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 each resource area's cumulative geographic scope, 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" (State CEQA Guidelines, Section 15355).

Cumulative impacts are further described as follows:

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

(b) The cumulative impacts from several projects are the change in the environment 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 State CEQA Guidelines, Section 15355[b]).

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

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

In addition, as stated in the State CEQA Guidelines, Section 15064(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 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 (SCAB) 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

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 use as a container terminal, the terminal had a variety of uses including as a

fruit terminal. In 1935, the United Fruit Company designed a new state-of-the-art fruit terminal at Berth 147. Unlike the older fruit handling operation, the new system allowed bananas to be loaded into train cars directly from ships. It featured vertical conveyors that moved the bananas from ship to wharf, and from there, the fruit was transferred directly into four horizontal conveyor belt systems. These conveyors delivered the fruit at box car height to waiting refrigerated Southern Pacific railcars. These cars transported the fruit throughout the western and southwestern United States by rail.

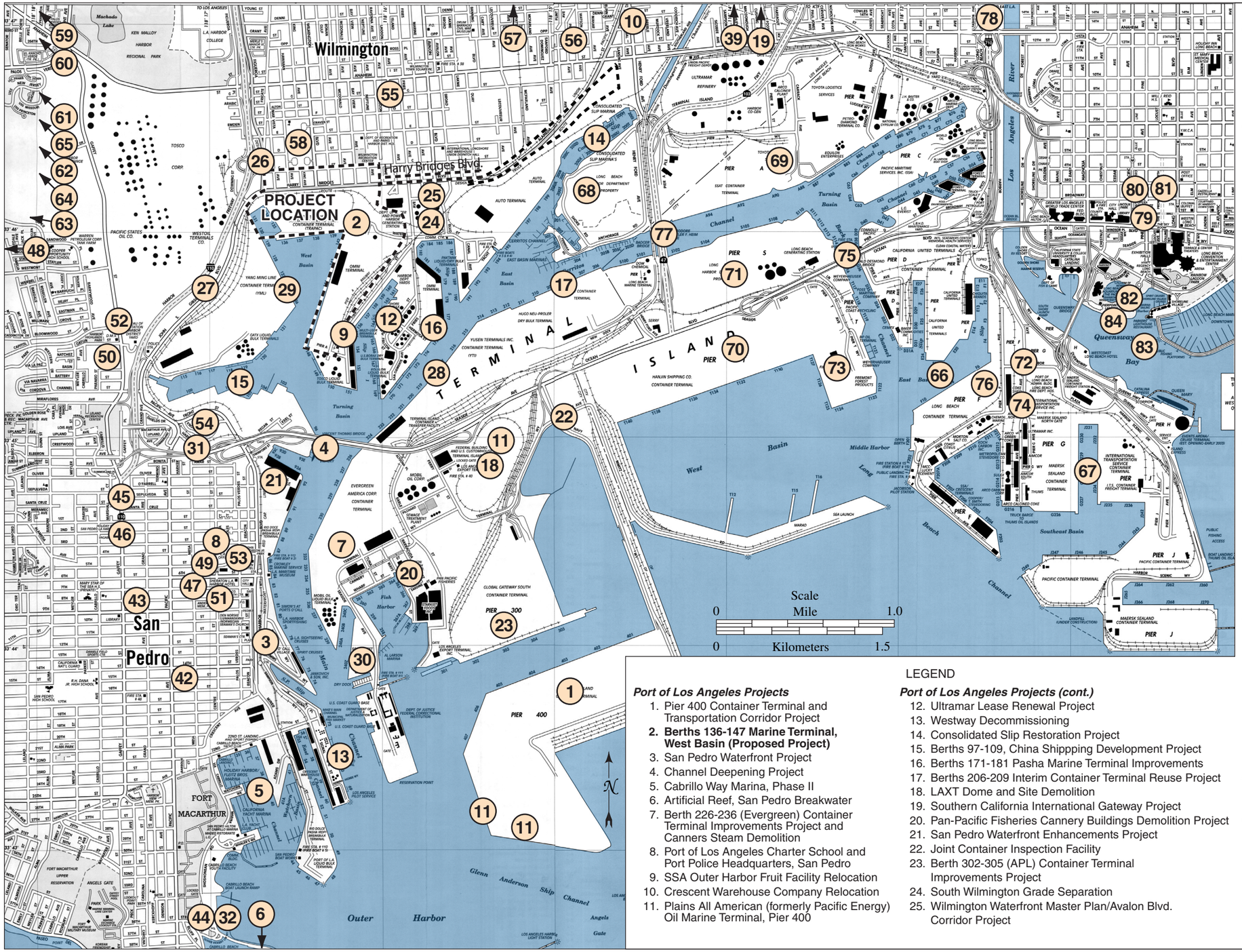
The area for the proposed Intermodal Container Transportation Facility (ICTF), which would allow for the direct transfer of containers to and from ships and trains, is presently the Pacific Harbor Railroad (PHL) switching yard and base, also referred to as Pier A rail yard. PHL is a third party rail operator currently serving both ports. This base serves as a classification yard, crew on duty point, and locomotive service facility. PHL's switching yard and base would be relocated to another Port area northeast of the TraPac terminal north of Berths 200A through H. Previously, the area north of Berths 200A through H has been used, and will still be used, as a transfer yard. PHL's operation will be consolidated at this area.

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).

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 on 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 2003 to 2038, 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 Terminal, West Basin (Proposed Project)**
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, China Shippping Development 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

Figure 4-1. Cumulative Projects Location Map

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Table 4-1. Related and Cumulative Projects

No. in Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*[1]
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	**Berths 136-147 Marine Terminal, West Basin, Port of Los Angeles**	**Element of the West Basin Transportation Improvement Projects. Reconfiguration of wharves and backlands. Expansion and redevelopment of the TraPac Terminal.** ***(Project analyzed in this EIS/EIR)***	**NOI/NOP released in October 2003.**
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 Catalina Cruises Terminal and 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.

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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 ft 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 Fall 2007. Construction expected 2008-2010.
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. New construction plan being developed and reviewed in terms of environmental clearance. 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 Summer/Fall 2007. Construction expected 2009-2012
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 2007.
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 Fall 2007. 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, land fill and terminal construction and backland development.	Draft EIR/EIS released August 2006. Phase I construction complete. Recirculated Draft EIR/EIS anticipated Fall 2007. Construction expected 2009-2015.

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)			
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	Berths 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 is expected to begin 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 late 2007.
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 2007. Construction expected 2009-2012.
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. 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 Blvd. Corridor Project)	Planned development intended to provide waterfront access and promoting development specifically along Avalon Boulevard.	Community and Port planning. NOP anticipated in Summer 2007.
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 Blvd. 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 Blvd.	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 Blvd. 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	Berths 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 Summer/Fall 2007. Construction expected 2009-2012
29	Berths 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 Fall 2007. Construction expected 2009-2012
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 Blvd. 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.

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 ports' on-dock rail facilities 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 neighboring terminals' intermodal volume 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 sf 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 3000 sf to 4816 sf 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 sf retail and 87-unit apartment complex. 407 W. Seventh Street (at Mesa St.), San Pedro.	In final stages of construction (completion expected in summer/fall 2007).
48	Condominiums, 28000 Western Ave.	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 St (at Basin St), San Pedro.	In construction. Estimated 2009 completion year according to LADOT Planning Department.
51	Mixed-use development, 281 W 8th Street	Construct 72 condos & 7,000 sf 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 sf 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 condos & 4,000 sf 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-square-foot community building, a 25-space parking lot, and landscaped areas.	Construction complete; center opened in 2006.
57	Distribution center and warehouse	135,000 sf distribution center and warehouse on 240,000 sf 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 pre-school 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 sf medical office building, 42,500 sf records center / office / warehouse, 260 hospital beds.25825 Vermont Street, Harbor City (at Pacific Coast Hwy).	In Construction. Estimated 2009 completion year, according to LADOT Planning Department.
62	Drive-through restaurant, Harbor City	Construct 2,448 sf 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 condos, 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 Blvd	Construct warehouses with total capacity 400,000 sf. 1351 West Sepulveda Blvd. (at Western Ave.), Torrance.	Project building permit cleared 2/07. LADOT Planning Department estimates completion in 2007.
65	Sepulveda Industrial Park	Construct 154,105 sf 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.
74	San Pedro Bay Rail Study	Port-wide rail transportation plan with multiple projects in and around Harbor District.	EIR to be prepared.

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)			
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 Blvd. 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 ft 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.
1. Construction date for POLA projects based on an assumption that the project would be approved by the LAHD.			

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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 public viewing positions from which one may see the proposed Project, 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 have no potential to contribute to cumulative visual impacts.

The visual changes that would be brought about by the Berths 136-147 Container Terminal Project would take 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 and is visually dominated by large-scale man-made features.

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 upland 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 3.1.4.2. The criteria for **AES-1, AES-2, AES-4** and **AES-5** apply only to CEQA analyses, while those for **AES-3** and **AES-6** apply to both CEQA and NEPA analyses.

4.2.1.2 Cumulative Impact AES-1: Adverse Impacts on a Scenic Vista – Less Than Cumulatively Considerable

The issue addressed by **Cumulative Impact AES-1** is specifically a CEQA-stated concern over whether the proposed Project would considerably contribute to the adverse effect of past, present and future projects' obstruction of a scenic vista or interference with public access to it. Such obstruction/interference of a scenic vista is not a specific issue relevant to a NEPA impact determination. The *Los Angeles City CEQA Thresholds* Guide lists the following factors as relevant to this CEQA issue.

- The nature and quality of recognized or valued views (the natural or man-made setting and specific features of visual interest);
- The extent of the obstruction;
- The extent of the effect on recognized views from public roadways, bike paths, and trails.

Of the critical public views chosen for detailed assessment, only the view from the Banning's Landing Community Center (Banning's Landing) is recognized and valued for representing a scenic vista (Section 3.1.4.3.1.1). The scope of the assessment of **Cumulative Impact AES-1** is therefore limited to the consideration of this one view. Note that the third issue area, the effect on roadways, bike paths and trails, is not relevant to the views from Banning's Landing.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Until the Community Center was built in 1996, the community of Wilmington had no visual access to the waters of the Port of Los Angeles; with its completion, the facility became the community's "window on the water." It was designed to offer a panoramic view focused to the south. Figures 3.1-9, -10, and -11 present photographs taken from the second floor deck and the first-floor patio. The location of the proposed Project within the field of view is pointed out in Figure 3.1-9, and the images present the character and quality of the Port context. The views shown represent the CEQA Baseline period of December 2003 as well as the conditions prevailing as of the release of the Draft EIR/EIS, with one exception: the two 50-gauge cranes along Berths 145-147 were removed in the Spring of 2007; these are the two left-most cranes pointed out in Figure 3.1-9, lower image.

