and reasonably foreseeable futures projects falls into the unshaded area of the Matrix; therefore, cumulative impacts would be less than significant.

Contribution of the Proposed Project (Prior to Mitigation)

The proposed Project (and each related project in the West Basin) would be subject to applicable federal, state, and local laws and regulations governing the spill prevention, storage, use, and transport of hazardous materials, as well as emergency response to hazardous material spills, thus minimizing the potential for adverse health and safety impacts. Potential health and environmental impacts associated with container hazardous material spills are also very localized due to the relatively small sizes of individual storage containers compared to bulk facilities and would not overlap. Furthermore, construction, demolition, and operation of the proposed Project would not substantially increase the probable frequency and severity of consequences to people or property as a result of an accidental release or explosion of a hazardous substance, as analyzed in Section 3.8. Therefore, construction and operation of the proposed Project would not make a cumulative considerable contribution to a significant cumulative hazardous substances exposure risk.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 6 would not result in a cumulatively considerable contribution to a significant cumulative impact related to accidental releases or explosions. Alternative 7 would not have vessel calls and would not handle hazardous materials in containers, and would also not result in a cumulatively considerable contribution to a significant cumulative impact related to accidental releases or explosions.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required because the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA.

4.2.8.3 Cumulative Impact RISK-2: Increase in the Probable Frequency and Severity of Consequences to People from Exposure to Health Hazards – Less than Cumulatively Considerable

Impact RISK-2, as applied to cumulative impacts, represents the potential of the proposed Project along with other cumulative projects to substantially increase the probable frequency and severity of consequences to people from exposure to health hazards. In the case of the proposed Project, one of the biggest public safety hazards is associated with potential injuries and fatalities that could result from traffic accidents with project-related trucks.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

All present and reasonably foreseeable projects that would involve the handling of hazardous materials would be subject to the same BMPs as the proposed Project and would be constructed in accordance with the Los Angeles Municipal Code (Chapter 5, Section 57, Division 4 and 5; Chapter 6, Article 4). Quantities of hazardous materials that exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code would be subject to a Release Response Plan (RRP) and a Hazardous Materials Inventory (HMI). Implementation of increased inventory accountability and spill prevention controls associated with this RRP and HMI, such as limiting the types of materials stored and size of packages containing hazardous materials, would limit both the frequency and severity of potential releases of hazardous materials, thus minimizing potential health hazards and/or contamination of soil or water during construction/ demolition activities. These measures reduce the frequency and consequences of spills by requiring proper packaging for the material being shipped, limits on package size, and thus potential spill size, as well as proper response measures for the materials being handled. Implementation of these preventative measures would minimize the potential for spills to impact members of the public and limit the adverse impacts of contamination to a relatively small area. As a consequence, construction of the related projects would not result in substantial increases in the frequency or severity of hazardous materials spills, and would therefore not result in significant cumulative impacts.

Past, present, and the reasonably foreseeable future projects listed in Table 4-1 have and would continue to generate truck trips that travel throughout the Port area. According to

an FMCSA detailed analysis (FMCSA, 2001), the estimated nonhazardous materials truck accident rate (which is more than twice the hazardous materials truck accident rate) is 0.73 accidents per million vehicle miles traveled. Based on the NHTSA (DOT, 2003), of the estimated 457,000 truck crashes in 2000 (causing fatalities, injuries, or property damage), an estimated 1 percent produced fatalities and 22 percent produced injuries. The FARS and the TIFA survey were the sources of data for this analysis, which primarily examined fatalities associated with vehicle impact and trauma.

Although the related projects would result in increases in truck trips in the Port area, beyond baseline conditions, the truck trip increases are not expected to result in increases in the probable frequency and/or severity of consequences because all vehicles are subject to traffic laws and restrictions, weight and speed limits, designated truck routes, and cargo packaging and labeling requirements. The Port is currently developing a Port-wide transportation master plan (TMP) for roadways in and around its facilities. Present and future traffic improvement needs are being determined based on existing and projected traffic volumes. The results will be a TMP providing ideas on what to expect and how to prepare for future traffic volumes. Some of the transportation improvements already under consideration include: I-110/SR-47/Harbor Boulevard interchange improvements; Navy Way connector (grade separation) to westbound Seaside Avenue; south Wilmington grade separations; and additional traffic capacity analysis for the Vincent Thomas Bridge. In addition, the Port is working on several strategies to increase rail transport, which will reduce reliance on trucks. These projects would serve to reduce the frequency of truck accidents.

In addition, the Port is currently phasing out older trucks as part of the Port's Clean Truck Program. The TWIC program will also help identify and exclude truck drivers that lack the proper licensing and training. The phasing out of older trucks would reduce the probability of accidents that occur as a result of mechanical failure by approximately 10 percent (ADL, 1990). In addition, proper driver training, or more specifically, the reduction in the number of drivers that do not meet minimum training specifications, would further reduce potential accidents.

Furthermore, as part of the CAAP, the Port will be implementing measures and requirements that will result in truck fleet improvements (i.e., requiring newer trucks that meet certain EPA standards), which would have the effect of phasing out older trucks and replacing them with newer trucks. Consequently, as the truck fleet composition changes or improves over time, improvements to the accident frequencies and severity rates should also improve. Based on above and the engineering improvements to the transportation system in the Port area, the related projects would not result in a significant cumulative impact related to an increase in the probable frequency and severity of harm from truck accidents.

Contribution of the Proposed Project (Prior to Mitigation)

As explained in Section 3.8, construction/demolition activities at Berths 97-109 would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards. Because the incremental impact of the proposed Project would not be significant, and because the impacts of past, present and reasonably foreseeable future projects are expected to be short term and localized, the incremental effect from handling hazardous materials during Project construction would not represent a cumulatively considerable contribution to a significant cumulative impact.

The analysis in Section 3.8 demonstrates that operation of the proposed Project would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards and would not result in a significant impact under CEQA or NEPA. Therefore, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact on the probable frequency and severity of consequences to people.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 7 would not result in a cumulatively considerable contribution to a significant cumulative impact related to risks during construction.

Operation of Alternatives 3 through 6 would result in additional truck trips that could transport hazardous materials, but, like the proposed Project, would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards and would not result in a significant impact under CEQA or NEPA. Therefore, operation of Alternatives 3 through 6 would not make a cumulatively considerable contribution to a significant cumulative impact on the probable frequency and severity of consequences to people.

Alternatives 1 and 2 would not result in additional truck trips and, therefore, would not make a cumulatively considerable contribution to a significant cumulative impact. In addition, operation of the Regional Center under Alternative 7 would not result in substantial increases in risk and would not result in a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required because the proposed Project and any of its alternatives would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA.

4.2.8.4 Cumulative Impact RISK-3: Interference with an Existing Emergency Response or Evacuation Plan – No Impact

Impact RISK-3, as applied to cumulative impacts, represents the potential of the proposed Project along with other cumulative projects to substantially interfere with an existing emergency response or evacuation plan, thereby increasing risk of injury or death.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Virtually all of the proposed cumulative projects that would have any impact on emergency response or evacuation plans would be subject to approval by the Port of Los Angeles, Port of Long Beach, and City of Los Angeles, and would be subject to the conditional approval of these agencies. Therefore, it is not anticipated that any of these projects would be approved if there were the potential to impact applicable emergency response or evacuation plans. Consequently, the related project would not result in significant cumulative impacts related to emergency response or evacuation plans under CEQA and NEPA.

Contribution of the Proposed Project (Prior to Mitigation)

The proposed Project would develop a new container terminal at the Berth 97-109 site, including 142 acres of backlands, 2,500 feet of new wharves, and 10 A-frame cranes that would accommodate modern container terminal ships (up to 234 annual ship calls). The Berth 97-109 Container Terminal would operate as a container terminal on a designated Port site; therefore, proposed terminal operations would not interfere with any existing contingency plans. Proposed transportation system improvements (i.e., transportation system improvements listed in Table 4-1 above) would reduce vehicular traffic delays, improving emergency response in the proposed Project area. In addition, existing oil spill contingency and emergency response plans for the proposed 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.

Because the terminal would continue to be operated as a container terminal, and the proposed Project operations would be subject to emergency response and evacuation systems implemented by the Los Angeles Fire Department (LAFD), proposed Project operations would not interfere with any existing emergency response or emergency evacuation plans or increase the risk of injury or death. Therefore, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact related to emergency response and evacuation plans.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 7 would not result in a cumulatively considerable contribution to a significant cumulative impact related to emergency response or evacuation plans.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required because the proposed Project and any of its alternatives would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA.

4.2.8.5 Cumulative Impact RISK-4: Failure to Comply With Applicable Regulations and Policies Guiding Development within the Port – No Impact

Impact RISK-4, as applied to cumulative impacts, represents the potential of the proposed Project along with other cumulative projects to not comply with applicable regulations and policies guiding development within the Port.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

All projects within the Port are required to comply with applicable development regulations and policies. All projects are also required to be consistent with the Port Master Plan, or be subject to approved amendments to the Port Master Plan in order to accommodate the project. As a consequence, the related projects would not result in a significant cumulative impact under CEQA or NEPA.

Contribution of the Proposed Project (Prior to Mitigation)

The proposed Project is subject to numerous regulations for operation of the proposed facilities. LAHD has implemented various plans and programs to ensure compliance with these regulations, which must be adhered to during operation of the proposed Project. For example, as discussed in Section 3.8.3.1, List of Regulations, the U.S. Coast Guard (USCG) maintains a Hazardous Materials Standards Division, 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 LAFD in accordance with regulations of state and federal departments of transportation (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). In addition, any facility constructed in the proposed Project area, identified as either a hazardous cargo facility or a vulnerable resource, and would be required to conform to the Risk Management Plan (RMP), which includes packaging constraints and the provision of a separate storage area for hazardous cargo.

LAHD maintains compliance with these state and federal laws through a variety of methods, including internal compliance reviews, preparation of regulatory plans, and agency oversight. Most notably, the Port of Los Angeles 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 primary categories of vulnerable resources, people, and facilities. People are further divided into subgroups. The first subgroup is comprised of residences, recreational users, and visitors. Within the Port setting, residences and recreational users are considered vulnerable resources. The second subgroup is comprised of workers in high density (i.e., generally more than 10 people per acre, per employer).

Proposed Project plans and specifications will be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, as a standard practice. Buildings will be equipped with fire protection equipment as required by the Los Angeles Municipal Fire Code. Access to all buildings and adequacy of road and fire lanes will be reviewed by the LAFD to ensure that adequate access and firefighting features are provided. Proposed Project plans would include an internal circulation system, code-required features, and other firefighting design elements, as approved by the LAFD.

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

The terminal would not conflict with RMP guidelines. Proposed Project plans and specifications will be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, and operation of the proposed Project would be required to comply with all existing hazardous waste laws and regulations. The proposed Project operations would comply with applicable regulations and policies guiding development within the Port.

Based on the foregoing considerations, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA or NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 6 would not result in a cumulatively considerable contribution to a significant cumulative impact related to development regulations or guidelines.

Alternative 7 could be determined by the Port and LAFD to be a vulnerable resource (this determination is made on an individual case-by-case basis). Although Alterative 7 is not a facility that handles dangerous cargo, the intent of the RMP is to avoid overlapping hazard zones of dangerous cargo facilities with vulnerable resources. A bulk fuel terminal is located at Berths 118-120, and based on this, Alternative 7 could make a cumulatively considerable contribution to a significant cumulative impact related to encroachment of the a vulnerable resource in the risk zone for fuel terminal. Following implementation of mitigation measure **MM HAZ-1**, Alternative 7 would not make a cumulatively considerable contribution to a significant cumulative impact related to encroachment of a vulnerable resource into a risk zone.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required for the proposed Project or Alternatives 1 through 6. For Alternative 7, implementation of **MM HAZ-1** at the project level would also mitigate the potential cumulative impact under CEQA and NEPA.

4.2.8.6 Cumulative Impact RISK-5: Increased Probability of an Accidental Spill as a Result of a Tsunami – Less than Cumulatively Considerable

Impact RISK-5, as applied to cumulative impacts, represents the potential of the proposed Project along with other cumulative projects to result in an accidental spill as a result of a tsunami.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

As discussed in Section 3.5, there is the potential for a large tsunami to impact the Port. A large tsunami would likely lead to a fuel spill if a moored vessel is present. Although crude oil tankers would not moor at Berths 97-109, each ship contains large quantities of fuel oil (up to 5,000 barrels). While in transit, the hazards posed to tankers are insignificant, and in most cases, imperceptible. However, while docked, a tsunami striking the Port could cause significant ship movement and even a hull breach if the ship collides with the wharf.

The Port is subject to diurnal tides, meaning two high tides and two low tides during a 24-hour day. The average of the lowest water level during low tide periods each day is typically set as a benchmark of 0 feet and is defined as Mean Lower Low Water level (MLLW). For purposes of this discussion, all proposed Project structures and land surfaces are expressed as height above (or below) MLLW. The mean sea level (MSL) in the Port is +2.8 feet above MLLW (NOAA, 2005). This height reflects the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch (19 years) and therefore reflects the mean of both high and low tides in the Port. The recently developed Port Complex model described in Section 3.5.2 predicts tsunami wave heights with respect to MSL, rather than MLLW, and therefore can be considered a reasonable average condition under which a tsunami might occur. The Port MSL of +2.82 feet must be considered in comparing projected tsunami run-up (i.e., amount of wharf overtopping and flooding) to proposed wharf height and topographic elevations, which are measured with respect to MLLW.

The most likely worst-case tsunami scenario was based partially on a magnitude 7.6 earthquake on the offshore Santa Catalina Fault. The recurrence interval for a magnitude 7.5 earthquake along an offshore fault in the Southern California Continental Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude 6.0 earthquake is about 500 years. However, there is no certainty that any of these earthquake events would result in a tsunami, since only about 10 percent of earthquakes worldwide result in a tsunami. In addition, available evidence indicates that tsunamigenic landslides would be extremely infrequent and occur less often than large earthquakes. This suggests recurrence intervals for such landslide events would be longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake (Moffatt & Nichol, 2007). As noted above, the probability of the worst-case combination of a large tsunami and extremely high tides would be less than once in a 100,000-year period.