As noted, the cumulative effect of actions taken over the last century has been to create a distinct character type within the region, that of a highly engineered, working port. In this view all features are inherent to this "working port" and coherently arrayed, presenting a readily apprehended composition of geometric forms, focal point, and water surface. Visual quality is high, the existing conditions being rated a Visual Modification Class 1 (Section 3.1.4.3.1.1).

Related projects shown in Figure 4-1 and Table 4-1 in proximity to Banning's Landing to the south are #12, the Ultramar Lease Renewal Project; #16, Berths 171-181 Pasha Marine; and #29, Berths 212-224 YTI (Yusen Terminal Inc.) Wharf Upgrades. To the west is project #24, the South Wilmington Grade Separation, and to the north is project #25, the Avalon Boulevard Corridor Project. The latter project would have features that would extend to points near the Community Center, but would be to the north and due west. The subject view is centered due south, and the waterfront development project would be too peripheral to be considered further. Other projects to the south, southwest, east and southeast would be blocked from view by intervening Port facilities.

The Ultramar Lease Renewal Project (#12) would not introduce new features to views from Banning's Landing, as its purpose is to retrofit an existing tank farm, fire suppression system, and associated piping infrastructure. The Berths 171-181 Pasha Marine Project (#16) involves the modification of wharves, removal of one transit

shed, the construction of a new two-story replacement shed, construction of a two-story maintenance and repair building, and backland improvements. No changes to the existing gantry cranes are proposed. The Berths 212-224 YTI (Yusen Terminal Inc.) Wharf Upgrades Project (#29) entails wharf upgrades, backland reconfiguration, and new buildings. The project would not involve the replacement of existing cranes, based on available information. The features of construction and operation of the Pasha and Yusen projects would be within the primary viewing direction from the Community Center. These two projects would entail features that are of types common to a working port environment that would not be out of character.

Regarding the Yusen project, construction activities associated with the wharf upgrades, backland reconfiguration, and the new buildings, and these facilities as completed and in operation, are in the background and would present a very low profile, particularly in relation to the existing gantry cranes in view. Moreover, container ships docking at the Yusen Terminal would block sight of these facilities. Figure 3.1-10 shows one such ship at the Yusen Terminal and the extent to which it intervenes in the view of the dock and backlands. Given the foregoing, the Yusen Project would not visually obstruct features of aesthetic value in views from Banning's Landing.

The Pasha project would introduce no new cranes, and would remove the south-most of the two transit sheds currently in view. This shed would be replaced by a two-story transit shed which would be lower than the 35-foot-tall shed it would replace. The new maintenance and repair building would also be two stories high. Eye level for views from the Banning's Landing second story balcony is 25 feet above the level of the patio below. The patio is at approximately the same elevation as the floor for the transit shed which would remain, and the transit shed is 10 feet higher. Based on a line-of-sight analysis, views of the new transit shed and M&R building from the Community Center's second-story patio would be blocked by the remaining 35-foot-tall transit shed. This shed would also block sight of changes in the backlands. Therefore, the Pasha project would introduce no obstruction to the scenic vista available from Banning's Landing.

The South Wilmington Grade Separation Project has been simulated in Figure 3.1-22, as has the proposed Project, in the background. As shown, the grade separation is a low-profile project which would not intercede in views of any other Port facilities. Moreover, it is about 80 degrees to the west of the primary viewing direction to the south of Banning's Landing. Therefore, it would not obstruct the recognized and valued scenic vista available from Banning's Landing.

Contribution of the Proposed Project

The only features of the proposed Project visible from Banning's Landing would be the cranes along Berths 142-147 and the container ships docking there. Figure 3.1-22 shows a simulation of the cranes as seen from Banning's Landing, as well as the South Wilmington Grade Separation Project. The architecture of Banning's Landing and Port facilities to the west block views of Berths 136-139 and other features of the proposed Project, including construction activities. The booms for the new cranes along Berths 142-147 would project into the skyline when in their stowed position, as the existing cranes do. The extent of their projection would differ slightly from the baseline condition

as described in Section 3.1.4.3.1.1. However, in considering the simulation in Figure 3.1-22, the only noticeable difference is the angle at which the two left-most (50-gauge) cranes are stowed. The booms for the 50-gauge cranes are stowed at an 83-degree angle, while those for the new 100-gauge cranes are stowed at a 45-degree angle.

Given that the view from the Community Center is oriented to the south, the proposed Project site, well to the west, would be peripheral. Therefore, the proposed replacement cranes would not interfere in these views. Apart from the orientation of the valued view, the other factor to consider is that the increased size of the new cranes is not readily apparent in this view. Even for peripheral views centered on the new cranes, the projection of their booms into the skyline would not perceptibly differ from that occurring during the Baseline period.

Regarding container ships docked at Berths 142-147 of the terminal, cargo stacked on the decks of the ships would be partially visible over the proposed Project backlands. A warehouse and office buildings at the Rio Doce Pasha Omni Terminal, together with the South Wilmington Grade Separation (not part of the proposed Project), would conceal almost all evidence of the container ships. The stacks of cargo on the largest ships docking at the Berths 136-147 Terminal in 2038 are expected to present a profile similar in height to those for the largest container ships using the terminal during the Baseline period (as discussed in Section 3.1.4.3.1). They would not block scenic or recognized views from Banning's Landing, as the cargo stacks would be peripheral to the scenic view to the south and would present a low-profile relative to existing Port and proposed Project features.

In summary, the proposed Project would have a less than cumulatively considerable contribution on views from scenic vistas, given the context of the distinctive marine industrial character of the working port. Within this context, the quality of the view from Banning's Landing is high (Visual Modification Class 1). No obstruction of this view has been introduced by past projects, nor would present or future projects do so. Regarding the contribution of the proposed Project, the affected view is oriented to the south, and the proposed Project's features would be peripherally to the southwest and west. Although two features of the proposed Project would be peripherally visible, they would not obstruct the scenic view and would not change the character of the view.

Mitigation Measures and Residual Cumulative Impacts

None are required, and the contribution of the proposed Project to cumulative impacts would not be considerable under CEQA or NEPA.

4.2.1.3 Cumulative Impact AES-2: Damage to Scenic Resources Within View from a State Scenic Highway – No Impact

Cumulative Impact AES-2 is specifically a CEQA-stated concern over whether the proposed Project would considerably contribute to the adverse effect of past, present and future projects on the scenic resources within view from a state scenic highway. An adverse impact on scenic resources within view from a scenic highway is not a specific issue relevant to a NEPA impact determination. The *City of Los Angeles*

CEQA Thresholds Guide (City of Los Angeles 2006) expands this CEQA issue to address views from scenic routes, corridors and parkways. As noted in Section 3.1.4.3.1.2, while there are no state-designated scenic highways in the vicinity of the proposed Project, a City of Los Angeles-designated scenic route, as described in Section 3.1.2.1.2.3, flanks the Port to the west. However, views from this route do not effectively include the proposed Project for the following reasons:

- The proposed Project site is not within the normal field of view of motorists, being about 90 degrees or more away from the direction of travel, whether heading north or south.
- Views toward the proposed Project are substantially blocked by backland storage of stacked cargo containers, permitting sight only of the upper part of the Berths 136-147 Terminal cranes; and
- The effect of proposed Project features would be attenuated by viewing distances that are not less than about 1,600 feet and range upward to about 5,700 feet.

The proposed Project would not, therefore, be effectively within public views from this roadway and therefore would have no adverse impact on those views. Since the proposed Project would have no impact, it is not necessary to document the effects of past, present, and reasonably foreseeable future projects.

4.2.1.4 Cumulative Impact AES-3: Degradation of Existing Visual Character or Quality of a Site and its Surroundings – Less Than Cumulatively Considerable

The issue addressed by **Cumulative Impact AES-3** is both a CEQA-stated and NEPA-related concern over whether the proposed Project would considerably contribute to the adverse effect of past, present and future projects on the existing visual character or quality of a site and its surroundings. The *Los Angeles City CEQA Thresholds Guide* lists six factors as relevant to this CEQA issue. Of these, two are relevant to the proposed Project (Section 3.1.4.3.1.3):

- The degree of contrast between proposed features and those existing features that represent the valued aesthetic image of an area; and
- The degree to which the project would contribute to the aesthetic value of an area.

To variable extents, features of the proposed Project would be within sight from all of the critical public views chosen for detailed assessment. The scope of the assessment of **Cumulative Impact AES-3** therefore includes all these views and the cumulative projects effectively within those views. The context for three of these sets of views—from the Harbor Freeway, Banning's Landing, and Knoll Hill—is the distinctive marine industrial character of the Port of Los Angeles. That for the other two sets—"C" Street in Wilmington and Shields Drive in San Pedro—is the residential character of the surrounding neighborhoods. The character and Baseline visual condition of these views is described in detail in Sections 3.1.2.2.3.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Port-context views

Harbor Freeway. The historic development of the Port and areas beyond its periphery has created a mosaic of visually incompatible land uses; their features are incongruous with one another and without harmony. These land uses compete for attention when approaching the Port along the southbound lanes, being co-dominant with features characteristic of the Port environment, and the cumulative effect of past projects has resulted in a daytime visual condition rated as Visual Modification Class 3, indicating a moderately low quality for the highway-based views assessed.

Of the cumulative projects shown in Table 4-1 and Figure 4-1, just three are within a field of view that includes the proposed Project relative to the Harbor Freeway views. The others are either peripheral to this view or are blocked from sight by intervening Port facilities. Project #26, the "C" Street/Figueroa Street Interchange, is listed as it is very close to Viewing Position 1 along the Harbor Freeway (Figure 3.1-1) and directly in line with the view assessed (see Figure 3.1-20). However, the view of the interchange would be blocked from sight relative to the southbound lanes by the west-facing sides of buildings lining the east side of the highway.

Cumulative Project #29, the Berths 121-131 Yang Ming Container Terminal Project, would result in the construction of 3,500 feet of new wharves to accommodate new deep draught vessels, 12 gantry cranes, and new terminal buildings. The information is general, but it is assumed that eight of the new cranes would replace older cranes not capable of serving deeper draught container ships and that there would be four new cranes. The new terminal buildings are likely to be partly blocked from view by backland storage containers and docked container ships. The new Yang Ming cranes are assumed to be no larger than those for the proposed Project and somewhat larger than those at the Yang Ming Terminal in view today. They would project into the skyline more than those they replace, but it is assumed that they would do so to the same degree as the replacement cranes for the proposed Project, shown in Figure 3.1-20. In the subject view, the Project cranes appear not to be appreciably higher than those they replace, and it is assumed that the new Yang Ming cranes would also not appear appreciably higher.

Cumulative Project #15, the Berths 97-109 Container Terminal Project West Basin (China Shipping Project), entails installation of the following primary features: 10 gantry cranes; two bridges across the narrowed portion of the Southwest Slip to connect the project area with the Berth 118-131 area to the north; and the construction of several small office and maintenance buildings. All 10 cranes would be of the same A-frame design, reaching 280 feet above the wharf in the stowed position, the same as the cranes for the proposed Project. Four of the 10 cranes were installed at Berth 100 in 2002 and appear in Figure 3.1-13, the view from Knoll Hill (the green cranes, lower image, left). However, they and the other China Shipping Project features noted would be behind the Yang Ming cranes shown in Figure 3.1-20 below and left of the green freeway sign along the right edge of the image.

Banning's Landing. As noted relative to **Cumulative Impact AES-1** in Section 4.2.1.2, all features in view are inherent to the marine industrial character of working

port and coherently arrayed, presenting a readily apprehended composition of geometric forms, focal point, and water surface. Moreover, the past action of constructing the Banning's Landing Community Center has afforded public access to a view of the Port's waters not formerly available, a substantial beneficial effect. The cumulative effect of past projects is a daytime visual condition of Visual Modification Class 1, indicating that the quality of the view is high.

The cumulative projects applicable to the view from Banning's Landing are #12, the Ultramar Lease Renewal Project; #16, Berths 171-181 Pasha Marine; #29, Berths 212-224 YTI (Yusen Terminal Inc.) Wharf Upgrades; and project #24, the South Wilmington Grade Separation. Other projects to the south, southwest, east and southeast would be blocked from view by intervening Port facilities.

The characteristics of these four cumulative projects are described in Section 4.2.1.2. The Ultramar Lease Renewal Project would not introduce new features to views from Banning's Landing. The features of construction and operation of the Pasha and Yusen projects would be within the primary viewing direction from the Community Center, but these two projects would entail features that are of types common to a working port environment that would not be out of character.

Knoll Hill. No incongruous features are within the panoramic and elevated views of the Port of Los Angeles available from Knoll Hill, and the features in view are coherently arrayed. Moreover, past actions have increased public access to Knoll Hill and the views from there, a substantial beneficial effect. Therefore, the cumulative effect of past projects is a daytime visual condition rated as Visual Modification Class 1, indicating that the quality of the view is high.

The cumulative projects applicable to the view from Knoll Hill are #9, the SSA Outer Harbor Fruit Facility Relocation Project; #12, the Ultramar Lease Renewal Project; #15, the Berths 97-109 Container Terminal Project West Basin (China Shipping Project); and #29, the Berths 121-131 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. The Ultramar Project was addressed in Section 4.2.1.2; it entails retrofitting existing facilities and would introduce no new features. The China Shipping and Yang Ming projects were described in the analysis of the Harbor Freeway view in this section. Figure 3.1-13 shows the panorama available from Knoll Hill, one which embraces the extent of the China Shipping and Yang Ming projects. Figure 3.1-23 is a closer view centered on the proposed Project but which provides a more detailed view of the Yang Ming project area. From Knoll Hill, much of the Yang Ming project would be within view, the primary features being the new cranes and the larger container ships they would serve. In this view, the China Shipping would be entirely disclosed. The visible project features would include the construction of Berths 100 and 102; installation of the 10 cranes at Berths 100 and 102; clearing, grading, and paving of the site; installation of tall light standards to create a backland container storage yard; removal of Front Street and relocation of the railroad line; and placement of large stacks of containers on the site.

The context for the view from Knoll Hill, as noted, is the Port environment. The facilities proposed for the Yang Ming and China Shipping projects would, in type, be

entirely in character with the Port. The effect of the new Yang Ming cranes cannot be assessed without more information. However, the Yang Ming cranes would variably be in view from Knoll Hill behind docked container ships and the existing cranes. A simulation of the China Shipping cranes (Figure G-6.1 within the *Berths 97-109 Container Terminal Project EIS/EIR* (CH2M Hill, 2006)) shows the array of 10 cranes, 6 more than occurred during the Baseline period of the Berths 97-109 project in 2003, and substantially higher stacks of containers in the backlands, which would be in the foreground of the view shown.

The Yang Ming and China Shipping projects would not introduce features out of character with the Port. Regarding the effect on views of the Vincent Thomas Bridge, the view from Knoll Hill has no City-recognized status and does not represent an entry point to the harbor; the bridge would not function as a welcoming monument for visitors to Knoll Hill, and it is assumed the view from here was not among those contemplated in relation to the City's designation for the bridge.

Residential-Context Views

"C" Street. The visual condition for views from "C" Street is discussed in detail in Section 3.1.2.2.3.2. It is the visual character of the neighborhood along the north side of "C" Street and its vicinity that is relevant to the baseline visual conditions for views from this area. The nearby Port facilities are seen by the residents in terms of their immediate surroundings and not those of the Port environment. The historical development of the lands south of "C" Street has cumulatively created a distinctive marine industrial character type. To the west of the west end of this street incremental development of oil refineries has resulted in a separate character type. In both cases, the character types are not congruent with residential areas and dominate the views. The visual condition prevailing during the Baseline period was Visual Modification Class 4, as was the case at the time the Draft EIS/EIR was released. The evolution of the Port, while integrally related to the development of the surrounding communities, has resulted in the maximum of contrast relative to residential land use.

Regarding the cumulative projects which would be within views from "C" Street, the facilities of the Berths 136-147 Terminal block most views to the south. No such projects south of "C" Street would be within view, except from the corner of Mar Vista Avenue to the west. In Figure 3.1-8, the three right-most cranes in the lower image are Yang Ming Terminal cranes, and cumulative project #29, the Berths 121-131 Yang Ming Container Terminal Project, would be in view to the extent that the 12 new cranes proposed for that project would be substantially visible across the vacant land in the foreground. Additionally, the "C" Street/Figueroa Street Interchange Project would be in the foreground of views from the west end of "C" Street.

Shields Drive. The visual condition for views from Shields Drive is discussed in detail in Section 3.1.2.2.3.6. Figure 3.1-15 shows the most critical view from this neighborhood (Viewing Position 11). This view is from a point about 40 feet higher than the Knoll Hill position and 1,980 feet further west. The character, congruence and coherence of what is seen, however, are the same as for Knoll Hill views. The point of reference for the existing visual condition is the surrounding residential area, not the character of the Port environment that is relevant to Knoll Hill.

The industrial features within the nearby Port environment are not congruent with the type and scale of features found in the Shields Drive residential area. In this particular view, the Port environment dominates the scene. This being the case, the existing visual condition for this residential view is Visual Modification Class 4. As is the case for "C" Street views, the evolution of the Port has resulted in the maximum of contrast relative to residential land use.

The cumulative projects applicable to the view from Shields Drive are the same as those applicable to Knoll Hill views. They are #9, the SSA Outer Harbor Fruit Facility Relocation Project; #12, the Berths 97-109 Container Terminal Project West Basin (China Shipping Project); and #29, the Berths 121-131 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.

As noted relative to Knoll Hill views, the Yang Ming and China Shipping projects would not introduce features out of character with the Port. However, the context for views from Shields Drive is the surrounding residential area, not the Port environment, as noted, and the cumulative effects of past projects have substantially impacted the quality of views from the north and east edge of this residential area. The future cumulative projects noted would not add measurable contrast to the setting since the maximum degree of contrast has been created already.

Contribution of the Proposed Project

As analyzed in Section 3.1, the proposed Project would not adversely affect the existing visual character or quality of the proposed Project site and its surroundings as experienced from any of the critical public views evaluated.

Port-Context Views

Harbor Freeway. In views from the Harbor Freeway, construction activities and operational aspects of the proposed Project would not contrast unfavorably with the Port setting, which is the context for views from points along the Harbor Freeway near the Port. This is due either to their unobtrusive position within the visual field, being outside of a normal range of vision, or their congruent nature and scale relative to features characterizing their context. The primary feature of the proposed Project contributing to the aesthetic value of the affected area—the Harry Bridges Buffer Area —would not be visible from the Harbor Freeway, and the improved visual access to the Vincent Thomas Bridge would be too slight to be noticed by motorists on the freeway.

Banning's Landing. The proposed Project would introduce no unfavorable contrast to the affected view. The context for the image of the area seen from Banning's Landing is the industrial marine environment of the Port. Regarding the replacement cranes, they would not contrast with existing features within view for several reasons: They are commonplace and iconic features of the Port environment; the number in view would remain the same; they are peripheral to the primary viewing direction, which is to the south; and the replacement cranes are of the same A-frame design as the existing cranes, albeit somewhat larger. Similarly, the largest of the future container ships and their stacked cargo would not contrast with features of the existing setting, as they would

be in view to the same degree as container ships visible during the Baseline period. Moreover, they are iconic features of a working port, they are peripheral to the primary views to the south, and their design is equivalent in form to existing container ships, albeit longer and wider. Consequently, they would not adversely affect the character of the views of the Port.

Knoll Hill. As would be the case for views from Banning's Landing, the proposed Project would not introduce unfavorable contrast to the affected view. The context for Knoll Hill is the Port environment and all features in view during the Baseline period, as well as during the period of the assessment, were and are congruent and coherently arrayed.

Aspects of the proposed Project visible from here would include construction activities along Berths 145-147, the proposed cranes, and, during operation, the container ships along those berths and the replacement cranes along Berths 136-147. Construction activities along Berths 145-147 would appear inconspicuous, not attracting appreciable attention and appearing consistent with the industrial character of a working port. Such equipment and activity would not contrast with the features of the Port setting.

Seen at a distance of 4,300 feet and relative to the other Port features in view, the proposed cranes would be in character and scale with their context and would be congruent with the setting (refer to Figure 3.1-23). Container ships docking at Berths 145-147 would be the only ones readily seen from Knoll Hill and they would be appreciably longer, somewhat wider, but not appreciably different in height than the largest of those docking there during the Baseline period. In form and function the new cranes and container ships would not contrast with those characteristic of the Baseline period, and they are expected and iconic features of a working port.

To summarize, construction activities, the new replacement cranes, and the larger container ships of the future would appear to be congruent with the Port setting, and they would introduce no increased contrast with that setting.