Containers of hazardous substances on ships or on berths could similarly be damaged as a result of a large tsunami. Such damage could result in releases of both hazardous and non-hazardous cargo to the environment, adversely affecting persons and/or the marine waters. However, containers carrying hazardous cargo would not necessarily release their contents in the event of a large tsunami. The DOT regulations (49 CFR Parts 172-180) covering hazardous material packaging and transportation would serve to minimize potential release volumes since packages must meet minimum integrity specifications and size limitations.

The owner or operators of tanker vessels are required to have an approved Tank Vessel Response Plan on board and a qualified individual within the U.S. with full authority to implement removal actions in the event of an oil spill incident, and to contract with the spill response organizations to carry out cleanup activities in case of a spill. The existing oil spill response capabilities in the POLA/POLB are sufficient to isolate spills with containment booms and recover the maximum possible spill from an oil tanker within the Port.

Although tsunamis cannot be accurately predicted, a major tsunami is not expected during the life spans of the related projects due to the predicted infrequent probability of occurrence. The probability of a major tsunami occurring is classified as “improbable” (less than once every 10,000 year; see Section 3.5, Geology for additional information on the probability of a major tsunami). Nonetheless, a major tsunami could still occur. The potential consequence of such an event is classified as “moderate”, along with an “improbable” occurrence probability (shown in the Risk Matrix in Section 3.8) results in

a Risk Code of 4 that is "acceptable" for a major tsunami. Although the related projects would result in additional Port facilities adjacent to or near Harbor waters that could be subject to a tsunami, the risks are considered acceptable and a significant cumulative impact would not occur under CEQA or NEPA.

Contribution of the Proposed Project (Prior to Mitigation)

Moffatt and Nichol (2007) updated the tsunami hazard assessment and evaluated the potential for a tsunami to overtop wharves in various areas throughout the POLA (and POLB). The results of this analysis indicate that a worst-case tsunami wave height in Project vicinity would be about 1.0 to 4.7 feet, which would be well below the minimum wharf elevation in the West Basin. This study also estimated the frequency of a large tsunami as not likely to occur more than once every 10,000 years.

As described in Section 3.8.4.3, the proposed Project would also have a Risk Code of 4 due to the same major tsunami probability of less than 1 every 10,000 years in conjunction with a "moderate" potential consequence. Because the project-level probability of an accidental spill would be the same as for the related projects, the proposed Project would not cause an increase in the probability of an accidental spill. As a result, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact, under CEQA or NEPA, related to increased spill probabilities.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 6 would not result in a cumulatively considerable contribution to a significant cumulative impact related to an increase in spill probabilities. Alternative 7 would also not result in a cumulatively considerable contribution to a significant cumulative impact related to increased spill probabilities because it would not result in oceangoing vessels at berth.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required because the proposed Project or any project alternative would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA.

4.2.8.7 Cumulative Impact RISK-6: Measurable Increase in the Probability of a Terrorist Attack – Less than Cumulatively Considerable

Impact RISK-6 as applied to cumulative impacts, represents the risk that a potential terrorist attack would result in adverse consequences to areas near the proposed Project site.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Potential impacts due to terrorism are characteristic of the entire Los Angeles and Long Beach (LA/LB) metropolitan area. Terrorism risk can be based on simple population-based metrics (i.e., population density) or event-based models (i.e., specific attack scenarios). Willis et al. (2005) evaluated the relative merits and deficiencies of these two approaches to estimating terrorism risk, and outlined hybrid approaches of

these methods. Overall, the results of the terrorism risk analysis characterized the Los Angeles/Long Beach metropolitan area as one of the highest-risk regions in the country. Using population metrics, the LA/LB region was ranked either first or second in the country, while the event-based model dropped the LA/LB region to the fifth ranked metropolitan area, mainly due to the relative lack of attractive, high profile targets (i.e., national landmarks or high profile, densely populated buildings). Using various approaches and metrics, the LA/LB region represented between 4 and 11 percent of the U.S. terrorism risk.

Historical experience provides little guidance in estimating the probability of a terrorist attack on a container vessel or onshore terminal facility. For a container terminal importing large numbers of containers from countries that may be considered unfriendly, the perceived threat of a terrorist attack is a primary concern of the local population. Sinking a cargo ship in order to block a strategic lane of commerce actually presents a relatively low risk, in large part because the targeting of such attacks is inconsistent with the primary motivation for most terrorist groups (i.e., achieving maximum public attention through inflicted loss of life). Sinking of a ship would likely cause greater environmental damage due to spilled fuel, but this is generally not a goal of terrorist groups.

However, at the national level, potential terrorist targets are plentiful, including those having national significance, those with a large concentration of the public (e.g., major sporting events, mass transit, skyscrapers, etc.), or critical infrastructure facilities. Currently, the United States has over 500 chemical facilities operating near large populations. U.S. waterways also transport over 100,000 annual shipments of hazardous marine cargo, including LPG, ammonia, and other volatile chemicals. All of these substances pose hazards that far exceed those associated with a container terminal.

Currently, San Pedro Bay (POLA/POLB) handles approximately 37 percent of the national cargo container throughput. Nationally, cargo throughput is expected to double by 2020 (USDOT, 2005), while San Pedro Bay throughput is expected to more than triple during the same period (Parsons, 2006). As a result, under current growth projections, San Pedro Bay would be expected to handle 63 percent of the national cargo throughput volume by 2020 and then decline to 56 percent of the national total by 2030. While cumulative container throughput would continue to grow in importance on a national level, the San Pedro Bay Ports already represent a substantial fraction of national container terminal throughput, and by default, an attractive economic terrorist target. Given the relative importance of the San Pedro Bay Ports under baseline conditions, cumulative growth would not be expected to materially change the relative importance as a potential terrorist target.

Intermodal cargo containers could also be used to transport a harmful device into the San Pedro Bay Ports intended to cause harm to the Ports. This could include a weapon of mass destruction, or a conventional explosive. The likelihood of such an attack would be based on the desire to cause harm to the port, with potential increases in cumulative San Pedro Bay Port infrastructure or throughput having no measurable effect on the probability of an attack. Additionally, the use of cargo containers to smuggle weapons of mass destruction through the San Pedro Bay Ports intended to harm another location such as a highly populated and/or economically important region is another possible use of a container by a terrorist organization. The consequences associated with the smuggling of a terrorist weapon would depend, in part, on the nature of the device or material, but could be substantial in terms of impacts to the environment and public health and safety, especially if it were a mass destruction device. However, the consequences of a WMD

attack would not be affected by cumulative growth at the San Pedro Bay Ports; rather, the consequences would depend on the composition and type of device or material, how a terrorist intends to use the device and to what aim he or she intends to accomplish, the time of day, the surrounding population or property density, or any number of other non-Port throughput related factors. To reiterate, the likelihood of a terrorist event would not be affected by cumulative infrastructure growth or throughput increases at the San Pedro Bay Ports, but would be based on the outcome that the terrorists desired. Cargo containers represent only one of many potential methods to smuggle weapons of mass destruction, and with current security initiatives may be less desirable than other established smuggling routes (e.g., land-based ports of entry, cross border tunnels, and illegal vessel transportation).

Because there are no measurable and/or definitive links between container throughput and the probability of a terrorist attack, because there are no measurable and/or definitive links between container throughput and the consequences of a terrorist attack, and because many factors other than container throughput would be the likely or primary motivations that would dictate the probability and consequences of a terrorist attack, the throughput increases at the Port associated with the related projects would not result in a significant cumulative impact related an increased probability of a terrorist attack.

Contribution of the Proposed Project (Prior to Mitigation)

As described in Section 3.8.4.3, the proposed Project would not result in a significant project-level impact related to an increase in the probability of a terrorist attack because the likelihood of such an event would not be based on Project-related throughput, but rather would be based on the intent of the terrorist and his/her desired outcome. Based on this, the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative impact.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 6 would not result in a cumulatively considerable contribution to a significant cumulative impact related to an increase in the probability of a terrorist attack. Alternative 7 would also not result in a cumulatively considerable contribution to a significant cumulative impact related to an increase in the probability of a terrorist attack because there are no links between retail, commercial, and industrial land uses and the consequences of a terrorist attack.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required because the proposed Project or any alternative would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA.

4.2.9 Land Use

4.2.9.1 Scope of Analysis

Since the proposed Project has the capacity to affect land use within the Port and surrounding communities, the region of analysis for cumulative land use impacts includes the Port of Los Angeles and extends to adjacent areas, including the communities of

Wilmington and San Pedro. The Wilmington and San Pedro communities would be assessed in terms of their compatibility with the already existing Port industrial uses.

4.2.9.2 Cumulative Impact LU-1: Cumulative Impacts on Existing and Future Land Use/Density Designations in Community Plans, Redevelopment Plans, or Specific Plans – No Impact

Cumulative Impact LU-1 represents the potential of the proposed Project along with other cumulative projects to result in development that would be inconsistent with land use/density designations in land use plans that govern buildout within the proposed Project area.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past actions within the project vicinity have been subject to the land use/density designations stipulated in the Port Master Plan (PMP), the Port of Los Angeles Plan, other applicable Community Plans, and the zoning code. The PMP has been certified by the Coastal Commission and all past development projects have been approved pursuant to the adopted PMP, ensuring compliance with the coastal zone management program. The City-approved Port of Los Angeles Plan and other Community Plans are the governing documents that regulate the continued development and operation of the Port. Parcel zoning designations control the land use types and densities that can be constructed on a given parcel. Over the years, the Port has developed consistent with the PMP, the Port of Los Angeles Plan, and site zoning, thereby ensuring consistency with land use/density designations to minimize impacts on surrounding areas. Similarly, existing facilities within with the project vicinity have been modified as necessary to ensure proposed land use/density designations are consistent with their respective land use plan and site zoning designations.

Construction and operation associated with past, present and future projects, including the Pier 400 Container Terminal and Transportation Corridor Project (#1), Berth 136-147 Terminal (#2), the Channel Deepening Project (#4), the Evergreen Container Terminal Expansion (#7), the Pier 400 Oil Marine Terminal, (#11), the Ultramar Lease Renewal Project (#12), the Wilmington Waterfront Master Plan/Avalon Boulevard Corridor Project (#25), and the Berth 121-131 Terminal (#29) have been, and would continue to be, modified during the project review process to ensure consistency with the Port of Los Angeles Plan (or other Community Plan) and/or PMP land use/density designations, and with site zoning designations. Because of this, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts related to land use designations inconsistencies.

Contribution of the Proposed Project (Prior to Mitigation)

As stated in Section 3.9.4.3.1.1 (**Impact LU-1**), the majority of the proposed Project is consistent with the General Plan designation and site zoning (M3 and [Q]M3-1). Eight acres of the Project site are designated for uses other than for container storage. Therefore, an amendment to the Port Master Plan to use the 8 acres for container backlands would be required. However, container terminal operations on these 8 acres would be consistent with the overall general cargo uses identified in the Port Master Plan for Area 3. Therefore, the proposed Project would have no adverse effects on land use plans or zoning designation consistency, and because the cumulative impact is less than

significant, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative land use impact under CEQA and NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 6 would not result in a cumulatively considerable contribution to a significant cumulative impact related to land use plans or zoning designation consistency. Alternative 7 land uses would be consistent with the zoning designations for the site and would not result in a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required because the proposed Project and alternatives would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA.

4.2.9.3 Cumulative Impact LU-2: Cumulative Impacts on Land Use Consistency with the General Plan or Adopted Environmental Goals and Policies Contained in Other Applicable Plans – No Impact

Cumulative Impact LU-2 represents the potential of the proposed Project along with other cumulative projects to result in development that would be inconsistent with environmental goals and policies delineated in land use plans that govern buildout within the proposed Project area.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past actions within the project vicinity have been subject to the goals and objectives delineated in the Port of Los Angeles Plan, the PMP, or the respective land use plan. The City-approved Port of Los Angeles Plan is the governing document that regulates the continued development and operation of the Port and is consistent with the PMP. Over the years, the Port has developed consistent with the Port of Los Angeles Plan objectives that give priority to water-dependent developments to ensure the Port is maintained as an important local, regional, and national resource, as well as coordinating development of the Port and adjacent communities as stipulated in the Wilmington-Harbor City Community Plan and the San Pedro Community Plan. Similarly, present projects within the project vicinity have been developed to ensure proposed developments are consistent with Port of Los Angeles Plan, PMP, and/or applicable land use plan policies.

Construction and operation associated with past, present and future projects, including the Pier 400 Container Terminal and Transportation Corridor Project (#1), the Berth 136-147 Terminal (#2), the Channel Deepening Project (#4), the Evergreen Container Terminal Expansion (#7), the Pier 400 Oil Marine Terminal, (#11), the Ultramar Lease Renewal Project (#12), the Wilmington Waterfront Master Plan/Avalon Boulevard Corridor Project (#25), and Berth 121-131 Terminal (#29) have been, or will continue to be, modified during the project review process to ensure consistency with the Port of Los Angeles Plan, the PMP, and applicable land use plans and policies. Because of this, past, present, and reasonably foreseeable future projects would not result in a significant cumulative impact related to plan inconsistencies.

Contribution of the Proposed Project (Prior to Mitigation)

As stated in Section 3.9.4.3.1.1 (**Impact LU-2**), the proposed Project would be consistent with the adopted objectives and policies identified in the Port of Los Angeles Plan and the PMP. Proposed development of the proposed Project site as a consolidated container terminal would be consistent with the Port of Los Angeles Plan Objectives 1 and 4, which give priority to water-dependent developments that are necessary to accommodate the needs of foreign and domestic waterborne commerce. Because the cumulative impact is less than significant, and the proposed Project would have no adverse effects on land use plan consistency, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 3 through 6 would not result in a cumulatively considerable contribution to a significant cumulative impact related to plan consistency.