Residential-Context Views

"C" Street. The proposed Project would not adversely affect the character and quality of views from "C" Street. Concerning construction activities within the backlands of the proposed Project area, those associated with the new Administration Building, Maintenance and Repair Facility would be briefly visible until construction of the Harry Bridges Buffer Area commences. Thereafter, no construction activities for the proposed Project would be visible in the public views from "C" Street and the few single-story homes along its north side due to an eight-foot construction fence to be installed along the south side of the street.

Concerning the operational stage of the proposed Project, the absence of the existing Administration Building, replacement of existing cranes, and reduction by one in the number of cranes along Berths 136-139 would not be perceived with the construction of the Harry Bridges Boulevard Buffer Area, as described below. Nor would other features of the proposed Project, which would be within view were it not for the buffer area. These include the new Administration Building, the North Main Gate Complex, the Maintenance and Repair building, and new facilities in their vicinity.

Regarding the Harry Bridges Boulevard Buffer Area, the topography would be elevated 16 feet above grade and landscaped. The views of the Port from "C" Street and its adjacent residences would be partly blocked by the elevated grade and substantially screened, over time, by the landscaping along and near the top of grade. In the interim, features of the proposed Project within the area of the terminal partly visible over the elevated buffer area landform would not be sufficiently noticeable to increase the degree of contrast the Port imposes on the residential character of "C" Street-based views. The buffer area itself would, on the other hand, represent a substantial beneficial effect on the quality of views from "C" Street directed to the south.

Shields Drive. The proposed Project would not add unfavorable contrast within the critical Shields Drive neighborhood view evaluated. As has been noted, the Knoll Hill simulation in Figure 3.1-23 is representative of the changes which would occur due to the proposed Project, as seen from Viewing Position 11 along Shields Drive. The existing Port features in view contrast with the character of the Shields Drive residential area, as noted in the description of the existing conditions. These industrial features dominate the critical public view evaluated, create the maximum of contrast with the residential setting, and have led to Visual Modification Class 4 conditions. The proposed Project's replacement cranes and the container ships they would serve would be in keeping with the Port's existing character and in scale with features of the Port environment. Coupled with their distance from the observer, they would not increase the Port's contrast with the Shields Drive neighborhood character.

Regarding the visible construction activities along Berths 145-147, they would occur at or near the water's surface and along the wharves. Relative to the character of the view and the scale of its features, the construction equipment and activity would appear inconspicuous, not attract appreciable attention, appear consistent with the industrial character of a working port, and would not noticeably contrast with that setting.

Within this context of the distinctive marine industrial character of the working port, the quality of the view from Banning's Landing is high (Visual Modification Class 1). No obstruction of this view has been introduced by past projects, nor would present or future projects do so. Regarding the contribution of the proposed Project, the affected view is oriented to the south, and the proposed Project's features would be peripherally to the southwest and west. Although two features of the proposed Project would be peripherally visible, they would not obstruct the scenic view and would not change the character of the view. Therefore, the impact of the proposed Project would be less than cumulatively considerable.

Mitigation Measures and Residual Cumulative Impacts

None are required, and the contribution of the proposed Project to cumulative impacts would not be considerable under CEQA or NEPA.

4.2.1.5 Cumulative Impact AES-4: Light and Glare – No Impact

Cumulative Impact AES-4 is specifically a CEQA-stated issue over the impact of new sources of substantial light or glare that would adversely affect day or nighttime views in the area of the proposed Project. NEPA does not refer to the issue of light

and glare. Of concern are changes in ambient lighting and the spill of light off the proposed Project site onto adjacent light-sensitive areas.

There is no potential for daytime reflection and glare due to the proposed Project, as explained in Section 3.1.2.2.1.2. The materials that would be used for proposed Project construction are non-reflective and the angle of the sun, relative to the critical views, would not create reflective glare.

Section 3.1.4.3.1.4 addresses the issue of nighttime light and glare. Since there would be no nighttime construction, there would be no construction-related impacts due to light and glare. Regarding new and replacement high-mast lighting and directional floodlights at the Berths 136-147 Terminal, by design such lighting would result in the reduction of light emissions relative to off-site receptors (see Section 3.1.4.3.1, proposed Project). Moreover, the elevated landform at the south side of the Harry Bridges Buffer Area would shield from view all lighting within the terminal south of Berth 143, relative to "C" Street-based views. As the buffer area plantings mature, most of the rest of the lighting would be concealed from "C" Street-based views within about 20 years.

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

4.2.1.6 Cumulative Impact AES-5: Negative Shadow Effects – No Impact

Under the *City of L.A. CEQA Thresholds Guide,* if proposed Project structures would be over 60 feet tall and within a distance of three times their height to shadow-sensitive land uses on the north, northwest, or northeast, the potential for an adverse effect on those land uses must be considered. Project features over 60 feet tall include the proposed cranes, which would extend up to 286 feet high; the container ships expected to dock at the Berths 136-147; and the Administration Building, which would be 75 feet high. Because the structure of most of the cranes is not solid, the cranes would not block appreciable light. Moreover, applying the *Thresholds Guide* criteria for **Impact AES-5**, the areas within 858 feet of the cranes (three times 286 feet) to the northwest, north and northeast are not shadow-sensitive: they consist of portions of the Northwest Slip and the existing and proposed Project backlands. The proposed Administration Building would be 75 feet high, but it would be well within the Berths 136-147 Terminal and would not cast a shadow on shade-sensitive land uses. Concerning the largest container ships, they would be docked proximate to, and would be substantially shorter than, the cranes. Their shadow would be cast upon the wharves and backlands proximate to the dock.

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

4.2.1.7 Cumulative Impact AES-6: Inconsistency with Guidelines and Regulations – Less Than Cumulatively Considerable

Cumulative Impact AES-6 is relevant to CEQA, as extended through the *City of Los Angeles Thresholds Guide,* and to NEPA, as discussed in Section 3.1.4.2.1 (CEQA Criteria) and Section 3.1.4.2.2 (NEPA Criteria). Under **Cumulative Impact AES-6**, an impact would be significant if it were not consistent with laws, ordinances, regulations or standards (LORS) supporting policies and objectives applicable to the protection of features and views of aesthetic/scenic value. Such regulations have been identified in Section 3.1.3.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

As analyzed in this assessment, there would be no adverse cumulative visual impacts during construction or operation relative to the Port-context views, those from the Harbor Freeway, Banning's Landing, and Knoll Hill. Relative to the residential-context views from "C" Street and Shields Drive, however, the cumulative impacts of past activities have significantly and adversely affected the character and quality of the views. Those cumulative impacts would not, therefore, be consistent with LORS supporting policies and objectives applicable to the protection of features and views of aesthetic/scenic value and would represent a significant cumulative impact.

Contribution of the Proposed Project

As analyzed in this assessment, the proposed Project would not cause adverse impacts so would not be inconsistent with LORS supporting policies and objectives applicable to the protection of features and views of aesthetic/scenic value.

Certain types of policies and objectives cited in Section 3.1.3 are not applicable to the issue of consistency with regulations but were listed as generally pertaining to Aesthetics and Visual Resources. These are of four types, calling for: 1) enhancement of visual resources; 2) development of regulations beneficial to visual resources; 3) stipulated procedures for project approval and permitting; and 4) design standards handled during final engineering. As analyzed in this assessment, the proposed Project would cause no adverse impacts, so would not be inconsistent with policies supporting the enhancement of scenic views and public access to them. The development of regulations benefiting visual resources would occur independently of any proposed project. Procedural requirements for project approval and permitting would be required of all proposed projects, so inconsistency with these requirements could not occur. Finally, certain standards of design stipulated in the regulations would be addressed during final engineering.

In summary, since the proposed Project would make a less than cumulatively considerable contribution to cumulative impacts on views from scenic vistas (**Cumulative Impact AES-1**) and on views from the Harbor Freeway, Banning's Landing, and Knoll Hill (as discussed in **Cumulative Impact AES-3**), the proposed Project would also make a less than cumulatively considerable contribution to cumulative impacts relative to **Cumulative Impact AES-6** (under CEQA and NEPA).

Mitigation Measures and Residual Cumulative Impacts

None are required, and the contribution of the proposed Project to cumulative impacts would not be considerable under CEQA or NEPA.

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 (SCAB). However, the highest project impacts would occur within the communities adjacent to the proposed Project Berths 136-147 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 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 nonattainment under a national or state ambient air quality standard.

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 SCAB is a "severe-17" nonattainment area for 8-hour O_3, a "serious" nonattainment area for both CO and PM_{10}, and a nonattainment area for $PM_{2.5}$ in regard to the National Ambient Air Quality Standards (NAAQS). The SCAB is in attainment of the NAAQS for SO_2, NO_2, and lead. In regard to the California Ambient Air Quality Standards (CAAQS), the SCAB is presently in "extreme" nonattainment for O_3, "severe" nonattainment for CO, and nonattainment for PM_{10}. The SCAB is in attainment of the CAAQS for SO_2, NO_2, 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 SCAB, 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.

Contribution of the Proposed Project (Prior to Mitigation)

The South Coast Air Quality Management District (SCAQMD) develops daily emission thresholds that signify cumulatively considerable increases in pollutants from construction activities. Under CEQA, emissions from proposed Project Phase 1 construction would exceed the SCAQMD daily thresholds for VOC, NO_x, SO_x, PM_{10}, and $PM_{2.5}$ and emissions from Phase 2 construction would exceed the VOC, NO_x, and $PM_{2.5}$ daily SCAQMD thresholds. Under NEPA, emissions from proposed Project Phase 1 construction would exceed the SCAQMD daily thresholds for VOC, NO_x, PM_{10}, and $PM_{2.5}$ and emissions from Phase 2 construction would exceed the SCAQMD daily thresholds for VOC, NO_x, and $PM_{2.5}$. Any concurrent emissions-generating activity that occurs in the vicinity of the proposed Project site would add additional air emission burdens to these significant emission levels. As a result, without mitigation, emissions from proposed Project construction during Phases 1 or 2 would produce cumulatively considerable contributions to O_3, SO_2, PM_{10}, or $PM_{2.5}$ pollutant levels under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

Mitigated construction emissions under CEQA would exceed the (1) VOC, NO_x, SO_x, PM_{10}, and $PM_{2.5}$ SCAQMD emission thresholds during Phase 1 and (2) NO_x and $PM_{2.5}$ SCAQMD emission thresholds during Phase 2. As a result, mitigated proposed Project construction emissions under CEQA would produce cumulatively considerable and unavoidable contributions to (1) O_3, SO_2, PM_{10}, and $PM_{2.5}$ pollutant levels during Phase 1 and (2) O_3 and $PM_{2.5}$ levels during Phase 2. Mitigated construction emissions under NEPA would exceed the (1) NO_x and SO_x SCAQMD emission thresholds during Phase 1 and (2) NO_x and $PM_{2.5}$ SCAQMD emission thresholds during Phase 2. As a result, mitigated proposed Project construction emissions under NEPA would produce cumulatively considerable and unavoidable contributions to (1) O_3 and SO_2 pollutant levels during Phase 1 and (2) O_3 and $PM_{2.5}$ levels during Phase 2.

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 emissions 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

Impacts of past, present, and reasonably foreseeable future projects for **Cumulative Impact AQ-2** are identical to those described for **Cumulative Impact AQ-1.**

Contribution of the Proposed Project (Prior to Mitigation)

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

Mitigation Measures and Residual Cumulative Impacts

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

4.2.2.4 Cumulative Impact AQ-3: Potential for Operation to Produce a Cumulatively Considerable Increase of a Criteria Pollutant for which the Project Region is 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 nonattainment under a national or state ambient air quality standard.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Impacts of past, present, and reasonably foreseeable future projects for **Cumulative Impact AQ-3** are identical to those described for **Cumulative Impact AQ-1.**

Contribution of the Proposed Project (Prior to Mitigation)

The SCAQMD develops daily emission thresholds that signify cumulatively considerable increases in pollutants from operational activities. During an average or peak day of activity under CEQA, Project operations would produce emissions that exceed the following SCAQMD daily thresholds for the following years: (1) in 2007 and 2015 all thresholds, (2) in 2025, all thresholds except VOC and CO; and (3) in 2038, SO_x and PM_{10}. During an average or peak day of activity under NEPA, Project operations would produce emissions that exceed the following SCAQMD daily thresholds for the following years: (1) in 2007, all thresholds except CO and (2) in 2015 and thereafter, all thresholds. Any concurrent emissions-generating activity that occurs in the vicinity of the Project site would add additional air emission burdens to these significant levels. As a result, without mitigation, emissions from Project

operations under CEQA or NEPA would produce cumulatively considerable contributions to O_3, CO, SO_2, PM_{10}, or $PM_{2.5}$ pollutant levels during all Project years.

Mitigation Measures and Residual Cumulative Impacts

During an average or peak day of activity under CEQA, mitigated Project operations would produce emissions that exceed all SCAQMD daily thresholds in 2007 and remain below all thresholds in 2015 and thereafter. During an average or peak day of activity under NEPA, mitigated Project operations would produce emissions that exceed the following SCAQMD daily thresholds for the following years: (1) in 2007, all thresholds except CO, (2) in 2015, VOC and NO_x, and (1) in 2025 and 2038, all pollutants except SO_x. Any concurrent emissions-generating activity that occurs in the vicinity of the Project site would add additional air emission burdens to these significant levels. As a result, emissions from Project operations under CEQA or NEPA would produce cumulatively considerable and unavoidable contributions to O_3, CO, SO_2, PM_{10}, or $PM_{2.5}$ pollutant levels during all Project years.

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 emissions 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

Impacts of past, present, and reasonably foreseeable future projects for **Cumulative Impact AQ-4** are identical to those described for **Cumulative Impact AQ-1.**

Contribution of the Proposed Project (Prior to Mitigation)

The SCAQMD develops ambient pollutant thresholds that signify cumulatively considerable increases in these pollutants. Project operational emissions would produce off-site impacts that would exceed the SCAQMD ambient thresholds for 1-hour and annual NO_2 and 24-hour PM_{10}/$PM_{2.5}$. Any concurrent emissions-generating activity that occurs in the vicinity of 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.

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 Project operation 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 Objectionable Odors at the Nearest Sensitive Receptor –Cumulatively Considerable and Unavoidable

Cumulative Impact AQ-5 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 in the vicinity of 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 odor impacts within the Project region under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

Implementation of Project mitigations would reduce odor emissions from Project operations. After mitigation, Project operations would produce cumulatively considerable and unavoidable contributions to ambient odor levels within the Project region.

4.2.2.7 Cumulative Impact AQ-6: Exposure of receptors to significant levels of toxic air contaminants (TACs) – Cumulatively Considerable and Unavoidable

Cumulative Impact AQ-6 assesses the potential of the proposed Project construction and operation along with other cumulative projects to produce 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 South Coast Air Quality Management District 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 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 non-cancer 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.

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 No Federal Action/NEPA Baseline levels to above the significance criterion of 10 in a million (10×10^{-6}) risk to off-site 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 No Federal Action/NEPA baseline levels to off-site student receptors. Prior to mitigation, proposed Project operational emissions of TACs would increase acute non-cancer effects as follows:

- From the CEQA Baseline, to above the 1.0 hazard index significance criterion at occupational and recreational receptors in proximity to the Project terminal, and would also make a cumulatively considerable contribution to acute non-cancer effects on student, residential, and sensitive receptors.
- From the No Federal Action/NEPA Baseline, to above the 1.0 hazard index significance criterion at residential, occupational, sensitive, and recreational receptors in proximity to the Project terminal, and would also make a cumulatively considerable contribution to acute non-cancer effects on student receptors.

Any concurrent emissions-generating activity that occurs in the vicinity of 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 non-cancer levels at all receptor types under CEQA or NEPA.

While proposed Project emissions would not have an individually significant impact on chronic non-cancer 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 non-cancer health risks.

Mitigation Measures and Residual Cumulative Impacts

With mitigation, proposed Project construction and operational emissions of TACs would increase cancer risks as follows:

- Relative to CEQA Baseline levels, proposed Project emissions would make a cumulatively considerable contribution to cancer risks for residential and occupational receptors in proximity to the Project terminal, although the increases from the proposed Project would not exceed 10 cases in a million.
- Relative to No Federal Action/NEPA Baseline levels, proposed Project emissions would make a cumulatively considerable contribution to cancer risks for all types of receptors (residential, occupational, sensitive, student, and recreational). The increases from the proposed Project would exceed the 10 cases in a million risk at residential, occupational, and sensitive receptors.

With mitigation, proposed Project construction and operational emissions of TACs would increase acute non-cancer effects from the CEQA and No Federal Action/NEPA Baselines in proximity to the Project terminal. Although these increases would not exceed the 1.0 hazard index significance criterion at any receptor type, since the mitigated proposed Project construction and operation would increase acute non-cancer effects in the Project region, the proposed Project would make a cumulatively considerable and unavoidable contribution to ambient non-cancer effects under CEQA and NEPA.

The contribution of the mitigated proposed Project to chronic non-cancer risk was not analyzed quantitatively, since the unmitigated proposed Project contribution to non-cancer risk would not be individually significant. However, since construction and operational emissions of TACs would increase chronic non-cancer risks (even after mitigation) and the risk is already cumulatively significant in the vicinity of the proposed Project, the proposed Project would make a cumulatively considerable and unavoidable contribution to chronic non-cancer risks.

Members of the public and organizations have requested that the Berth 136-147 Container Terminal EIS/EIR include a discussion of the potential for diesel emissions from Port operations to cause health effects to people who use the proposed Harry Bridges Buffer Area (buffer area). Creation of the buffer area would allow the public to utilize an area directly adjacent to Port operations and associated truck traffic on Harry Bridges Boulevard. The air quality analysis in section 3.2 determined that the mitigated Project would produce less than significant health impacts (cancer and acute and chronic non-cancer) to users of the buffer area. As stated above, due to

emissions from Port operations and other area roadways and industries, airborne cancer and non-cancer levels within the project region are cumulatively significant. This condition also applies to the buffer area.

Levels of air pollution from both Port facilities and Port related trucks traveling along Harry Bridges Boulevard 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 five 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 and in particular the buffer area.

An alternative to avoiding significant cumulative health effects to users of the buffer area would be a buffer area design that prohibits public access to the area. Constructing the buffer area is consistent with the Harbor-Wilmington Community Plan and helps to physically separate sensitive receptors in the Wilmington community, including residential areas and schools, from Harry Bridges Boulevard and Port facilities.

4.2.2.8 Cumulative Impact AQ-7: Potential conflict with or obstruction of implementation of an applicable AQMP – Less than Cumulatively Considerable

Cumulative Impact AQ-7 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

Impacts of past, present, and reasonably foreseeable future projects for **Cumulative Impact AQ-7** are identical to those described for **Cumulative Impact AQ-1.**

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 SCAB 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.

Mitigation Measures and Residual Cumulative Impacts

None are required, as cumulative impacts would be less than significant.

4.2.2.9 Cumulative Impact AQ-8: Potential Contribution to Global Climate Change – Cumulatively Considerable and Unavoidable

Cumulative Impact AQ-8 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 to the generation of greenhouse gases (GHG) emissions from human activities. Some observed changes include shrinking glaciers, thawing permafrost, and shifts in plant and animal ranges. Credible predictions of long-term impacts from increasing GHG levels in the atmosphere include sea level rise, changes to weather patterns, changes to local and regional ecosystems including the potential loss of species, and significant reductions in winter snow packs. These and other effects would have environmental, economic, and social consequences on a global scale. Based upon this information, current and future global emissions of GHG are therefore cumulatively significant.

Contribution of the Proposed Project (Prior to Mitigation)

The Project would produce higher GHG emissions in each future project year, compared to baseline levels. Any concurrent emissions-generating activity that occurs global-wide would add additional air emission burdens to these significant levels. As a result, without mitigation, emissions from Project construction and operation would produce cumulatively considerable contributions to global climate change under CEQA. No significance determination has been made for NEPA.

Mitigation Measures and Residual Cumulative Impacts

With mitigation, the Project would produce higher GHG emissions in each future project year, compared to baseline levels. As a result, emissions from Project construction and operation would produce cumulatively considerable and unavoidable contributions to global climate change under CEQA. No significance determination has been made for NEPA.

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, including the Harry Bridges Buffer Area, 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 in the vicinity of 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 – Less Than Cumulatively Considerable

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.

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., San Pedro Waterfront [#3], Channel Deepening [#4], Evergreen Improvements [#7], Pier 400 Oil Marine Terminal [#11], Ultramar [#12], Berths 97-109 [#15], 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.

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. 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 backland developments.

In-water construction activities (e.g., San Pedro Waterfront [#3], Channel Deepening [#4], Cabrillo Way Marina [#5], Evergreen Improvements [#7], Pier 400 Oil Marine Terminal [#11], Berths 97-109 [#15], 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 the 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 mitigable by scheduling the work to begin after the nesting season is complete.

In-water construction activities, and particularly pile driving, would also result in underwater sound pressure waves that could affect marine mammals. The locations of these activities (e.g., pile and sheetpile driving) are in areas where few marine mammals occur, projects in close proximity are not expected to occur concurrently, and the marine mammals would avoid the disturbance area by moving to other areas within the Harbor. No critical habitat for any federally-listed species is present in the Harbor.