Alternatives 1 and 2 would not include ship calls, but would also not preclude water-dependent use and activity at the site over the long term or development of infrastructure elsewhere in the Port. Thus, Alternatives 1 and 2 would not conflict with the General Plan or adopted environmental goals or policies contained in other applicable plans for this site. Alternative 7 would be consistent with the Community Plan designation of a public facility. However, Alternative 7 would require an amendment to the Port Master Plan, which designates a large portion of the terminal site for container handling or general cargo handling. Alternative 7 would not conflict with the General Plan or adopted environmental goals or policies contained in other applicable plans for this site. As a consequence, Alternatives, 1, 2, and 7 would not result in a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required because the proposed Project or any project alternative would not make a cumulatively considerable contribution to a significant cumulative land use impact under CEQA and NEPA.

4.2.9.4 Cumulative Impact LU-3: Cumulative impacts related to substantial effects on the types and/or extent of existing land uses in the Project area – Less than Significant.

Cumulative Impact LU-3 represents the potential of the proposed Project along with other related projects to cumulatively affect the types and/or extent of existing land uses in the Project area.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past actions within the project vicinity have been subject to the goals and objectives delineated in the Port of Los Angeles Plan and the PMP, the General Plan for the City, and site zoning. Over the years, the Port has developed consistent with applicable land use plans and site zoning. Land use development in the Port and surrounding areas from the past, present, and reasonably foreseeable future projects have and would continue to occur on parcels zoned for specific use categories.

Construction and operation associated with past, present and future projects, including the Pier 400 Container Terminal and Transportation Corridor Project (#1), the Berth 136-147 Terminal (#2), the Channel Deepening Project (#4), the Evergreen Container Terminal Expansion (#7), the Pier 400 Oil Marine Terminal, (#11), the Ultramar Lease Renewal Project (#12), the Wilmington Waterfront Master Plan/Avalon Boulevard Corridor Project (#25), and Berth 121-131 Terminal (#29)have been, and will continue to be, modified during the project review process to ensure consistency with the Port of Los Angeles Plan and PMP land use/density designations. All of the related projects would occur on or to lands with specific designated uses and would not cause or result in other uses to occur. Consequently, past, present, and reasonable foreseeable future projects would not cause substantial changes to the types or extent of land uses in the geographical scope, and significant cumulative impacts would therefore not occur.

Contribution of the Proposed Project (Prior to Mitigation)

As stated in Section 3.9.4.3.1.2 (**Impact LU-3**), land use effects of the proposed Project would be confined to the Project area within the Port proper. Terminal operations would be consistent with the Heavy Industrial zone designation (M3) of the Project site. Because the cumulative impact is less than significant, and because the proposed Project would have not affect the types or intensity of offsite land uses, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative land use impact under CEQA and NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 6 would not result in a cumulatively considerable contribution to a significant cumulative impact on the types or intensity of offsite land uses.

The land use effects of Alternative 7 would be confined to the project site boundaries. Consequently, Alternative 7 would not affect the types and/or extent of land uses elsewhere in the project area. As a consequence, Alternative 7 would not result in a cumulatively considerable contribution to a significant cumulative impact.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required because the proposed Project or any project alternative would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA.

4.2.9.5 Cumulative Impact LU-4: Cumulative Impacts on Dividing, or Isolating Existing Neighborhoods, Communities, or Land Uses – Less than Cumulatively Considerable

Cumulative Impact LU-4 represents the potential of the proposed Project along with other cumulative projects to divide or isolate existing neighborhoods, communities, or land uses.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past and present projects within the project vicinity have contributed to acquisition of new property by the Port and have been attributed to the encroachment of Port-related

industrial uses into surrounding communities. Past Port projects have contributed to the use of container storage yards for storage of other equipment and materials (i.e., new and used truck chassis) and related maintenance, and the location of rail and highway land uses within surrounding communities. However, the past and present land uses are consistent with the designated land uses in land use plans governing development in the surrounding areas. In addition, development in the surrounding areas have occurred in concert with past and present transportation infrastructure development.

Construction and operation associated with present and future container terminal projects, including the Pier 400 Container Terminal and Transportation Corridor Project (#1), the Berth 136-147 project (#2), the Channel Deepening Project (#4), the Evergreen Container Terminal Expansion (#7), and Berth 121-131 Terminal (#29), would not result in physical changes that could divide or isolate neighborhoods or communities. Therefore, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts land use impacts.

Contribution of the Proposed Project (Prior to Mitigation)

As stated in Section 3.9.4.3.1.2 (**Impact LU-4**), the proposed Project would occur entirely on the Project site within the Port of Los Angeles, and would not divide or isolate existing neighborhoods or communities; therefore, the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative impact.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 6 would not result in a cumulatively considerable contribution to a significant cumulative impact related to dividing or isolating an existing community.

As with the proposed Project, Alternative 7 development would be confined to the project site boundaries. Consequently, Alternative 7 would not result in a cumulatively considerable contribution to a significant cumulative impact related to dividing or isolating an existing community.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required because the proposed Project or any project alternative would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA.

4.2.9.6 Cumulative Impact LU-5: Cumulative Impacts on Secondary Impacts to Surrounding Land Uses – Less than Cumulatively Considerable

Cumulative Impact LU-5 represents the potential of the proposed Project along with other cumulative projects to result in secondary impacts on surrounding land uses. Specifically, the secondary impacts of concern include effects on residential property values in the cumulative geographic scope.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Residential property values in communities adjacent to the Port have risen in recent years and do not exhibit depreciated values. As a consequence, the incremental development of past and present projects has not contributed to decreased property values.

Construction and operation associated with present and reasonably foreseeable future projects, including the Pier 400 Container Terminal and Transportation Corridor Project (#1), the Berth 136-147 terminal (#2), the Channel Deepening Project (#4), the Evergreen Improvements (#7), the Pier 400 Oil Marine Terminal (#11), the Ultramar Lease Renewal Project (#12), the Wilmington Waterfront Master Plan/Avalon Boulevard Corridor Project (#25), and the Berth 121-131 Terminal (#29), would result in increased jobs. However, this increase would not significantly contribute to increased or decreased property values within surrounding communities. As a consequence, past, present, and reasonably foreseeable future projects would not result in significant secondary cumulative impact to surrounding land uses.

Contribution of the Proposed Project (Prior to Mitigation)

As stated in Section 3.9.4.3.1.2 (**Impact LU-5**), the proposed Project would not change residential property values in areas immediately adjacent to the Port. Proposed Project activities would increase the number of direct, indirect, and induced jobs and income in the region and result in other economic benefits. The increase in jobs attributable to the proposed Project would be relatively small (about 0.07 percent) compared to current and projected future employment in the region. Therefore, the proposed Project would have no adverse effects on property values within adjacent residential communities, and would not make a cumulatively considerable contribution to a significant cumulative secondary impact on land use under CEQA and NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 6 would not have an adverse effect on property values within adjacent residential areas, and would not make a cumulatively considerable contribution to a significant cumulative secondary impact on land use under CEQA and NEPA.

Similarly, Alternative 7 would not have an adverse effect on property values within adjacent residential areas, and would not make a cumulatively considerable contribution to a significant cumulative secondary impact on land use under CEQA and NEPA.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required because the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA.

4.2.10 Marine Transportation

4.2.10.1 Scope of Analysis

The proposed Project would allow a greater number of larger container vessels to call at the Port. Like all commercial vessels, these ships would follow designated traffic channels (also used by other vessels) when approaching and leaving the Harbor.

Similarly, dredging and in-water construction activities associated with the proposed Project would occur within the existing federal channel limits (i.e., channel and berthing areas) at the Port. Since the proposed Project has the capacity to affect vessel transportation only within these channels or the berths the vessels are accessing, the region of analysis for cumulative marine transportation impacts includes the vessel traffic channels that ships use to access berths within the Port and West Basin, and the berths themselves.

The cumulative impacts include those impacts from past, present, and reasonably foreseeable future projects that will also increase the number and size of vessels using these shipping lanes, as well as increase use of the Port areas.

4.2.10.2 Cumulative Impact VT-1: Creation of Navigation Hazards – Less than Cumulatively Considerable

Cumulative Impact VT-1 represents the potential of the proposed Project along with other cumulative projects to increase traffic congestion or reduce the existing level of safety for vessels navigating the Main Channel, the West Basin areas, and/or precautionary areas. This includes construction and operation phase impacts.

As reported in Section 3.10.2.1, vessel traffic levels are highly regulated by the USCG Captain of the Port (COTP) and the Marine Exchange of Southern California via the VTS to ensure the total number of vessels transiting the Port does not exceed the design capacity of the federal channel limits. Mariners are required to report their position to the COTP and the VTS prior to transiting through the Port; the VTS monitors the positions of all inbound/outbound vessels within the Precautionary Area and the approach corridor traffic lanes. In the event of scheduling conflicts and/or vessel occupancy within the Port is operating at capacity, vessels are required to anchor at the anchorages outside the breakwater until mariners receive COTP authorization to initiate transit into the Port.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past actions within the project vicinity have resulted in deepening navigation channels and upgrading existing wharf infrastructure to accommodate modern container ships. Incremental Port development has resulted in water-dependent developments that have been necessary to accommodate the needs of foreign and domestic waterborne commerce. In response to past actions, several measures have been implemented to ensure the safety of vessel navigation in the Harbor area. Restricted navigation areas and routes have been designated to ensure safe vessel navigation, and are regulated by various agencies and organizations to ensure navigational safety.

Present and reasonably foreseeable Port projects, including the West Basin terminal projects, could result in marine vessel safety impacts if they introduce construction equipment to the Main Channel, the West Basin, and Turning Basin, and/or interfere with USCG designated vessel traffic lanes. In-water construction activities associated with the Channel Deepening Project, Evergreen Marine Terminal Expansion Project, SSA Outer Harbor Fruit Facility Relocation Project, the Ultramar Berth 163-164 Lease Renewal Project, the Berth 171-181 Pasha Marine Terminal Improvements Project, the Berth 136-147 Terminal Project, and the Berth 121-131 Terminal Project would introduce construction equipment into the West Basin and the Main Channel Turning Basin. The Port utilizes standard safety precautions in piloting these vessels through Harbor waters, and standard measures including compliance with LAHD standards for construction and

dredging safety, including the requirement to comply with USCG navigation rules and providing the USCG with a dredging schedule in advance of construction. Compliance with standard safety precautions and requirements would keep construction and operational vessels from blocking navigation channels or creating circumstances that could result in substantial navigation hazards. Consequently, the related projects would not result in significant cumulative impacts related to navigation hazards.

Contribution of the Proposed Project (Prior to Mitigation)

The construction phase of the proposed Project would involve the use of construction vessels and equipment to conduct fill, dredge, and wharf construction and rehabilitation activities within the West Basin and Main Channel Turning Basin. These types of activities are routinely conducted in the Port and contractors performing in-water construction activities are subject to applicable rules and regulations stipulated in all LAHD contracts and Department of the Army permits. The Port would utilize standard safety precautions in piloting these vessels through Harbor waters, and standard measures including compliance with LAHD standards for construction and dredging safety and USACE permit requirements would also apply. Thus, the short-term presence of supply barges/support boats at Berths 100-102 (area of wharf construction) would not reduce the existing level of safety for vessel navigation in the Port.

In the operation phase, the cumulative increase in Port cargo volume (i.e., containers and TEUs) from the proposed Project in combination with reasonably foreseeable future Port development, including the Berth 136-147 project (#2), the Channel Deepening Project (#4), Evergreen Container Terminal Improvements Project (#7), SSA Outer Harbor Fruit Facility Relocation Project (#9), the Ultramar Lease Renewal Project (#12), the Berth 121-131 Project (#29), and the Berth 171-181 Pasha Marine Terminal Improvements Project (#16), would result in additional vessel traffic within the West Basin area. Consequently, the proposed Project along with future Port development would increase the risk of in-water vessel traffic hazards. However, the rate of vessel accidents (i.e., collisions, collisions with stationary objects or structures, and groundings) in the Port is relatively low (0.0038 percent) compared to vessel traffic volumes within the Port. While proposed Project operations would result in a 234 vessel calls per year (approximately 20 vessel calls per month) at Berths 97-109, project operations would result in an 8 percent increase over the number of vessels that called at the Port in 2001 (i.e., the CEQA baseline). Proposed Project improvements would also improve the overall conditions in the Los Angeles Harbor by creating berth depths sized to accommodate the modern, deeper-draft class of vessels. The deeper draft berths would improve the efficiencies of shipping and port operations by reducing the relative number of vessels and vessel trips required to accommodate projected container throughput at the Port of Los Angeles. The deepening of the areas adjacent to the berths in this area as part of the Channel Deepening Project further ensures that the larger, deeper-draft ships can safely navigate within the West Basin.

Given the continued use of standard practices, including adherence to Harbor Safety Plan (HSP) speed limit regulations, adherence to limited visibility guidelines, Vessel Traffic Service (VTS) monitoring requirements (i.e., issuance of security calls by dredge operators on the VTS prior to commencement of dredge operations and transit to disposal sites), and Port tariffs requiring vessels of foreign registry and U.S. vessels that do not have a federally licensed pilot on board to use a Port Pilot for transit in and out of the San Pedro Bay area and adjacent waterways, and Captain of the Port (COTP) scheduling requirements, the projected 234 annual vessel calls (8 percent of all Port vessels) at

Berths 97-109 would not significantly decrease the margin of safety for marine vessels within the cumulative area impacted by the proposed Project. Continued implementation of COTP uniform procedures including advanced notification to vessel operators, vessel traffic managers, and Port pilots identifying the location of dredges, derrick barges, and any associated operational procedures and/or restrictions (i.e., one-way traffic) ensure safe transit of vessels operating within as well as to and from the project area. Therefore, neither construction nor operation of the proposed Project would make a cumulative considerable contribution to a significant cumulative impact related to vessel traffic or navigational safety under CEQA and NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 3 through 6 would not make a cumulative considerable contribution to a significant cumulative impact related to vessel traffic or navigational safety under CEQA and NEPA.

Vessel during in-water construction for Phase I, as applied to Alternatives 1, 2 and 7, did not result in navigational safety impacts. These alternatives would also not have annual ship calls of oceangoing vessels, although Alternative 7 would accommodate small recreational watercraft. Nonetheless, Alternatives 1, 2, and 7 would not make a cumulative considerable contribution to a significant cumulative impact related to vessel traffic or navigational safety under CEQA and NEPA.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required because the proposed Project or any project alternative would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA.