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, prior to mitigation, on the California least tern and other special status species under CEQA and NEPA. The proposed Project would have no impact on critically habitat as a result of construction and operations because no critical habitat is present. Construction activities would result in no loss of individuals or habitat for special status species. Therefore, the contribution of the proposed Project to **Impact BIO-1** would not be cumulatively considerable under CEQA or NEPA

Mitigation Measures and Residual Cumulative Impacts

None.

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), Channel Deepening (#4), Berths 97-109 (#15), 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, as the marine habitat losses described in **Cumulative Impact BIO-5** below, and the use of mitigation bank credits for the latter impacts also offset the losses of EFH. Temporary disturbances within EFH also occur during in-water construction activities from cumulative projects 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 and would not likely cause a significant impact to EFH. Increased vessel traffic and runoff from on-land construction and operations resulting from the cumulative projects would not result in a loss of EFH nor would these activities substantially degrade this habitat.

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 (16-ha) 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 saltmarsh that was also mitigated. Losses of eelgrass and saltmarsh from early landfill projects are unknown. None of the other past, present, or future projects are expected to adversely affect any of these habitats.

Contribution of the Proposed Project (Prior to Mitigation)

The significant loss of 9.5 acres (3.9 ha) of EFH, prior to mitigation, represents a cumulatively considerable impact under CEQA and NEPA. By contrast, neither the temporary construction disturbances in the West Basin nor 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 because 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 natural habitats, special aquatic sites, or plant communities and thus would not present a cumulatively considerable impact to such habitats, sites or 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 loss 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 on-site through creation of shallow water areas (e.g., Pier 300 and Cabrillo Shallow Water Habitats) or off-site through the restoration/creation of shallow coastal embayment habitat (e.g., Batiquitos and Bolsa Chica restorations).

Mitigation Measure BIO-1 would use existing mitigation credits to offset the loss of 9.5 acres (3.8 ha) of marine habitat due to filling of the Northwest Slip in accordance with agreements between the Port and regulatory agencies. No mitigation is required for the less than cumulatively considerable effects of construction and operations disturbances to EFH, and residual cumulative impacts would not be considerable 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.

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 contribute a cumulatively considerable impact on wildlife migration or movement corridors under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

No mitigation is required, and no cumulative residual 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 as 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 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: 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). 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 just during 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 which are not in close proximity 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 Port's Deep Draft Navigation Project (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 ft to -53 ft (Channel Deepening Project, #4). In addition, additional Channel Deepening dredging may be occurring in 2008 around selected berths in the West Basin. While these activities do not overlap physically with the Berth 136-147 dredging, they are 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.

Landfilling. Landfilling has removed and would continue to remove marine habitat and to disturb adjacent habitats in the Harbor. 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 build on land that existed prior to port development. During the filling process, suspension of sediments would result in turbidity in the vicinity of the work with rapid dissipation upon completion of the fill to above the water level. Water column and soft bottom habitats are lost while riprap habitats are gained. Although the total amount of marine habitat in the Harbor has decreased, a large amount remains, and the biological communities present in the remaining Harbor habitats have not been substantially disrupted as a result of those habitat losses. All marine habitat loss impacts from landfill construction have been mitigated to insignificance through on-site (shallow water habitat construction) and off-site (Batiquitos and Bolsa Chica restorations) mitigation since implementation of the agreement with the regulatory agencies (see **Cumulative Impact BIO-5**).

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) has either dissipated shortly after construction was completed or settled to the bottom sediments. For projects more than 20 years in the past, subsequent settling of suspended sediments has covered the pollutants, or the pollutants have been removed by dredging projects. Runoff from operation of these past projects continues but is regulated. Biological baseline surveys in the Harbor (MEC 1988, MEC and Associates 2002) 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.

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: 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 97-109 (#15), 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).

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 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.

Contribution of the Proposed Project (Prior to Mitigation)

Dredging and Wharf Work. Dredging along the wharves at Berths 136-147 and wharf construction/reconstruction activities for the proposed Project would remove 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. However, establishment in the disturbed area of a climax biological community typical of the type usually found in the West Basin and Inner Harbor could take from 2 to 5 years. In conjunction with the Channel Deepening Project (No. 4), which covers much of the Inner Harbor, the proposed Project could result in a cumulatively significant disruption of a local biological community of the West Basin and Inner Harbor (i.e., climax benthic community) under CEQA and NEPA.

Landfilling. Filling the Northwest Slip would remove 9.5 acres (3.9 ha) of highly modified marine habitat in the Inner Harbor and cause short-term turbidity associated with fill placement. This would not substantially disrupt biological communities, and the proposed Project would not contribute considerably to cumulative effects on biological communities of the Harbor under CEQA and NEPA. Effects of the fill on amount of marine habitat are addressed in **Cumulative Impact BIO-5** below.

Backland Construction and Operations. Runoff from temporary disturbances on land during construction of proposed Project backland facilities, the rail yard relocation, and the Harry Bridges road widening and buffer area would add to the cumulative amount of construction runoff from all other projects in the Harbor that are being constructed concurrently with the Berths 136-147 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, both in 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 SWPPPs, would be implemented as required in project permits. The proposed Project would add 10 acres (3.9 ha) of new land surface from which runoff would occur during operations, and this would add to runoff from the backlands redeveloped for the proposed Project and other developed sites in the Harbor. Construction and operation of the proposed Project would not result in any cumulatively considerable effects on biological communities under CEQA or NEPA because runoff control measures, such as SWPPPs, would be implemented as required in project permits, and the amount of new impervious surface would contribute a small amount of controlled runoff that would not result in exceedance of water quality standards for protection of marine life.

Vessel Traffic. The small increase in vessel traffic in the Harbor (3 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 prior to mitigation, and the proposed Project could result in a cumulatively considerable effect under CEQA and NEPA.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are currently feasible, and residual cumulative impacts of the proposed Project would be considerable 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 (231 ha) of landfill have been completed in the Harbor (Pier 400 [#1] and Channel Deepening [#4]), another 75 acres (30 ha) 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 65 acres (26 ha) (Channel Deepening [#4], Berths 97-109 [#15], and Middle Harbor Terminal Redevelopment [#66]). Thus, well over 700 acres (283 ha) 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.

Contribution of the Proposed Project (Prior to Mitigation)

The proposed Project would contribute 9.5 acres (3.9 ha), or less than 1.5 percent, of the more than 700 acres (283 ha) of fill completed or proposed for the Harbor prior to mitigation. This would make a cumulatively considerable contribution to habitat loss prior to mitigation under CEQA and NEPA.

Mitigation Measures and Residual Cumulative Impacts

Mitigation Measure BIO-1 would use existing mitigation credits to offset the loss of 9.5 acres (3.8 ha) of marine habitat due to filling of the Northwest Slip in accordance with agreements between the Port and regulatory agencies. Other recent and future cumulative projects that involve construction of new landfills in the Harbor have used or would use 71.8 of these mitigation credits to offset impacts of marine habitat loss (see Table 3.3-5 in Section 3.3). The mitigation bank currently contains 161 credits, so that 79.2 credits would remain after the approved and planned projects, including the proposed Project, are mitigated. No Section 10/404 permits can be issued absent 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 effects on cultural, archaeological, historical 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), and under CEQA and NEPA 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 resources under CEQA 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 to contribute to cumulative impacts on paleontological resources.

4.2.4.2 Cumulative Impact CR-1: Cumulative Impacts on Archaeological or Ethnographic Resources – Cumulatively Considerable and Unavoidable

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 been already lost.

Construction activities (i.e., excavation, dredging, and land filling) associated with present and future Port projects, including the Pier 400 Container Terminal Project (#11), Ultramar Lease Renewal Project (#12), Channel Deepening Project (#4), Pier 400 Oil Marine Terminal Project (#11), Berths 97-109 Container Terminal Project (#15), 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 be within the landforms inhabited by Native American populations. 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 historic 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), would also potentially contribute to this impact.

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 historic resources within the proposed Project site. In addition, due to the absence of known archaeological

and historical resources and the extent of disturbed soils and historic fill in the Berths 136-147 Terminal area, the probability of encountering any intact, unknown historic resources is remote. Soils within the Pier A rail yard relocation area are imported, such that all disturbances for these improvements would not impact intact natural landforms where prehistoric occupation could have occurred. Thus, the potential for disturbing, damaging, or degrading unknown prehistoric remains or ethnographic resources considered significant to contemporary Native Americans prior to mitigation in the Berths 136-147 Terminal area is remote; there is no potential for this impact in the Pier A rail yard relocation area. However, the remote possibility of an adverse impact is an incremental effect which would be cumulatively considerable under CEQA when combined with the impacts of past, present, and reasonably foreseeable projects.

As these cumulative impacts on archaeological and ethnographic resources would be associated with impacts associated with upland projects, there would be no cumulative incremental effect under NEPA.

Mitigation Measures and Residual Cumulative Impacts

Mitigation Measure CR-1, as described in Section 3.4.4.3.1.1, provides that work shall be immediately stopped and relocated from the area in the unlikely event that potentially significant, intact cultural resources are encountered during construction. The referenced section provides additional information about this mitigation measure. However, even with application of this mitigation and the extent of previous soil disturbances throughout the proposed Project area, the incremental contribution of the proposed Project to cumulative impacts on archaeological and ethnographic resources cannot be eliminated. Mitigation of an archaeological resource (e.g., defining the resource and sampling a portion of the area to be destroyed) that is encountered during construction must be done expeditiously, resulting in the ability to collect or salvage only enough information to characterize the nature of the find. As with any non-renewable archaeological site, it is impossible to retain all information that is represented in a given assemblage of prehistoric site remains. Similarly, the destruction of any archaeological site, regardless of its condition (i.e., previously disturbed, or intact) represents a loss of heritage values to contemporary Native Americans. Thus, the contribution of the proposed Project would be cumulatively considerable and unavoidable with mitigation under CEQA.

As the proposed Project's contribution to cumulative impacts on archaeological and ethnographic resources would be associated with impacts on the upland portion of the proposed Project area, there would be no cumulatively considerable contribution under 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 Historic Places or the National Register of Historic Places, or otherwise considered unique or important historic architectural resources under CEQA.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past and present projects within urban areas including the project vicinity have involved demolition of significant historic architectural structures, most often without the benefit of their recordation (photographs and professional drawings) beforehand. Though each structure over 45 years old is not necessarily unique, historic buildings are capable of contributing to understanding events that have made a significant contribution to the broad patterns of history, and/or may have been associated with the lives of persons significant in the past; and/or may have been architecturally distinctive. Their destruction without proper recordation has minimized the ability to reconstruct the region's heritage.