4.2.11 Noise

4.2.11.1 Scope of Analysis

The geographic scope for cumulative noise impacts includes the residential area in the Wilmington District north of C Street located generally between Mar Vista Avenue and Fries Avenue, residents of San Pedro located west of Knoll Hill, and nearest homes located along Front Street, Pacific Street, and Channel Street. This analysis assesses the potential of the proposed Project, along with other cumulative projects, to cause a substantial increase in noise as a result of project construction activities and operational activities (including onsite operations, increased traffic noise, and increased railroad noise).

4.2.11.2 Cumulative Impact NOI-1: Construction Noise – Cumulatively Considerable and Unavoidable

Cumulative Impact NOI-1 represents the potential of construction activities of the proposed Project along with other cumulative projects to cause a substantial increase in ambient noise levels at sensitive receivers within the cumulative geographic scope.

A cumulative construction noise impact would be assessed if construction activities necessary to implement the proposed Project, in combination with one or more of the related and cumulative projects, would cause a substantial short-term increase in noise at

a sensitive receptor, and the project contribution would be considered cumulatively considerable. A substantial increase is defined to be a 5-dBA increase during any daytime hour when construction activities would occur (Section 3.9.4.2). Thus, if overlapping noise levels from the concurrent construction of related projects exceeds 5 dBA at a sensitive receiver, a significant cumulative impact would result.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The list of related and cumulative projects was reviewed to determine if construction activities associated with any of these projects could, in combination with the proposed Project, cause a cumulative construction noise impact.

In the San Pedro neighborhoods, related projects that would likely occur concurrently with the China Shipping project and would result in potential construction noise impacts include the I-110/SR-47 Connector Improvements (#31), the San Pedro Waterfront Enhancements Project (#21), and the Channel Deepening Project (#4). These projects, particularly #31, would result in significant noise impacts to adjoining receivers during construction.

Near Wilmington, TraPac Marine Terminal at Berths 136-147, West Basin (#2) would also occur just north of the proposed Project. It is likely that construction activities associated with the TraPac project would be concurrent with either Phase II or Phase III construction activities of the proposed Project. The C Street/Figueroa Street Interchange (#26) would be located immediately adjacent to the Harry Bridges Boulevard widening element of the proposed Project and the Harry Bridges Buffer Area. It is likely that construction activities associated with the C Street/Figueroa Street interchange would either be concurrent with construction activities necessary for the Harry Bridges Boulevard widening and Harry Bridges Buffer Area, or would occur in about the same timeframe either shortly before or after extending the period of elevated noise levels. It is likely that construction activities and associated noise levels of related projects would be similar to those expected from the equipment necessary to construct the project elements. There are other projects in the related and cumulative projects list that could also affect sensitive receivers within the cumulative geographic scope. The New Dana Strand Development (#58) currently under construction is located on C Street adjacent to sensitive receivers. The Avalon Boulevard Corridor Development (#25) would include development of Avalon Triangle Park and improvements at Banning's Landing Cultural Center. It is likely that the other related projects would result in significant noise impacts at some sensitive locations due to concurrent construction.

Contribution of the Proposed Project (Prior to Mitigation)

In the construction phase of the proposed Project, construction of additional backlands and in-water construction have been identified as causing significant noise impacts under CEQA at noise-sensitive locations at Knoll Hill, along Pacific Avenue, and in areas west of Front Street and south of the Vincent Thomas Bridge. There would be a substantial increase in noise, identified in Section 3.11. Because of the proximity of the C Street/Figueroa Street interchange project and the TraPac project, the likelihood that they could be concurrent with the construction activities required for the proposed Project, and the proximity of other related and cumulative projects in the vicinity of the San Pedro neighborhoods, there would be significant cumulative construction noise impacts upon these neighborhoods.

In the Wilmington neighborhoods, noise levels due to construction activities at Berths 97-109 were projected to be near existing baseline noise levels resulting from other local sources of noise (see Section 3.11). While construction of the proposed Project is not expected to cause significant noise impacts in the Wilmington neighborhoods, it is likely that there would be significant cumulative noise impacts at those locations if the proposed Project construction occurs concurrently with other related projects.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 7 would also make a cumulatively considerable contribution to a significant cumulative construction noise impact to Knoll Hill, Front Street, Pacific/Channel Street, and Wilmington receivers under CEQA and NEPA.

Mitigation Measures and Residual Cumulative Impacts

The following standard construction measures shall be implemented:

NOI-1: The following mitigation measures would reduce impact of noise from construction activities:

a) Construction Hours. Limit construction to the hours of 7:00 a.m. to 9:00 p.m. on weekdays, between 8:00 a.m. and 6:00 p.m. on Saturdays, and prohibit construction equipment noise anytime on Sundays and holidays as prescribed in the City of Los Angeles Noise Ordinance.

b) Construction Days. Do not conduct noise-generating construction activities on weekends or holidays unless critical to a particular activity (e.g., concrete work).

c) Temporary Noise Barriers. When construction is occurring within 500 feet of a residence or park, temporary noise barriers (solid fences or curtains) should be located between noise-generating construction activities and sensitive receivers.

d) Construction Equipment. Properly muffle and maintain all construction equipment powered by internal combustion engines.

e) Idling Prohibitions. Prohibit unnecessary idling of internal combustion engines near noise-sensitive areas.

f) 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.

g) Quiet Equipment Selection. Select quiet construction equipment whenever possible. Comply where feasible with noise limits established in the City of Los Angeles Noise Ordinance.

h) Notification. Notify residents adjacent to the proposed Project site of the construction schedule in writing.

i) IHC Hydrohammer. The contractor shall use an IHC Hydrohammer (SC series with sound insulation system) pile driver or equivalent when constructing the berths.

j) Reporting. The Port shall clearly post the telephone number where complaints regarding construction-related disturbance can be reported.

The IHC Hydrohammer (SC series with sound insulation system) pile driver generates 86 dBALeq at 100 feet compared to 95 dBALeq for standard machines. This measure cannot be applied to Phase I construction, which was completed in 2003. The use of the IHC pile driver will reduce noise impacts by up to 2 dBA, reducing significant noise impacts at receivers ST-1 to ST-4 during Phase II and Phase III.

Considering the distances between the construction noise sources and receivers, the standard controls and temporary noise barriers may not be sufficient to reduce the projected increase in the ambient noise level to the point where it would no longer cause a cumulatively significant impact. Consequently, construction of the proposed Project or any alternative would make a cumulatively considerable contribution to significant cumulative noise impacts at Knoll Hill, Front Street, Pacific/Channel Street, and Wilmington receivers.

4.2.11.3 Cumulative Impact NOI-2: Nighttime Construction – No Impact

Cumulative Impact NOI-2 represents the potential of the proposed Project or any of its alternatives along with other cumulative projects to cause a substantial increase in construction noise at night. No construction activities are planned to occur between the hours of 9:00 p.m. and 7:00 a.m., Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday. There would be no construction-related noise impacts during prohibited hours as described above; consequently, no impacts under CEQA would occur. There would be no in-water, water-associated, or upland construction-related noise impacts during prohibited hours as described above; consequently, no impacts under NEPA would occur. Therefore, neither the proposed Project nor any of its alternatives would contribute to a cumulative noise impact due to nighttime construction. No mitigation is required.

4.2.11.4 Cumulative Impact NOI-3: Creation of Operational Noise That Would Substantially Exceed Existing Ambient Noise Levels at Sensitive Receivers –Cumulatively Considerable

Cumulative Impact NOI-3 represents the potential of the proposed Project along with other cumulative projects to cause a substantial permanent increase in ambient noise levels at sensitive receivers within the geographic scope of the project.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Onsite operations at the Port of Los Angeles, roadway traffic on the roadway network along major roadways in the study area including I-110 and SR-47, Vincent Thomas Bridge, Harry Bridges Boulevard, and other local streets in the Wilmington and San Pedro areas are the dominant sources of community noise at noise sensitive receivers within the geographic scope of the China Shipping Project. Virtually all of the cumulative projects in Table 4-1, with the exception of, for instance, some of the Portwide operational plans and programs, would contribute to existing noise sources such as traffic, terminal operations, and neighborhood sources including parks and schools, and therefore significant cumulative noise impacts would occur.

Contribution of the Proposed Project (Prior to Mitigation)

Noise effects of operational activities, traffic, and railroad movements associated with the proposed Project are presented in Section 3.11. Analyses of noise resulting from activities within the proposed Project area and vehicular and rail traffic generated by the proposed Project demonstrate that noise from project operations would generate noise levels that would be significantly higher than baseline noise levels at Knoll Hill and Front Street receivers. Because the noise levels resulting from onsite activities would increase CNEL values by 5 to 6 dBA at these locations, increased noise from operations at Berths 97-109 would make a cumulatively considerable contribution to cumulative noise levels. At the Wilmington neighborhoods, where the proposed Project would not cause significant operational noise impacts by itself, it is expected that a cumulative significant impact would occur when combined with other related projects.

Therefore, the proposed Project would result in cumulatively considerable onsite noise impacts at the Knoll Hill, Front Street, Pacific/Channel Street, and Wilmington neighborhoods under both CEQA and NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 3 through 6 would also make a cumulative considerable contribution to a significant cumulative operational noise impact to Knoll Hill, Front Street, Pacific/Channel Street, and Wilmington receivers under CEQA and NEPA.

Alternatives 1 and 2 would only store containers for the nearby container terminal at Berths 121-131. Containers would be transported between the two terminals via an internal road. These alternatives would not generate high enough operational noise levels to cause significant impacts; however, it is expected that noise levels from onsite operations combined with other cumulative projects would result in significant increases in noise levels at nearby sensitive receiver locations.

Alternative 7 would result in some noise level increases due to increases in traffic volumes; however, Alternative 7 would not cause significant noise impacts by itself. Nonetheless, cumulative traffic volume increases due to this alternative and other related projects would likely result in significant cumulative noise impacts at receivers located along the nearby roadway network.

Mitigation Measures and Residual Cumulative Impacts

Measures outlined in Section 3.11 as **MM NOI-1**, which consist of construction of noise barriers at the private property lines that would block the line-of-sight to Port operations and the adjoining roadways, would be required for mitigation of cumulative impacts.

Residual impacts would be significant due to the uncertain feasibility of erecting noise barriers at the private property to mitigate construction noise impacts. As a consequence, the residual operational noise impact would make a cumulatively considerable contribution to a significant cumulative impact.

4.2.12 Recreation

4.2.12.1 Scope of Analysis

Cumulative impacts on recreational areas can result from the combined demand of the proposed Project along with past, present, and future related projects on any of the parks or recreational areas on which the proposed Project may have impacts. The geographic scope depends on the service area of the individual recreational facilities and the extent over which increased demand for services from the proposed Project could affect those services. The region of analysis for cumulative recreational impacts includes public recreational opportunities located within the Port.

4.2.12.2 Cumulative Impact REC-1: Cumulative Impacts on the Demand for Recreation and Park Services that Exceeds the Available Resource – Less than Cumulatively Considerable

Cumulative Impact REC-1: represents the potential of the proposed Project along with other cumulative projects to result in a demand for recreation and park services that exceeds the available resources.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction and operation of past projects has resulted in existing demands for recreational resources that are accommodated by the various recreational, educational, and visitor-oriented opportunities in the Port area. Related present and reasonably foreseeable future projects in the proposed Project area are predominantly berth and terminal expansion or traffic circulation improvements undertaken by the Ports of Los Angeles and Long Beach. These projects include the Pier 400 Container Terminal and Transportation Corridor Project (#1), Berth 136-147 Terminal Project (#2),Evergreen Improvements Project (#7), Berth 121-131 Yang Ming Container Terminal (#29), Middle Harbor Terminal Redevelopment (POLB) (#66), Berth 171-181 Pasha Marine Terminal Improvements (#16), and Berth 302-305 APL Container Terminal (#23). These actions represent expansion or intensification of existing industrial or transportation uses and would not result in significant cumulative impacts on the demand for recreation. It should be noted that some of the projects listed in Table 4-1 would provide new open space and recreation resources for the public including the San Pedro Waterfront Promenade (#3), Cabrillo Marine Aquarium Expansion (#44), and East Wilmington Greenbelt Community Center (#56) projects. The majority of the related projects would either not result in substantial demand for recreational services in the Port or would result in additional available recreational opportunities. As a consequence, past, present, and reasonably foreseeable future projects would not result in a significant cumulative impact related to increased demand for recreational services.

Contribution of the Proposed Project (Prior to Mitigation)

Construction activities including dredging, filling, and construction of new backland facilities and wharves would not result in increased demand for recreational services in the Port because they would not result in substantial increases in population or employees in the Project area. In addition, operation of the proposed Project would not increase demand for recreational services. As a consequence, the proposed Project would have

less than significant effects on recreational resources and would not make a cumulatively considerable contribution to a significant cumulative impact on the demand for recreational services under CEQA or NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 6 would not substantially affect the demand for recreational resources, and would not make a cumulatively considerable contribution to a significant cumulative impact on demand for recreational resources under CEQA and NEPA.

Alternative 7 would result in approximately 4,650 employees at the site but would not result in significant demand for recreational resources to be concentrated at any particular recreational resource. Therefore, Alternative 7 would not significantly increase the burden or demand for existing recreational services, facilities, or opportunities beyond available resources. As a consequence, Alternative 7 would not make a cumulatively considerable contribution to a significant cumulative secondary impact on land use under CEQA and NEPA.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required because the proposed Project or any alternative would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA.