Proposed present and future Port projects requiring removal of significant or potentially significant historical architectural resources (i.e., demolition of structures over 45 years of age) include the Pan-Pacific Fisheries Cannery Buildings Demolition Project (#20) and 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.

Contribution of the Proposed Project (Prior to Mitigation)

As documented in Section 3.4.4.3.1.1 (**Impact CR-2**), with the exception of the Pier A rail yard there are no existing standing structures within the Berths 136-147 Terminal area over 45 years of age, and removal of the Pier A rail yard would have no adverse effects on historic architectural resources. Therefore, the proposed Project would have no adverse effects on historic architectural resources, and would not contribute to any cumulatively significant impacts on these resources.

As the proposed Project's contribution to cumulative impacts on historical architectural resources would be associated with impacts on the upland portion of the proposed Project area, there would be no cumulatively considerable contribution under NEPA.

Mitigation Measures and Residual Cumulative Impacts

As the proposed Project would have no adverse effects on historic architectural resources, no mitigation measures are required. The proposed Project would have no cumulative impact on architectural historical resources.

As these cumulative impacts on historic architectural resources would be associated with upland projects, there would be no cumulative incremental effect under NEPA.

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

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.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The number and percentage of significant paleontological resources in the project vicinity destroyed by past and present projects is difficult to determine. Geological formations in which important terrestrial vertebrate fossils may be found, however, have been substantially disturbed by urban development without systematic analysis by a professional paleontologist. Many fossils encountered during construction may have been in poor condition and/or have been redundant examples of species previously recognized and characterized. There is the potential, however, for unusual (i.e., because of their age, size, and/or condition) or previously unrecorded fossil species to be encountered within an urban project area. It is reasonable to expect that past excavation and construction projects undertaken without conditions of approval requiring expert assessment when fossils encountered would have resulted in substantial number of significant resources being destroyed without analysis. Their destruction without proper assessment has reduced the ability to reconstruct the region's fossil record.

Construction activities (i.e., excavation, dredging, and land filling) associated with present and future Port projects, including the Pier 400 Container Terminal Project (#1), Ultramar Lease Renewal Project (#12), Channel Deepening Project (#4), Pier 400 Oil Marine Terminal Project (#11), Berths 97-109 Container Terminal Project (#15), and Evergreen Container Terminal Improvement Project (#7), would potentially require excavation. These activities would be in areas of historical estuary habitats containing sediments dating from recent geologic time (i.e., the last 20,000 years), well after the time periods when animals that have been fossilized were present, and recent landfills that would not contain natural fossil deposits. Therefore, the projects would not be located within areas with potentially significant vertebrate paleontological resources. 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 paleontological resources. All of these projects would be conditioned to implement procedures outlined in **Mitigation Measure CR-3** requiring a qualified paleontologist to evaluate any fossil encountered during construction, and if significant, to collect and preserve the specimen.

Reasonably foreseeable future projects within upland areas that may affect paleontological resources include those in 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). The County of Los Angeles (Los Angeles County 2007) and City of Long Beach (City of Long Beach 2007) do not have code requirements ensuring that paleontological resources encountered during construction are professionally assessed and preserved. Therefore, such projects may result in the destruction of paleontological resources.

Contribution of the Proposed Project (Prior to Mitigation)

The proposed Project would result in ground disturbances within areas of high paleontological sensitivity (specifically, in the northwestern portion of the proposed Harry Bridges Buffer Area). Based on the relative uniqueness of land mammal fossils found in this area, the potential disturbance to these paleontological resources by the proposed Project would be significant, prior to mitigation. Therefore, the incremental

effect of the proposed Project on paleontological resources prior to mitigation would be cumulatively considerable when considered in conjunction with past projects and related present and future projects outside of the jurisdiction of the Port of Los Angeles.

As these cumulative impacts on paleontological resources would be associated with upland projects, there would be no cumulative incremental effect under NEPA.

Mitigation Measures and Residual Cumulative Impacts

Implementation of proposed Project **Mitigation Measure CR-3** (informing construction contractors of the paleontological sensitivity within the proposed Harry Bridges Buffer Area, requiring that equipment operators be directed to temporarily cease work in the event a potential vertebrate fossil is encountered during ground disturbances, redirecting activity elsewhere in the event that a potential fossil is encountered, retaining a qualified vertebrate paleontologist to evaluate the significance of the fossil and, if determined to be a significant, to systematically remove and stabilize the specimen in anticipation of its preservation, and funding the curation of the significant vertebrate specimen in a qualified professional research facility), would eliminate the proposed Project's individual contribution. Therefore, with implementation of **Mitigation Measure CR-3**, the proposed Project would not contribute to cumulative impacts 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, as 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, as 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, as 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, as 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, as 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.

All of the present and reasonably foreseeable future projects listed in Table 4-1, with the exception of the Channel Deepening Project (#4) and the Artificial Reef Project (#6), as these do not involve existing or proposed structural engineering or onsite personnel, would also result in increased infrastructure, structure, and number of people working onsite in the cumulative geographic scope.

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 ground shaking to result in ground failure (e.g., liquefaction, differential settlement), due to the need to fill in additional land in the 10-acre Northwest Slip. It would also 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 individually significant impact of the proposed Project would be cumulatively considerable under both CEQA and NEPA.

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 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 tsunami or seiche can be great if a large submarine earthquake or landslide occurs in 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-ft (1.8-m) rise of water in a few minutes have been observed in the West Basin.

For on-site 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.

All of the present and reasonably foreseeable future projects listed in Table 4-1, with the exception of the Channel Deepening Project (#4) and the Artificial Reef Project (#6), as these do not involve existing or proposed structural engineering or onsite personnel, would also result in increased infrastructure, structure, and number of people working onsite in the cumulative geographic scope.

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 (3 to 4.6 m) 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 individually significant impact of the proposed Project would be cumulatively considerable under both CEQA and NEPA.

Mitigation Measures and Residual Cumulative Impacts

Mitigation Measure GEO-2, 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 on-site 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 less than cumulatively significant, or the contribution of the proposed Project to less than cumulatively considerable, in the event of a major tsunami. Therefore, the proposed Project would result in a cumulatively considerable and 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 contributed to fill and therefore risk of subsidence/settlement.

Contribution of the Proposed Project (Prior to Mitigation)

Settlement impacts in proposed Project backland areas would be less than significant under CEQA, as 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 contribute to cumulative impacts, the cumulative impact is less than significant, and the proposed Project would not result in a cumulatively considerable impact under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

None are required, as the contribution of the proposed Project would be less than cumulatively considerable 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 have contributed to fill and therefore risk of 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, as 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 contribute to cumulative impacts, the cumulative impact is less than significant, and the proposed Project would not result in a cumulatively considerable impact under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

None are required, as the contribution of the proposed Project would be less than cumulatively considerable 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 project would not expose places, structures, or people to substantial damage or substantial risk of harm. As there would be no project-specific impact, there would be no cumulatively considerable impacts.

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 as shallow as 12 feet (4 m). 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.

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 contribute to cumulative impacts, the

cumulative impact is less than significant, and the proposed Project would not make a cumulatively considerable contribution, under either CEQA or 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.

Since the proposed Project area is relatively flat and paved, with no prominent geologic or topographic features, proposed Project operations would not result in any distinct and prominent geologic or topographic features being destroyed, permanently covered, or materially and adversely modified. Therefore, the proposed Project would not contribute a cumulatively considerable impact and no further analysis is needed.

4.2.5.9 Cumulative Impact GEO-8: Permanent Loss of Availability of Known Significant Mineral Resource – Less Than Cumulatively Considerable

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. However, with respect to petroleum resources, the northern portion of the proposed Project site, in the vicinity of the proposed Harry Bridges Buffer Area, is located within the Wilmington Oil Field, the sixth largest producing oil field in the state. Numerous oil wells formerly present on the proposed Project site have been abandoned in accordance with California DOGGR specifications.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

There are no past, present, or reasonably foreseeable aggregate mining projects in the Port area. However, past projects have resulted in displacement of oil wells that have produced oil from the underlying Wilmington Oil Field. With increasing commercial and industrial development, oil extraction has increasingly occurred from clustered development wells, rather than the relatively widely spaced wells drilled prior to extensive Port development. Modern directional drilling techniques have allowed access to oil reserves from remote (i.e., clustered) locations; therefore, past industrial and commercial development have not substantially reduced access to oil reserves of the Wilmington Oil Field. Similarly, present and reasonably foreseeable future projects will not preclude continued development of the Wilmington Oil Field, as these project sites

could be accessed from remote locations (including onshore or offshore), using directional (or slant) drilling techniques.

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, proposed Project operations would preclude oil and gas drilling from within proposed Project boundaries; however, petroleum reserves beneath the site could be accessed from remote locations using directional drilling techniques. Therefore, the proposed Project would not result in the permanent loss of availability of a known mineral resource that would be of future value to the region and the residents of the state. Because of modern oil and gas drilling techniques, the cumulative impact is less than significant and the contribution of the proposed Project is less than cumulatively considerable, under both CEQA and NEPA.

Mitigation Measures and Residual Cumulative Impacts

None are required, as the contribution of the proposed Project to cumulative impacts would be less than considerable under CEQA and NEPA.

4.2.6 Groundwater and Soils

4.2.6.1 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, as these impacts are site-specific and relate primarily to potential exposure of contaminants to on-site personnel during construction, or to on-site personnel or recreational users, on the Harry Bridges Boulevard Buffer Area, subsequent to construction. 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, as 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. The geographic scope with respect to potential reduction in groundwater recharge would be the aerial extent of the saline, perched aquifer, which underlies the proposed Project site.

With respect to CEQA, past, present, planned, and reasonably foreseeable future developments that could contribute to cumulative impacts associated with groundwater and soils are confined to projects that would result in paving and potential reduction in groundwater recharge. With respect to NEPA, there are no off-site 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/demolition; 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 non-permeable surfaces.

4.2.6.2 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 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, in that they relate primarily to potential exposure of contaminants to on-site personnel during construction, or to on-site personnel or recreational users, subsequent to construction. Past projects on the site of the proposed Project site, including those discussed in Section 3.6.2.3 and summarized in Table 3.6-1, have contributed to soil contamination.

Contribution of the Proposed Project (Prior to Mitigation)

As discussed in Section 3.6.2.3 and summarized in Table 3.6-, soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and the proposed buffer area have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses. These areas are in various stages of contaminant site characterization and remediation.