4.2.12.3 Cumulative Impact REC-2: Cumulative Impacts on Recreational Resources – Less than Cumulatively Considerable

Cumulative Impact REC-2: represents the potential of the proposed Project along with other cumulative projects to result in a loss or diminished quality of recreational, educational, or visitor-oriented opportunities, facilities, or resources.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction and operation of past projects has resulted in existing demands for recreational resources that are accommodated by the various recreational, educational, and visitor-oriented opportunities in the Port area. Related present and reasonably foreseeable future projects in the proposed Project area are predominantly berth and terminal expansion or traffic circulation improvements undertaken by the Ports of Los Angeles and Long Beach. These projects include the Pier 400 Container Terminal and Transportation Corridor Project (#1), Berth 136-147 Terminal Project (#2), Evergreen Improvements Project (#7), Berth 121-131 Yang Ming Container Terminal (#29), Middle Harbor Terminal Redevelopment (POLB) (#66), Berth 171-181 Pasha Marine Terminal Improvements (#16), and Berth 302-305 APL Container Terminal (#23). These actions represent new, expansion or intensification of existing uses on Port lands designated for terminal uses, and would not result in significant cumulative impacts on recreation. It should be noted that some of the projects listed in Table 4-1 would provide new open space and recreation resources for the public including the San Pedro Waterfront Promenade (#3), Cabrillo Marine Aquarium Expansion (#44), and East Wilmington Greenbelt Community Center (#56) projects. The expansion and

intensification of existing Port land uses or the placement of new terminals and developments on Port lands would not significantly affect existing recreational resources, and a number of cumulative projects would result in additional available recreational opportunities. Consequently, past, present, and reasonably foreseeable future projects would not result in a significant cumulative impact to recreational resources.

Contribution of the Proposed Project (Prior to Mitigation)

Construction activities including dredging, filling, and construction of new backland facilities and wharves would not remove existing recreational opportunities or increase the use of existing recreational services within the proposed Project vicinity. Although the proposed Project would relocate the Catalina Express Terminal to the south (at Berth 95), the relocation would be performed prior to construction of Phase III to avoid disrupting Catalina Express Terminal operations. Additionally, in-water proposed Project construction activities and operations would not interfere with vessel traffic lanes in the Main Channel, and the proposed Project would not preclude private watercraft recreational opportunities. Because the Catalina Express Terminal would be relocated in a manner that avoids disruption to its operations and as in-water recreational activities would not be interrupted by proposed Project construction or operations, the proposed Project would have less than significant effects on recreational resources and would not make a cumulatively considerable contribution to a significant cumulative impact on recreational resources under CEQA or NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, construction of Alternatives 1 through 7 would not remove existing recreational opportunities or increase the use of existing recreational services within the proposed Project vicinity. In addition, as with the proposed Project, the relocation of the Catalina Express Terminal under Alternatives 3 and 6 would not adversely affect recreational uses. Alternatives 1, 2, 4, 5, and 7 would not result in the relocation of the Catalina Express Terminal. As a consequence, Alternatives 1 through 7 would not make a cumulatively considerable contribution to a significant cumulative impact on existing recreational resources or opportunities under CEQA and NEPA.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required because the proposed Project or any of its alternatives would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA.

4.2.13 Utilities and Public Services

4.2.13.1 Scope of Analysis

Cumulative impacts on utilities and public services can result from the combined demand of the proposed Project along with past, present, and future related projects on any of the utilities and public services on which the proposed Project may have impacts (i.e., police and fire protection, water supply, landfill and wastewater treatment capacities, energy, and recreational resources). The geographic scope depends on the service area of the individual public service or utility provider and the jurisdiction over which increased demand for services from the proposed Project could reduce the availability of such

services. For the Port Police, this area is localized to the Ports of Los Angeles and Long Beach and neighboring Harbor Area communities, such as Wilmington. The service area of the LAPD and LAFD encompasses the City of Los Angeles; however, the police and fire stations identified as serving the proposed Project serve only the Port and Harbor area. Direct impacts of the proposed Project would be localized to the Port area, and indirect impacts could extend further within the City. For stormwater, the geographic scope is the proposed Project backlands and immediately adjacent lands within the subwatershed of the Harbor because this represents the drainage area that would be influenced by the proposed Project. The service area of the Bureau of Sanitation (wastewater), Los Angeles County Sanitation Districts and Browning Ferris Industries (BFI) (solid waste), and Los Angeles Department of Water and Power (LADWP) (water and electricity) encompasses the City of Los Angeles. The Southern California Gas Company (SCG) (natural gas) serves most of central and Southern California. However, the analysis region for cumulative utilities impacts focuses on the Port and Harbor District because the infrastructure immediately serving the Project is located within this service area and service subareas of utility providers are sufficiently separated such that increased service demands from the proposed Project would not threaten such provisions in other areas.

4.2.13.2 Cumulative Impact PS-1: Cumulative Impacts on Police Protection Services and Infrastructure – Less than Cumulatively Considerable

Cumulative Impact PS-1 represents the potential of the proposed Project along with other cumulative projects to increase the demand for additional law enforcement officers and/or facility such that the USCG, LAPD or Port Police would not be able to maintain an adequate level of service without additional facilities.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The LAPD is not the primary police service provider in the Port area and primarily provides support to the Port Police under special circumstances (as described in Section 3.13.2.1.2); therefore, cumulative Port development would directly affect only the Port Police. Construction and operation of past projects has created an existing demand for police protection that is adequately accommodated by the Port Police and LAPD. The Port Police has continuously increased staffing levels in conjunction with past Port development in order to maintain adequate service levels (personal communication, Cheryl Provinchain). Many of the present and reasonably foreseeable future cumulative projects described in Table 4-1 involve the relocation of existing facilities within the Port and vicinity or do not otherwise involve expansion of facilities; therefore, these would not result in an increase in public resources. However, several of the projects would utilize or increase the demand for local police services by increasing the amount of Port land used for operations. Specifically, the Pier 400 Container Terminal and Transportation Corridor Project (#1), the Berth 136-147 Project (#2), Evergreen Improvements Project (#7), Middle Harbor Terminal Redevelopment (POLB) (#66), Berth 171-181 Pasha Marine Terminal Improvements (#16), the Berth 302-305 APL Container Terminal (#23), and the Berth 121-131 Project (#29), would generate increased on-land terminal operations. However, similar to the proposed Project, these projects would be required to implement Maritime Transportation Security Act (MTSA) mandated security features, including terminal security personnel, gated entrances,

perimeter fencing, terminal and backlands lighting, and camera systems, that would reduce the demand for law enforcement personnel. Additionally, the Port Police would continue to increase staffing in conjunction with future development in order to ensure that adequate service would be provided to all future project sites.

The USCG determines response times based on the distance that is required to travel to the various Port facilities. Development due to the proposed Project and other reasonably foreseeable projects would not affect USCG response times because these projects would be located within the same operating distance of other facilities within the jurisdiction of Sector Los Angeles and Long Beach; therefore, response times would not increase.

Law enforcement services have developed over time in concert with surrounding development needs, and because of this, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts related to the demand for law enforcement.

Contribution of the Proposed Project (Prior to Mitigation)

The proposed Project would not substantially increase the demand for police protection services. During proposed Project operations, land based access to the Wilmington Marinas would be periodically blocked due to the increased rail activity. However, since emergency access to the Wilmington Marinas is provided waterside by Port Police patrol boats, any land based delays would not affect emergency responses. MTSA mandated security features, including terminal security personnel, gated entrances, perimeter fencing, terminal and backlands lighting, and camera systems, would be implemented at the proposed Project site and would reduce the demand for law enforcement personnel. Proposed Project development of 142 acres of terminal lands would require less than one (i.e., 0.160) new Port Police officer, which is a negligible contribution to cumulative demands. Additionally, as described in Section 3.13, the proposed Project would not diminish the resources or response times provided by the USCG. Therefore, the proposed Project would have no adverse effects on police protection or USCG services and would not make a cumulatively considerable contribution to a significant cumulative impact to law enforcement services under CEQA or NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 6 would not have adverse effects on police protection or USCG services and would not make a cumulatively considerable contribution to a significant cumulative impact to law enforcement services under CEQA or NEPA. Alternative 7, however, would result in a significant Project-level impact on Port Police services due to the higher intensity use. Because neither the Port Police nor the LAPD has planned for a Regional Center at this location, Alternative 7 would contribute to the need for additional police services in the long term, which is considered a potentially significant impact to police services. Because the Port police and LAPD also serve other facilities in the Port, a project-level impact has the potential to adversely affect the provision of Port Police services to other related projects. As a consequence, Alternative 7 could make a cumulatively considerable contribution to a significant cumulative impact on the provision of services by the Port Police or LAPD under CEQA and NEPA.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required for the proposed Project or Alternatives 1 through 6 because they would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA. **MM PS-4** would mitigate the law enforcement impact of Alternative 7, which would also keep the alternative from making a cumulatively considerable contribution to a significant cumulative impact on the provision of services by the Port Police or LAPD under CEQA and NEPA.

4.2.13.3 Cumulative Impact PS-2: Cumulative Impacts on Fire Protection Services and Infrastructure – Less than Cumulatively Considerable

Cumulative Impact PS-2 represents the potential of the proposed Project along with other cumulative projects to require the addition of a new fire station, or the expansion, consolidation, or relocation of an existing facility, to maintain service.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction and operation of past projects has created an existing demand for fire protection that can be accommodated by the LAFD since emergency response times to the Port area are considered adequate (personal communication, Al Angulo, 2004). Many of the present and reasonably foreseeable future cumulative projects described in Table 4-1 involve the relocation of existing facilities within the Port and vicinity or do not otherwise involve expansion of facilities; therefore, these would not result in an increased demand on fire protection. As described under Impact PS-2 in Section 3.13.4.3.1, LAFD emergency response times would only be affected by land use changes, removal of fire protection infrastructure, and removal of site access routes; intensification of existing uses would not affect response times (personal communication, William Comfort). Several of the projects would increase the demand for local fire protection services by increasing the amount of Port land used for operations. Specifically, the Pier 400 Container Terminal and Transportation Corridor Project (#1), the Berth 136-147 Project (#2), Evergreen Improvements Project (#7), Berth 121-131 Yang Ming Container Terminal (#29), Middle Harbor Terminal Redevelopment (POLB) (#66), Berth 171-181 Pasha Marine Terminal Improvements (#16), and Berth 302-305 APL Container Terminal Expansion (#23) would generate increased on-land terminal operations. However, these projects would be designed and constructed to meet all applicable state and local codes and ordinances to ensure adequate fire protection, which would be subject to LAFD review and approval. These codes and ordinances would include measures such as requiring fire protection infrastructure (i.e., fire hydrants and sprinklers) and ensuring that the LAFD is given the opportunity to review and approve any changes in site access. Furthermore, fire stations in the area are generally distributed to facilitate quick emergency response throughout the project area. As a consequence, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts to fire protection services.

Contribution of the Proposed Project (Prior to Mitigation)

The proposed Project would not substantially increase the demand for fire protection services. As described under **Impact PS-2** in Section 3.13.4.3.1, the proposed Project would be designed and constructed to meet all applicable state and local codes and

ordinances to ensure adequate fire protection, which would be subject to LAFD review and approval. In addition, emergency response times would not increase because the existing land use would not change, existing fire lanes and hydrants would not be removed (i.e., they would only be relocated or expanded), and any site access alterations would be reviewed and approved by the LAFD (personal communication, William Comfort, 2007). During proposed Project operations, land based access to the Wilmington Marinas would be periodically blocked due to the increased rail activity. However, since emergency access to the Wilmington Marinas is also provided waterside by LAFD boats, any land based delays would not affect emergency responses. Because fire protection features would be incorporated into the proposed Project site and emergency response times would not increase, the proposed Project would have no adverse effects on fire protection services and would not make a cumulatively considerable contribution to a significant cumulative impact to fire protection services under CEQA or NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 6 would not have adverse effects on fire protection services and would not make a cumulatively considerable contribution to a significant cumulative impact to fire protection services under CEQA or NEPA.

Alternative 7 would result in a substantial level of commercial and industrial development that is not included in the Port Master Plan, and the increased employee and visitor base would be expected to result in an increase in demand for firefighting capabilities. Consequently, this alternative would make a cumulatively considerable contribution to a significant cumulative impact to fire protection services under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

The proposed Project or Alternatives 1 through 6 would not require mitigation because none would make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA. Mitigation measure **MM PS-5** would mitigate potential impacts of Alternative 7 on fire protection services. After mitigation, Alternative 7 would not make a cumulatively considerable contribution to a significant cumulative impact to fire protection services under CEQA or NEPA.

4.2.13.4 Cumulative Impact PS-3: Cumulative Impacts on Water, Wastewater, or Storm Drain Utility Lines – Less than Cumulatively Considerable

Cumulative Impact PS-3 represents the potential of the proposed Project along with other cumulative projects to create a substantial increase in utility demands that would result in the construction and/or expansion of water, wastewater, or storm drain lines in order to support new development.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The installation of utility lines that service the Port and its uses has occurred and accommodates the construction and operational demand for storm drain, water, and

wastewater line infrastructure from past and present projects. Storm drains within the Port area are maintained by the LAHD and have sufficient capacity to accommodate current demands (pers. comm., Walsh, 2002). The LADWP has installed numerous water lines to supply water throughout the Port, and these water lines have sufficient capacity. The LADWP Water Services Organization implements a Capital Improvement Program (CIP) (LADWP, 2003) on a 10-year planning basis that focuses on installing or replacing existing components of the water system to ensure the provision of a reliable and high-quality water supply to all the citizens of Los Angeles. The focus of the CIP is to develop a 10-year capital budget to program funds for capital improvements to the water system. The CIP is updated periodically to serve as a continuous planning and budgeting tool. Because LADWP will continue to update the CIP and provide water services for its customers, the past, present, and reasonably foreseeable future projects would not result in a significant cumulative impacts on the water distribution lines.

The TITP is currently operating at 54 percent of its capacity of 30 million gallons per day; therefore, it is able to adequately accommodate current wastewater generations that are a result of past projects. Wastewater in the TITP service area is conveyed to TITP through the conveyance system that is designed and sized to accommodate TITP capacity. Wastewater flows in the TITP service area are substantially below the plant's capacity and the capacity of the conveyance system. The City projects that by 2020, wastewater flows in the TITP service area will grow to 19.9 mgd (City of Los Angeles, 2006); therefore, approximately 10 mgd in daily capacity at TITP would remain unused and available for future years (beyond 2020). Wastewater from the related projects would not significantly affect existing or future capacity at TITP due to the substantial remaining capacity at TITP beyond 2020, which, based on the wastewater flow growth rate projected between 2006 and 2020, is estimated to adequately handle 2045 wastewater flow demands. Similarly, conveyance system capacity would accommodate wastewater flows from the related projects. Consequently, the past, present, and reasonably foreseeable future projects would not result in a significant cumulative impacts to wastewater conveyance capacity.

Many of the projects identified in Table 4-1 involve relocation of existing facilities within the Port and vicinity, and generally do not require any expansion of facilities. Therefore, it is expected that stormwater runoff, water consumption, and wastewater generation would remain similar to current levels, with minimal impacts on utility lines. However, several of the projects involve new or expanded land uses or throughput operations that may result in additional demand on utilities and service systems. These projects include the Pier 400 Container Terminal and Transportation Corridor Project (#1), the Berth 136-147 Project (#2)a Marine Terminal Improvements (#16), Berth 302-305 APL Container Terminal Expansion (#23), Ponte Vista (#63) and Dana Strand (#58). The related projects would likely require construction or installation of water, wastewater, and storm drains utility systems on their respective sites, and may have to connect with nearby supply utility lines (usually in streets and other public right-of-ways). Because the water, wastewater, and storm drain utility lines have adequate capacity, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts to utilities.

Contribution of the Proposed Project (Prior to Mitigation)

The proposed Project would result in minimal increased water demands, wastewater generations, and storm runoff that would not exceed the capacity of existing facilities; however, construction and expansion of onsite water, wastewater, and storm drain lines

would be required to support new terminal development. All infrastructure improvements and connections within City streets would comply with the City municipal code and would be performed under permit by the City Bureau of Engineering and/or LADWP. Additionally, the LAHD would prepare a Public Services Relocation Plan as part of the proposed Project to address the public utilities that would be affected by proposed Project construction. The Plan would ensure that only minor service interruptions occur and that all pipeline installations would occur within existing utility corridors/easements. The proposed Project impact on utility pipeline construction would be less than significant and would not result in a cumulatively considerable contribution to a significant cumulative impact on utility lines under CEQA or NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 7 would not have a significant impact on utility pipeline capacity and would not result in a cumulatively considerable contribution to a significant cumulative impact on utility lines under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required because the proposed Project or any alternative would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA.

4.2.13.5 Cumulative Impact PS-4: Cumulative Impacts on Water, Wastewater, and Solid Waste Facility Capacities – Cumulatively Considerable and Unavoidable

Cumulative Impact PS-4 represents the potential of the proposed Project along with other cumulative projects to generate substantial solid waste, water, and/or wastewater demands that would exceed the capacity of existing facilities.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction and operation of past projects has resulted in existing demands for water and generations of wastewater and solid waste. These demands and generations are currently accommodated by existing facilities. In order to properly plan for water supply, the LADWP determines water demands using factors such as demographics, weather, economy, and trends in development. The LADWP, in Chapter 6 of the UWMP, which is hereby incorporated by reference, determined an existing water demand within the DWP service area that can be accommodated by the planned water supply of the same amount (LADWP, 2005). The LADWP Urban Water Management Plan (UWMP) projects overall water supply reliability within the DWP service area through 2030; the LADWP forecast specifically includes anticipated demand from projects which are included in the Port's Community Plan or the Port Master Plan, including all past, present and reasonably foreseeable future Port projects (LADWP, 2005). LADWP, in Exhibit C (Service Reliability Assessment of Average Year) in Chapter 6 of the UWMP, expects it will be able meet the demand through 2030 with a combination of existing supplies, planned supplies and MWD purchases (existing and planned). The California Urban Water Management Planning Act requires water suppliers to develop water management plans every 5 years. Because of this, the LADWP would continue to project future water

demands and supply through new UWMPs every 5 years. Although the planning horizon for the current UWMP includes 2030, future UWMPs will cover the 2045 project horizon, which will include water supply planning for the City in 2045 and beyond. Because of the LADWP will continue to the plan and provide water supply for its customers, the past, present, and reasonably foreseeable future projects would not result in a significant cumulative impacts on the provision of water.

The TITP wastewater treatment plant is currently operating at 54 percent of its daily capacity of 30 million gallons per day, resulting in an available capacity of 13.8 million gallons of additional wastewater flow per day (personal communication, Fumaer, 2007). The City projects that by 2020, wastewater flows in the TITP service area will grow to 19.9 mgd (City of Los Angeles, 2006); therefore, approximately 10 mgd in daily capacity at TITP would remain unused and available for future years (beyond 2020). Wastewater from the related projects would not significantly affect existing or future capacity at TITP due to the substantial remaining capacity at TITP beyond 2020, which, based on the growth rate of the wastewater flow projected between 2006 and 2020, is estimated to adequately handle 2045 wastewater flow demands. Consequently, the past, present, and reasonably foreseeable future projects would not result in a significant cumulative impacts to wastewater treatment capacity.

The three landfills that serve the City, including the Port area, are the Chiquita Canyon Landfill, the Sunshine Canyon Landfill, and the El Sobrante Landfill. As described in Section 3.13.2.2.4, the Chiquita Canyon Landfill has an allotted daily throughput capacity of 5,000 tons and is expected to operate until 2025. The Sunshine Canyon Landfill has a daily throughput capacity of 5,500 tons allotted for City use and is expected to accommodate demands until 2029 (Sanitation District of Los Angeles County, 2007). The El Sobrante Landfill has a maximum daily permitted capacity of 10,000 tons per day, and its projected closure date is 2030 (Sanitation Districts of Los Angeles County, 2007). Approximately 4,000 tons per day of capacity is reserved for refuse generated in Riverside County (City of Lake Elsinore, 2006). Solid waste generated from related projects after closure of the Chiquita Canyon Landfill, the Sunshine Canyon Landfill, and the El Sobrante Landfill (2030 and after) would represent a significant cumulative impact to landfill capacity if no additional adequate landfill capacity is permitted and made available, or if more distant landfill capacity is not utilized for solid waste generated in the City over an extended time period.

Many of the projects identified in Table 4-1 are Port redevelopment projects within the proposed Project vicinity, and generally do not require any expansion of facilities. Therefore, it is expected that water consumption, and wastewater and solid waste generations would remain similar to current levels. However, several of the projects involve new or expanded land uses or throughput operations that may result in additional utility demands. These projects include the Pier 400 Container Terminal and Transportation Corridor Project (#1), the Berth 136-147 Project (#2), Evergreen Improvements Project (#7), Middle Harbor Terminal Redevelopment (POLB) (#66), Berth 121-131 Project (#29), Berth 171-181 Pasha Marine Terminal Improvements (#16), Berth 302-305 APL Container Terminal Expansion (#23), Ponte Vista (#63), and Dana Strand (#58). The number of related projects would increase the demands for water as well as generation of wastewater and solid waste. Based on the above, the past, present, and reasonably foreseeable future projects would not result in a significant cumulative impacts on the provision of water, would not result in a significant cumulative impact on wastewater treatment capacity, but would result in a significant cumulative impact to solid waste capacity after the closure dates of the Chiquita Canyon Landfill, the Sunshine

Canyon Landfill, and the El Sobrante Landfill, if no additional adequate landfill capacity is permitted and made available, if more distant landfill capacity is not utilized for solid waste generated in the City, and/or if the achievement of Zero-Waste solutions as defined in the City's SWIRP do not occur over an extended time period.

Contribution of the Proposed Project

The proposed Project would result in minimal increased water demands, and wastewater and solid waste generations that would not exceed the capacity of existing facilities. The proposed Project would operate at full capacity in 2030 and would generate a maximum water demand of approximately 5.5 acre-feet per year, which represents 0.0011 percent of the anticipated LADWP water demand (776,000 acre-feet). Because the proposed Project water demand is low, because the LADWP provides water to the Port and has planned for water usage through 2030, and because ongoing water supply planning would continue to occur via new or updated UWMPs in the future, the proposed Project would not result in significant impacts and would not make a cumulatively considerable contribution to a significant cumulative impact related to water supply under CEQA or NEPA.

Wastewater generation would be 0.005 million gallons per day, contributing 0.017 percent to the TITP daily capacity. Because the TITP currently operates at 54 percent capacity, these increases would be considered negligible. The amount of wastewater generated by the Project would not significantly affect existing or future capacity at TITP due to the limited operational Project flows and the adequate remaining capacity at TITP beyond 2020 (to 2045), as described above. Therefore, impacts to the TITP wastewater treatment facility would be less than significant and the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact to wastewater capacity under CEQA or NEPA.

The proposed Project would generate 52.8 tons of solid waste per year, which would represent 0.0029 percent of the Chiquita Canyon Landfill permitted daily capacity, 0.0026 percent of the Sunshine County Landfill permitted daily capacity, and 0.0024 percent of the available permitted El Sobrante Landfill daily capacity. Solid waste generated from Project operations after the closure dates for the Chiquita Canyon Landfill, the Sunshine Canyon Landfill, and the El Sobrante Landfill (2030 and after) would represent a significant impact to landfill capacity, and therefore, the proposed Project would make a cumulatively considerable contribution to a significant cumulative solid waste impact under CEQA or NEPA. However, if additional adequate landfill capacity is permitted and made available, if more distant land fill capacity is utilized for solid waste generated in the City, and/or if the achievement of Zero-Waste solutions in the City as defined in the City's SWIRP occurs over an extended time period, then the solid waste generated by the Project likely would not represent a significant impact to landfill capacity, and the solid waste generated by the Project beyond 2030 would not represent a cumulatively considerable contribution to a significant cumulative solid waste impact under CEQA or NEPA.

In addition, the demolition of the Catalina Express Building would generate demolition debris in the near term, some or all of which would be disposed of at a landfill. Although construction and demolition debris is one of the greatest individual contributors to reductions in solid waste capacity, the amount of debris to be disposed of would not substantially affect the capacity or longevity of the area landfills after mitigation; therefore, the demolition of the Catalina Express Terminal would not make a

cumulatively considerable contribution to a significant cumulative solid waste impact under CEQA and NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 6 would not make a cumulatively considerable contribution to a significant cumulative impact related to water supply, and would not make a cumulatively considerable contribution to a significant cumulative impact to wastewater capacity, but would make a cumulatively considerable contribution to a significant cumulative solid waste impact under CEQA or NEPA. In addition, like the proposed Project, Alternatives 3 and 6 would result in the demolition of the Catalina Express Terminal building, which would generate construction/demolition wastes. The demolition of the Catalina Express Terminal under Alternatives 3 and 6 would generate demolition debris in the near-term, but would not substantially affect the capacity or longevity of the area landfills after mitigation; therefore, the demolition of the Catalina Express Terminal under Alternatives 3 and 6 would not make a cumulatively considerable contribution to a significant cumulative solid waste impact.

Alternative 7 would not make a cumulatively considerable contribution to a significant cumulative impact related to wastewater capacity, but would make a cumulatively considerable contribution to water supply and solid waste impact under CEQA or NEPA. As a consequence, Alternative 7 would make a cumulatively considerable contribution to a significant cumulative impact on water supply and solid waste landfill capacity under CEQA and NEPA.

Mitigation Measures and Residual Cumulative Impacts

MM PS-1 through **MMPS-3,** as described in Section 3.13.4.3.1, respectively provide that: 1) demolition and/or excess construction materials shall be separated onsite for reuse/recycling or proper disposal and separate bins for recycling of construction materials shall be provided onsite, 2) materials with recycled content shall be used in project construction and chippers on site shall be used to further reduce excess wood for landscaping cover, and 3) the proposed Project complies with policies and standards set forth in the City's Solid Waste Integrated Resources Plan (SWIRP) following 2025, which has the goal of zero waste. The implementation of **MM PS-1** through **MM PS-3** would reduce the proposed Project specific impacts on solid waste generation, such that the proposed Project and Alternatives 3 and 6 would not make a cumulatively considerable contribution to a significant cumulative impact to solid waste capacity under CEQA or NEPA. Implementation of mitigation measure **MM PS-3** under Alternatives 1, 2, 4, 5, and 7 would reduce impacts on solid waste capacity such that the alternatives would not make a cumulatively considerable contribution to a significant cumulative impact to solid waste capacity under CEQA or NEPA.

In addition, for Alternative 7, mitigation measure **MM PS-6** would offset potable water use from Alternative 7 in excess of estimated water use for the proposed Project, and with implementation of this measure, Alternative 7 would not make a cumulatively considerable contribution to a significant cumulative impact on water supply under CEQA or NEPA.

4.2.13.6 Cumulative Impact PS-5: Cumulative Impacts on Energy Demands, Supply Facilities, and Distribution Infrastructure – Less than Cumulatively Considerable

Cumulative Impact PS-5 represents the potential of the proposed Project along with other cumulative projects to generate increases in energy demands such that the construction of new energy supply facilities and distribution infrastructure would be required.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction and operation of past and present projects has resulted in existing demands for water and generations of wastewater and solid waste. These demands and generations are currently accommodated by existing facilities as provided by the LADWP and SCG. Many of the projects identified in Table 4-1 involve relocation of existing facilities within the Port and vicinity, and generally do not require any expansion of facilities. Therefore, it is expected that electricity and natural gas consumption would remain similar to current levels. However, other related projects involve new or expanded land uses or throughput operations that may result in additional demand on electricity and natural gas. These projects include the Pier 400 Container Terminal and Transportation Corridor Project (#1), the Berth 136-147 Project (#2), Evergreen Improvements Project (#7), Berth 121-131 Yang Ming Container Terminal (#29), Middle Harbor Terminal Redevelopment (POLB) (#66), Berth 171-181 Pasha Marine Terminal Improvements (16), and Berth 302-305 APL Container Terminal Expansion (#23). These related projects would place an additional demand on electricity and natural gas.

Under the Los Angeles City Charter (Sections 220 and 673), LADWP has the power and duty to construct, operate, maintain, extend, manage, and control water and electric works and property for the benefit of the City and its habitats. As a consequence, LADWP is charged with maintaining sufficient capability to provide its customers with a reliable supply of power. The LADWP prepared an Integrated Resources Plan (IRP) in 2000 and 2006 to provide a framework to assure that future energy needs of LADWP customers are reliably met at the least cost and are consistent with the City commitment to environmental excellence (City of Los Angeles, 2006). In 2002, SB 1078 implemented a Renewable Portfolio Standard, which established a goal that 20 percent of the energy sold to customers be generated by renewable resources by 2017. The IRP provides objectives and recommendations to reliably supply LADWP customers with power and to meet the 20 percent renewable energy goal by 2010.

As of the 2006 IRP, LADWP prepared a Load Forecast that predicts that LADWP customers' electricity consumption will increase at an average rate of 1.1 percent per year, and that peak demand will increase an average of 70 megawatts per year for the foreseeable future. For 2025, LADWP predicts that peak demand will reach 7,370 megawatts and that total resources will amount to 8,516 megawatts (including a reserve margin).

Based on the LADWP IRP, electricity resources and reserves at LADWP will adequately provide electricity for the Port, including past, present, and reasonably foreseeable future projects. The IRP does not provide load demand forecasts or supply resources beyond 2025 because its planning horizon extends only to 2025. However, because LADWP is required by the Charter to provide a reliable supply of electricity for its customers and

because LADWP is moving toward increasing renewable energy supplies in its resource portfolio, the electricity demand of the past, present, and reasonably foreseeable future projects would not result in the need to construct a new unplanned offsite power station or facility As a result, past, present, and reasonably foreseeable future projects would not result in a significant cumulative impact related to the provision of energy under CEQA and NEPA.

Contribution of the Proposed Project (Prior to Mitigation)

The proposed Project would result in minimal increased demands for electricity and natural gas. Electricity demands at the proposed Project site would be related to industrial uses including crane operations, AMP, facility and backlands operations, site and security lighting, and general site maintenance. However, the increase in electricity demands associated with the Berth 97-109 Container Terminal operations would not exceed existing supplies or result in the need for major new facilities. The proposed Project would provide new energy distribution infrastructure that is required to support proposed Project operations. All light fixtures would be replaced during proposed Project construction with more efficient lamps. The proposed Project would incorporate energy conservation measures in compliance with California Building Code CCR Title 24 that requires building energy efficient standards for new construction (including requirements for new buildings, additions, alterations, and, in non-residential buildings, repairs). The proposed Marine Operations Building and the Crane Maintenance Building would be designed to and built under the Leadership in Energy and Environmental Design (LEED) Green Building Rating System, thereby minimizing electricity demands. Additionally, the proposed Project would generate minimal demands for natural gas associated with space and water heating. These site buildings represent a minor component of container terminal operations, the increased demand for natural gas would be accommodated by SCG via the existing infrastructure located adjacent to and within the proposed Project site. Therefore, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact related to electricity and natural gas demand, under CEQA or NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 7 would not make a cumulatively considerable contribution to a significant cumulative impact related to electricity and natural gas demand, under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required because the proposed Project or any alternative would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA.

4.2.14 Water Quality, Sediments, and Oceanography

4.2.14.1 Scope of Analysis

The geographic scope for cumulative impacts on water and sediment quality is the Los Angeles-Long Beach Harbor (Inner and Outer Harbor areas) because this body of water represents receiving waters for the cumulative projects. The geographic scope for surface water hydrology and flooding is the proposed Project backlands and immediately

adjacent lands within the Harbors subwatershed, because this represents the drainage area that would be influenced by the proposed Project and other cumulative projects.

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.14.4. These criteria are the same for both CEQA and NEPA impact analyses.

4.2.14.2 Cumulative Impact WQ-1: Cumulative Discharge Effects to Water and Sediment Quality – Cumulatively Considerable and Unavoidable

Cumulative Impact WQ-1 represents the potential of the proposed Project, along with other cumulative projects, to create pollution, cause nuisances, or violate applicable standards.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Water and sediment quality within the geographic scope are affected by activities within the Harbor (e.g., shipping, wastewater discharges from the Terminal Island Treatment Plant [TITP], inputs from the watershed including aerial deposition of particulate pollutants, and effects from historical (legacy) inputs to the Harbor). As discussed in Section 3.14, portions of the Los Angeles/Long Beach Harbor complex are identified on the current Section 303(d) list as impaired for a variety of chemical and bacteriological stressors and effects to biological communities. For those stressors causing water quality impairments, TMDLs will be developed that will specify load allocations from the individual input sources, such that the cumulative loadings to the Harbor would be below levels expected to adversely affect water quality and beneficial uses of the water body. However, these TMDL studies are not planned until the year 2019 (see Section 3.14.2.1). Thus, in the absence of restricted load allocations, the impairments would be expected to persist.

Present and reasonably foreseeable future projects with in-water construction components, such as dredging, dike placement, fill, pile driving, and pier upgrades, would result in temporary and localized effects to water quality that would be individually comparable to those associated with proposed Project. Changes to water quality associated with in-water construction for the other cumulative projects would not persist for the same reasons discussed in Section 3.14. Therefore, cumulative impacts would occur only if the spatial influences of concurrent projects overlapped. Of the cumulative projects listed in Table 4-1, only the Channel Deepening (#4), Berths 136-147 (#2) and Berth 121-131 Development (#29) are located in the vicinity of the proposed Project and involve in-water construction activities. Dredging for the Channel Deepening Project (#4) has been completed, whereas Project #2 and #29 are still in the planning phases. A number of projects within the Port of Long Beach, including the Middle Harbor Development (#66), Piers G and J Redevelopment (#67), Pier T (#70), and Pier S (#71), would involve dredging and/or in-water construction. However, as described in Section 3.14, water quality effects from dredging would be limited, and therefore, the water quality effects of these projects would be limited to the immediate dredging or construction area. As a result, in-water construction of the present and reasonably foreseeable future projects would not result in significant cumulative impacts to water quality.

Wastewater discharges associated with project operations and runoff from project sites would be regulated by NPDES or stormwater permits. The permits would specify constituent limits and/or mass emission rates that are intended to protect water quality and beneficial uses of receiving waters. In addition, related projects in the Ports of Los Angeles and Long Beach would be operated in accordance with industrial SWPPPs that require monitoring and compliance with permit conditions. SUSMP requirements would also be implemented via the planning, design, and building permit processes. Although standard regulatory compliance measures would apply to the related projects, which would minimize their pollutant contributions to the Harbor, the Harbor is still listed on the Section 303(d) list as being impaired, and would likely remain so until TMDLs can be fully implemented throughout the entire watershed. Consequently, a significant cumulative impact to water quality related to its Section 303(d) listing would remain.

Development of port facilities associated with the cumulative projects, including Port 400 (#1), Berths 136-147 (#2)Evergreen Improvements (#7), Berth 302-305 APL Terminal (#23), Berth 212-224 Upgrades (#28), Berth 121-131 Reconfiguration (#29), Middle Harbor Terminal (#66), Piers G & J Terminal (#67), Pier T Terminal (#70), and Pier S Terminal (#71), are expected to contribute to a greater number of ship visits to the Ports of Los Angeles and Long Beach. Assuming that the potential for accidental spills, illegal vessel discharges, and leaching of contaminants from vessel hulls would increase in proportion to the increased vessel traffic, waste loadings to the Harbor would also be expected to increase. The significance of this increased loading would depend on the volumes and composition of the releases, as well as the timing and effectiveness of spill response actions. However, as noted for the proposed Project (Section 3.14.4.3.1.2), there is no evidence that illegal discharges for ships are causing widespread impacts to water quality in the Harbor. However, because Harbor waters are considered impaired and because these related projects would contribute to pollutant loadings through accidental spills and illegal discharges, or pollutant leaching from vessel hull coatings, these related projects would result in significant cumulative water quality impacts.

Contribution of the Proposed Project (Prior to Mitigation)

The proposed Project would not result in any direct discharges of wastes or wastewaters to the Harbor. However, stormwater runoff from the onshore portions of the project area would flow into the Harbor, along with runoff from adjacent areas of the large, primarily urbanized, watershed. Stormwater runoff from the backland and wharf areas within the proposed Project site would be governed by a permit, similar to those required for the other cumulative projects, that specifies constituent limits and/or mass emission rates that are intended to protect water quality and beneficial uses of receiving waters. Relative to both CEQA and NEPA baseline conditions, the proposed Project operations would contribute higher volumes of runoff (due to the greater relative impervious surface areas associated with the backlands), but no substantial differences in pollutant discharges due to implementation of regulatory control measures. The inputs from the proposed Project would be negligible compared with those from the entire watershed, the runoff could contain contaminants (e.g., metals) that have been identified as stressors for portions of the Los Angeles/Long Beach Harbor complex. In addition, the proposed Project would be operated in accordance with industrial SWPPPs that require monitoring and compliance with permit conditions. SUSMP requirements would also be implemented via the planning, design, and building permit processes. With SWPPP and SUSMP compliance, the proposed Project would not make a cumulatively considerable

contribution to a significant cumulative water quality impact relative to both the CEQA and NEPA baselines.

In-water construction activities, such as dredging and wharf construction, would suspend bottom sediments. While this would not constitute a discharge, disturbances of bottom sediments would alter some water quality parameters such as DO, nutrients, and turbidity. These changes are generally of short duration and localized to the mixing zone associated with the construction activity. As discussed in Section 3.14, changes to water quality associated from in-water construction are not expected to exceed applicable standards outside the mixing zone. Because adaptive management of the dredging operations would occur and would keep temporary impacts from construction within permit limits and because similar effects are not expected to substantially overlap in time and space with those from other related projects, in-water construction of the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact to water quality during in-water work under CEQA and NEPA. As described in Section 3.14.4.3, DREDGE model results indicate that TSS concentrations would drop to background levels within a few hundred meters of the dredging activity.

However, in-water construction of the proposed Project has the potential to result in spills directly to Harbor waters. While these project-level spills during construction would be subject to SPCC regulations (that would contain and neutralize the spill) and spill responses by the dredging contractors (deploy floating booms to contain and absorb the spill and use pumps to assist the cleanup) that would prevent the accidental spill from causing a nuisance or from adversely affecting beneficial uses of the Harbor, accidental spills during construction would nonetheless be considered to make a cumulatively considerable contribution to a cumulatively significant water quality impact if spills from other in-water construction projects also occur.

The proposed Project would result in an increased number of ship visits to the Ports of Los Angeles and Long Beach, which could contribute to a proportionally higher potential for accidental spills and illegal vessel discharges within the Harbor. Accidental spills of petroleum hydrocarbons, hazardous materials, and other pollutants from proposed Project-related upland operations are expected to be limited to small volume releases because large quantities of those substances are unlikely to be used, transported, or stored on the site. In addition, the terminal operator will be required to implement SPCC and OSCP Plans that ensure that facilities include containment and other countermeasures that would prevent oil spills that could reach navigable waters. Because of this, upland operations of the proposed Project would not make a cumulative considerable contribution to a significant cumulative impact related to spills.

The increased number of ship calls associated with the proposed Project could contribute to a comparatively higher number of spills compared to baseline conditions. Although spill events would be addressed according to procedures described in the SPCC, for oceangoing vessels that carry substantial amounts of fuel, an accidental spill could conceivably be large in the event of a catastrophic accident, which, although remote, could result in significant contamination entering the Harbor. As a result, the proposed Project's vessel operations could result in a cumulatively considerable contribution to a significant cumulative water quality impact related to accidental spills from oceangoing vessels.

The proposed Project would also result in potential illegal vessel discharges and pollutants leaching from vessel hull coatings, which would make a cumulatively

considerable contribution to a significant cumulative impact relative to both the CEQA and NEPA baselines.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 7 would not, with SWPPP and SUSMP compliance, make a cumulatively considerable contribution to a significant cumulative water quality impact from runoff, would not make a cumulatively considerable contribution to a significant cumulative impact to water quality from sediment resuspension during in-water work (including in-water work from Phase I as applied to Alternatives 1, 2, and 7), and would not make a cumulatively considerable contribution to a significant cumulative impact related to upland spills.

For the same reasons as described for the proposed Project, Alternatives 3 through 6 would make a cumulatively considerable contribution to a cumulatively significant water quality impact from accidental spills during in-water construction, would make a cumulatively considerable contribution to a significant cumulative water quality impact related to accidental spills from oceangoing vessels (during terminal operation), and/or would make a cumulatively considerable contribution to a significant cumulative impact from illegal vessel discharges and pollutants leaching from vessel hull coatings, under CEQA or NEPA.

Alternatives 1 and 2, would not have ship calls of oceangoing vessels; therefore, they would not make a cumulatively considerable contribution to a significant cumulative water quality impact that is related to accidental spills from oceangoing vessels (during terminal operation). Nor would the alternatives make a cumulatively considerable contribution to a significant cumulative impact from illegal vessel discharges or pollutants leaching from vessel hull coatings under CEQA or NEPA.

Although Alternative 7 would accommodate small recreational watercraft, water quality impacts from Alternative 7 operations are expected to be at or near baseline levels; consequently, Alternative 7 would not make a cumulatively considerable contribution to a significant cumulative water quality impact related to accidental spills from recreational watercraft, from illegal vessel discharges, or from pollutants leaching from watercraft hull coatings, under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

Because the proposed Project and all alternatives would have less than cumulatively considerable impacts on water quality from runoff, no mitigation measures would be required. However, control measures comprised of some key regulatory requirements would be complied with as part of the project or alternative. Cumulative water quality related to runoff would remain less than considerable under CEQA or NEPA.

As described in the Section 3.14.4.3, dredging and in-water construction would not result in permit violations due to implementation of the adaptive management program that would ensure that the resuspension of sediments does not result in water quality conditions that exceed the levels specified in the permits. Project construction would implement an adaptive monitoring program during in-water construction to monitor for permit compliance and to implement adaptive measures, including construction restrictions, to keep violations from happening (Section 3.14.4.3 contains further detail of this measure). The adaptive management program would ensure compliance with permit conditions and would keep project-level impacts below the level of significance. The proposed Project and all alternatives (including Alternatives 1, 2, and 7 to which Phase I

has been applied) would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA or NEPA because the effects of in-water construction would not substantially overlap in time and space with those dredge effects from other projects.

As described in the Section 3.14.4.3, the potential for construction of the proposed Project to result in a direct spill to Harbor waters is low. In the event of a spill, the planning effort required by SPCC regulations to contain and neutralize the spill and the spill response by the dredging contractors (deploy floating booms to contain and absorb the spill and use pumps to assist the cleanup) would prevent the accidental spill from causing a nuisance or from adversely affecting beneficial uses of the Harbor. Compliance with regulations is a standard practice during in-water construction, which would ensure that project level impacts would be less than significant level. Accidental spills during in-water construction of the proposed Project and Alternatives 3, 4, 6, and 7, nonetheless, would be considered to make a cumulatively considerable contribution to a cumulatively significant water quality impact if spills from other in-water construction projects also occur because no measures, aside from project-level regulatory compliance and standard practices, are available to mitigate accidental spills during construction that could have additive effects. No accidental spills occurred during in-water construction under Alternatives 1, 2, and 5 (from Phase I construction); therefore, Alternatives 1, 2, and 5 would not make a cumulatively considerable contribution to a cumulatively significant water quality impact from in-water construction.

For cumulative water quality impacts from contaminants leaching from vessel hulls and illegal discharges, no mitigation measures are available; therefore, significant cumulative impacts to water quality would remain for the proposed Project and Alternatives 3 through 6.

Regarding cumulative water quality impacts related to accidental in-water spills from oceangoing vessels during operations, although spill events would be addressed according to procedures described in the SPCC, oceangoing vessels carry substantial amounts of fuel, and an accidental spill could conceivably be large in the event of a catastrophic accident. Although remote, if a catastrophic accident occurs, it could result in significant contamination of Harbor or ocean waters. There are no mitigation measures available that would prevent an accident from occurring. As such, potentially significant cumulative impacts to water quality from accidental in-water spills during operation of the proposed Project or Alternatives 3 through 6 would remain despite regulatory compliance.

4.2.14.3 Cumulative Impact WQ-2: Cumulative Flooding Impacts – Less than Cumulatively Considerable

Cumulative Impact WQ-2 addresses the potential of the proposed Project along with other cumulative projects to cause flooding sufficient to harm people or damage property or sensitive biological resources.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

As discussed in Section 3.14, the proposed Project and adjacent areas of the Port are within the 100-year flood zone. Past development has increased the amount of impervious surface area within the watershed. Past development has also included a storm drain system to collect and convey storm runoff. This system has mitigated the

impacts of past development with respect to flooding potential. Cumulative projects would affect the flooding potential (relative to both the CEQA and NEPA baselines) only if the increased runoff volumes or altered drainage patterns exceeded the capacity of the storm drainage system to convey runoff of excess water volumes offsite. Cumulative projects near the proposed Project with the potential to affect drainage patterns and runoff volumes include the following projects: SSA Outer Harbor Fruit Facility (#9), Ultramar Lease Renewal (#12), South Wilmington Grade Separation (#24), Avalon Boulevard Corridor Development (#25), and C Street/Figueroa Street Interchange (#26). Similar to the proposed Project, these cumulative projects are located on flat terrain, such that minor grading and paving associated with project construction would not substantially alter runoff patterns, velocities, or volumes sufficiently to increase risks of local flooding or harm to people, property, or biological resources. Consequently, the past, present, and reasonably foreseeable future projects would not result in a significant cumulative flooding impact.

Contribution of the Proposed Project (Prior to Mitigation)

As discussed in Section 3.14, new onsite storm drains installed for the proposed Project would be designed for a 10-year storm event, which is consistent with the capacity of the existing facilities. The onsite drainage system would discharge site runoff to Harbor waters and would not connect with the municipal storm drain system. Although the proposed Project would increase impervious surface area incrementally compared to the CEQA and NEPA baselines, thereby increasing the runoff volumes compared to the baseline conditions, the increased runoff would be discharged directly to the Harbor and would not affect or be affected by cumulative runoff. Runoff that occurs during a 50-year or 100-year storm event would exceed the design capacity of the onsite storm drain system, resulting in sheet flow of the runoff offsite to the Harbor. Because site runoff would flow directly to Harbor waters, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative flooding impact.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 7 would not make a cumulatively considerable contribution to a significant cumulative impact related to flooding, under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required because the proposed Project or any of its alternatives would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA.

4.2.14.4 Cumulative Impact WQ-3: Cumulative Adverse Changes in Surface Water Movement – Less than Cumulatively Considerable

Cumulative Impact WQ-3 addresses the potential of the proposed Project along with other cumulative projects to permanently alter surface water movements and cause adverse changes in water or sediment quality.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The proposed Project site is within a commercial harbor environment that has been highly modified by past dredging, filling, and shoreline development in support of the maritime operations. Past, present, and reasonably foreseeable future projects such as Pier 400 (#1), Berths 136-147 (#2), Berths 302-305 APL (#23), Berths 121-131 (#29), Middle Harbor (#66), Piers G & J (#67) (see Table 4-1 and Figure 4-1) would add fill totaling over 700 acres, of which about 600 acres are completed or under construction. Construction of fill areas either has or will reduce the overall amount of surface water within the Harbor.

Past dredging, filling, and shoreline development operations have altered surface water movement in the Harbor. For example, water circulation patterns have been altered by the past, present, and future cumulative projects that include dredging and/or placement of fill (e.g., Pier 400 [#1], Channel Deepening [#4], Artificial Reef [#6], Berths 97-109 [#15], Berths 302-305 APL [#23], Middle Harbor [#66], Piers G & J [#67]). Changes to the hydro-morphology of the Harbor could affect water quality by inhibiting the exchange of waters between different portions of the Harbor that, in turn, could limit mixing and dilution of runoff. However, baseline studies and other routine monitoring efforts (e.g., MEC and Associates 2002), discussed in Section 3.14, have not reported hypoxic (low oxygen concentrations) conditions or other anomalous spatial patterns in water quality indicators that could reflect stagnation or limited water exchange between areas within the Harbor complex. This is reasonable because fill would not be placed for any project in an area that disrupts vessel navigation. The channels and waterways that are maintained for vessel navigation provide for adequate water exchanges between different areas of the Harbor complex that are adequate to avoid stagnation. As a consequence, the related projects would not result in a significant cumulative impact related to surface water movement in the Harbor.

Contribution of the Proposed Project (Prior to Mitigation)

The proposed Project would add a small amount of submerged fill (2.54 acres) within the West Basin. Because the fill for the proposed Project would be minor, would be submerged, and would occur along the edge of he West Basin entrance, the fill would not affect circulation or surface water movement within the remaining portions of the West Basin. Additionally, the proposed Project would add some pier pilings that would slow water movement along the wharf. Regardless, the fill and construction would not impede or restrict water exchanges with adjacent portions of the Harbor. Moreover, because the fill areas constructed for the proposed Project and the other cumulative projects would not interfere with vessel navigation, the cumulative fill would not restrict water movement within the West Basin or other areas of the Harbor. Thus, impacts from construction of fill on surface water movement would not be significant, and the proposed Project would not have a cumulatively considerable contribution to a significant cumulative water quality effect relative to both the CEQA and NEPA baselines.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 7 would not make a cumulatively considerable contribution to a significant cumulative impact related to surface water movement, under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required because the proposed Project or any of its alternatives would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA.

4.2.14.5 Cumulative Impact WQ-4: Cumulative Acceleration of Rates of Erosion and Sedimentation – Less than Cumulatively Considerable

Cumulative Impact WQ-4 represents the potential for the proposed Project along with other cumulative projects to increase the rates of soil erosion within onshore portions of the project site and sedimentation within the site or in adjacent properties and receiving waters.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Although past projects have disturbed soils within upland areas of the watershed that drain to the Harbor, the erosive effects of these disturbances have passed. Cumulative past, present, and future projects with construction operations similar to those of the proposed Project will disturb soils within upland areas of the watershed that drain to the Harbor. Cumulative projects such as Pier 400 (#1), Berths 136-147 (#2), San Pedro Waterfront (#3), Cabrillo Marina (#5), San Pedro Waterfront Enhancements (#21) and Berths 121-131 (#29), have or are expected to disturb soils and make them temporarily (during construction) subject to erosion by wind or runoff, with potentials for subsequent transport into and accumulation in the Harbor. Other cumulative projects with a dredging component, such as Channel Deepening (#4), have removed watershed-derived sediments that accumulated with navigational channels and new project areas. Soils exposed by construction activities would be subject to erosion, transport offsite, and deposition in the Harbor. However, construction SWPPPs incorporate BMPs for minimizing erosion and offsite transport of soils and solids from construction and project sites. In addition, the related projects would result in additional impervious coverings over much of their respective sites, which would limit site erosion and sedimentation. Because of this, the related projects would not result in significant cumulative impacts related to erosion or sedimentation.

Contribution of the Proposed Project (Prior to Mitigation)

Construction activities associated with the proposed Project would have minimal potential for accelerating erosion of soils and offsite sedimentation impacts in the Harbor. The SWPPP BMPs for the proposed Project would reduce erosion and minimize the potential for sedimentation within the Harbor. Operations associated with the proposed Project would not affect soil erosion or sedimentation in the Harbor or the watershed. The Project impacts on rates of erosion and sedimentation would not be cumulatively considerable, and the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative erosion and sedimentation impact under CEQA or NEPA.

Contribution of the Alternatives

For the same reasons as described for the proposed Project, Alternatives 1 through 7 would not make a cumulatively considerable contribution to a significant cumulative impact related to erosion and sedimentation, under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required because the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact under CEQA and NEPA.

4.3 Alternatives

The alternatives to the proposed Project, in particular Alternatives 3 through 6 would result in similar cumulative impacts as the proposed Project because they are alternative container terminal developments with construction and operational characteristics similar to the proposed Project. Alternatives 1 and 2 would create supplemental backlands for the Berth 121-131 Container Terminal and would have similar construction impacts, but less operational impacts than the proposed Project since container vessels would not load and unload at Berth 97-109. Alternative 7 would not have a shipping vessel component but would accommodate recreational watercraft. General summaries of the resource areas to which the alternatives would make a cumulatively considerable contribution to a significant cumulative impact after mitigation are provided below and are based on the discussions in Section 4.2 above.

4.3.1 Alternative 1

Alternative 1, the No Project Alternative, would make a cumulatively considerable contribution to a significant cumulative impact after mitigation in the following resource areas:

+ Aesthetics
+ Air Quality
+ Geology
+ Transportation/Circulation

Alternative 1 would contribute to fewer cumulative impacts under CEQA than the proposed Project. NEPA impacts do not apply to Alternative 1 because it does not involve federal action, and NEPA does not require analysis of a CEQA No Project Alternative.

4.3.2 Alternative 2

Alternative 2, the No Federal Action Alternative, would make a cumulatively considerable contribution to a significant cumulative impact after mitigation in the following resource areas:

+ Aesthetics (under CEQA only)
+ Air Quality

+ Geology
+ Transportation/Circulation
+ Noise

Alternative 2 would contribute to fewer cumulative impacts under CEQA and NEPA than the proposed Project due to smaller site size, a reduced level of operations, and a lack of wharf operations. Alternative 2 would result in no cumulative impacts caused by light and glare (Aesthetics) under NEPA because the Light and Glare impacts are an impact under CEQA only (Impact AES-4).

4.3.3 Alternative 3

Alternative 3, the Reduced Wharf Alternative (no Berth 102), would make a cumulatively considerable contribution to a significant cumulative impact in the following resource areas:

+ Aesthetics
+ Air Quality
+ Biological Resources
+ Geology
+ Transportation/Circulation
+ Noise
+ Water Quality

Alternative 3 would contribute to the same significant cumulative impacts under CEQA and NEPA as the proposed Project, but the intensity of the contributions to the cumulative impacts would be less than the proposed Project due to reduced wharf length and lower TEU throughput.

4.3.4 Alternative 4

Alternative 4, the Reduced Wharf Alternative (No Berth 100 South), would make a cumulatively considerable contribution to a significant cumulative impact after mitigation in the following resource areas:

+ Aesthetics
+ Air Quality
+ Biological Resources
+ Geology
+ Transportation/Circulation
+ Noise
+ Water Quality

Alternative 4 would contribute to the same significant cumulative impacts under CEQA and NEPA as the proposed Project, but the intensity of the contributions to the

cumulative impacts would be slightly less than the proposed Project due to slightly reduced wharf length, slightly smaller-sized site, and slightly lower TEU throughput.

4.3.5 Alternative 5

Alternative 5, the Phase I Terminal Only, would make a cumulatively considerable contribution to a significant cumulative impact after mitigation in the following resource areas:

+ Aesthetics
+ Air Quality
+ Biological Resources
+ Geology
+ Transportation/Circulation
+ Noise
+ Water Quality

Alternative 5 would contribute to the same significant cumulative impacts under CEQA and NEPA as the proposed Project, but the intensity of the contributions to the cumulative impacts would be less than the proposed Project due to reduced wharf length, reduced site size, and lower TEU throughput.

4.3.6 Alternative 6

Alternative 6, the Omni Cargo Terminal, would make a cumulatively considerable contribution to a significant cumulative impact in the following resource areas:

+ Aesthetics
+ Air Quality
+ Biological Resources
+ Geology
+ Transportation/Circulation
+ Noise
+ Water Quality

Alternative 6 would contribute to the same significant cumulative impacts under CEQA and NEPA as the proposed Project, and the intensity of the contributions to the cumulative impacts would vary depending on the resource area. Alternative 6 would have the same site size and wharf length as the proposed Project, but it would have different operational characteristics such as greater ship calls, less container throughput, fewer cranes, as well as auto and break-bulk operations that the proposed Project does not have.

4.3.7 Alternative 7

Alternative 7, the Nonshipping Alternative, would make a cumulatively considerable contribution to a significant cumulative impact after mitigation in the following resource areas:

+ Aesthetics
+ Air Quality
+ Geology
+ Ground Transportation
+ Noise

Alternative 7 would contribute to fewer cumulative impacts under CEQA and NEPA than the proposed Project due to smaller site size, no container operations on backlands, and a lack of wharf operations. Alternative 2 would result in no cumulative light and glare impacts (Aesthetics) under NEPA because the Light and Glare impacts are an impact under CEQA only (Impact AES-4).