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. Similarly, grading in the proposed buffer area could expose construction personnel and future recreational users to contaminated soil. Human health and safety impacts would be significant pursuant to exposure levels established by Cal/EPA's Office of Environment Health Hazard Assessment (OEHHA). Because the contribution from the proposed Project is individually

significant, it would have a cumulatively considerable contribution to this cumulatively significant impact, under both CEQA and NEPA.

Mitigation Measures and Residual Cumulative Impacts

Mitigation Measure GW-1: Site Remediation**,** would apply to the proposed Project's contribution. This measure, described in more detail in section 3.6.4.3.1.1, states that unless otherwise authorized by the lead regulatory agency for any given site, the LAHD shall remediate all contaminated soils within proposed Project boundaries prior to or during demolition and grading activities. Remediation shall occur in compliance with local, state, and federal regulations, as described in Section 3.6.3, 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 Cal/EPA and OEHHA.

In addition, **Mitigation Measure GW-2**: Contamination Contingency Plan, would apply to the proposed Project's contribution. This measure, described in more detail in section 3.6.4.3.1.1, would address previously unknown contamination that is encountered during demolition, grading, and construction.

Implementing **Mitigation Measure GW-1** and **GW-2** would reduce health and safety impacts to on-site personnel in backland areas, as well as construction personnel and recreational users of the buffer area, such that residual impacts from the proposed Project would be reduced in the event of toxic substance or petroleum hydrocarbon exposure. Implementing these mitigation measures would reduce the contribution of the proposed Project to less than cumulatively considerable.

4.2.6.3 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. Excavation and grading activities in contaminated soils could result in inadvertent spreading of such contamination to areas that were previously unaffected by spills of petroleum products or hazardous substances, thus potentially exposing construction and existing operations personnel, future occupants of the site, and future recreational users to contaminants.

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 on-site personnel during construction, or to on-site personnel or recreational users, subsequent to construction. Past projects on the site of the proposed Project site, as discussed in Section 3.6.2.3 and summarized in Table 3.6-1, have contributed to soil contamination. Present and reasonably foreseeable future projects would have no effect on soil contamination on site.

Contribution of the Proposed Project (Prior to Mitigation)

As discussed for **Impact GW-1,** soil and groundwater in the Berths 142-147 backland areas, the Pier A rail yard, and the proposed buffer area, have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses. These areas are in various stages of contaminant site characterization and remediation. If during proposed Project construction, contaminated soils are encountered during grading or excavations for utilities and foundations in backland areas or grading in the proposed buffer area, contamination could be spread to other areas. Health and safety impacts would be significant pursuant to exposure levels established by OEHHA. Because the contribution from the proposed Project is individually significant prior to mitigation, it would have a cumulatively considerable contribution to this cumulatively significant impact, under both CEQA and NEPA.

Mitigation Measures and Residual Cumulative Impacts

Mitigation Measures GW-1 and **GW-2,** as described for **Impact GW-1**, shall be implemented to reduce potential health and safety impacts associated with **Impact GW-2** to below health screening levels established by OEHHA**.**

Implementing **Mitigation Measures GW-1** and **GW-2** would contribute in reducing health and safety impacts to on-site personnel in backland areas, as well as construction personnel and recreational users of the buffer area, from spread of contaminants through soils, such that the contribution of the proposed Project is reduced to less than cumulatively considerable.

4.2.6.4 Cumulative Impact GW-3: Change in potable water levels – No Impact

Cumulative Impact GW-3 addresses the degree to which the proposed Project, 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 well fields (public or private); or
- Adversely change the rate or direction of groundwater flow.

As described in Section 3.6, the localized groundwater withdrawal that may occur as a result of the proposed Project (during construction dewatering operations) would have no impacts on underlying potable water supplies, as withdrawals would occur from the shallower, non-potable groundwater table. Also, drinking water is provided to the proposed Project area by the City of Los Angeles Department of Water and Power. Therefore, cumulative impacts would not occur, and the proposed Project would not make a considerable contribution, under both CEQA and NEPA.

4.2.6.5 Cumulative Impact GW-4: Reduction in potable groundwater recharge capacity – Less Than Cumulatively Considerable

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. Any recharge that may occur in the cumulative area of influence would likely only affect the shallow, saline non-potable groundwater underlying the coastal areas of the Los Angeles Basin. Deeper groundwater recharge occurs further inland and is important in sustaining the aquifers used as industrial and municipal water supply outside of the Port area.

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past projects, including projects listed in Table 4-1 and the site of the proposed Project site, have contributed to paving and therefore an increase in impermeable surfaces and denied recharge. Similarly, present and reasonably foreseeable future projects will include paving and a reduction in groundwater recharge. However, most of the coastal area that overlies the perched aquifer, or cumulative area of influence, is currently already paved and impermeable to groundwater recharge. Furthermore, the groundwater underlying the area is highly saline and non-potable. Present and reasonably foreseeable future projects would likely include building on and/or repaving already impermeable areas, thus not changing the recharge capacity of the area. In-water construction activities would not impact potable groundwater recharge because the proposed Project area is underlain by highly saline, non-potable groundwater.

Contribution of the Proposed Project (Prior to Mitigation)

As discussed in sections 3.6.4.3.1.1 and 3.6.4.3.1.2, construction activities at the proposed Project site would result in removal of pavement in select areas prior to repaving, thus resulting in a temporary increase in groundwater recharge at the site. However, the proposed Project area is underlain by highly saline, non-potable shallow groundwater, such that any temporary increase in recharge would be inconsequential to drinking water supplies. Therefore, the cumulative impact is less than significant and the contribution of the proposed Project is less than cumulatively considerable under CEQA. In-water construction activities would have no impact with respect to potential loss of potable groundwater recharge because the proposed Project area is underlain by highly saline, non-potable groundwater. Therefore, the cumulative impact is less than significant and the contribution of the proposed Project is less than cumulatively considerable under NEPA.

Mitigation Measures and Residual Cumulative Impacts

None are required, as the contribution of the proposed Project to cumulative impacts would be less than considerable under CEQA and NEPA.

4.2.6.6 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, 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 would not contribute considerably, under both CEQA and NEPA.

4.2.7 Hazards and Hazardous Materials

4.2.7.1 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 in the vicinity of the Port.

4.2.7.2 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 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 include materials that would not be considered a risk to public safety (e.g., perfume spills), but would still be considered an environmental hazard. It should be noted that

during this period there were no reported impacts to the public (injuries, fatalities and evacuations), with potential consequences limited to port workers (two worker injuries that were treated at the scene and 20 workers evaluated as a precaution).

Other present and reasonably foreseeable future West Basin terminal projects (at Berths 100-102 and Berths 118-131) would result in an increase in hazardous materials and petroleum products that could potentially spill during construction and operational activities. Such spills could result in soil contamination, groundwater contamination, marine water quality contamination, and health and safety impacts to on-site personnel and the public.

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, as 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 3.7. Therefore, the proposed Project's incremental contribution to impacts from construction and operation of other Port Complex projects would be less than cumulatively considerable.

Mitigation Measures and Residual Cumulative Impacts

None.

4.2.7.3 Cumulative Impact RISK-2: Increase in the probable frequency and severity of consequences to people from exposure to health hazards – Cumulatively Considerable and Unavoidable

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 which 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 described in Section 4.2.10.3, 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. Increased traffic as a result of past, present and reasonably foreseeable projects would be expected to result in some increase in accidents, injuries and fatalities.

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 the future 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 Ave.; 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 TMP, and 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, programs like the Port's Automated Traffic Management and Information System (ATMIS) would improve traffic safety through:

- Improved security and safety
- Improved multimodal mobility
- Improved incident response time
- Enhanced goods movement
- Improved reliability and predictability of the transportation system
- Reduced travel delay and emissions

Other conceptual improvement plans in the Port of Los Angeles Baseline Transportation Study include:

- Harry Bridges Boulevard/I-110/Figueroa Street/John S. Gibson Interchange Improvements
- Harbor Boulevard/I-110/SR-47/Swinford Street Interchange Improvements
- John S. Gibson Street Improvements
- Gaffey Street Improvements
- Improvements of Harry Bridges Boulevard at Fries Avenue
- Terminal Island Intersection Improvements
- Anaheim Street and Pacific Coast Highway Interchanges at I-110

Vincent Thomas Bridge Upgrades These future projects are expected to decrease the probable frequency and severity of harm from truck accidents.

Contribution of the Proposed Project (Prior to Mitigation)

As explained in Section 3.7, construction/demolition activities at Berths 136-147 would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards. Because the proposed Project's incremental impact 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 at the proposed Project would not be significant.

The proposed project represents a relatively small fraction of the projected future impact of container traffic on public safety. Additionally, although TEU growth from the proposed Project increases for future years, peak hour trips do not increase proportionately. This is because in future years, on-dock rail usage would increase and work shift splits would change as described in Section 3.10 and in Section 4.2.10.3 below. Furthermore, the analysis in Section 3.7 demonstrates that proposed Project operations would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards as a result of accidents. Therefore, the incremental effect of the proposed Project on the probable frequency and severity of consequences to people from to spills of hazardous materials would be less than cumulatively considerable.

Mitigation Measures and Residual Cumulative Impacts

None required. However, it should be noted that traffic **Mitigation Measures TRA-1, TRA-2, TRA-3, TRA-4, TRA-5, TRA-6,** and **TRA-7** would further reduce the probable frequency and severity of impacts from the proposed Project and all cumulative projects.

4.2.7.4 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, 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 was the potential to impact applicable emergency response or evacuation plans.

Contribution of the Proposed Project (Prior to Mitigation)

The proposed Project would consolidate the Berths 136-147 area into a single terminal and optimize terminal operations by increasing backland capacity, constructing new wharves and upgrading existing wharves to accommodate modern container terminal ships, constructing an on-dock ICTF, and implementing transportation infrastructure improvements. The Berths 136-147 Terminal would continue to operate as a container terminal; therefore, proposed terminal operations would not interfere with any existing contingency plans. Proposed transportation system improvements (i.e., widening of Harry Bridges Boulevard) 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, proposed road improvements would reduce traffic congestion, and 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 considerably contribute to cumulative impacts.

Mitigation Measures and Residual Cumulative Impacts

None are required, as the contribution of the proposed Project to cumulative impacts would be less than considerable under CEQA and NEPA.

4.2.7.5 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.

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 3.7.3.1, 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, 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 all of the foregoing considerations, there would be no cumulatively considerable impact under CEQA.

Mitigation Measures and Residual Cumulative Impacts

None are required, as the contribution of the proposed Project to cumulative impacts would be less than considerable under CEQA and NEPA.

4.2.7.6 Cumulative Impact RISK-5: 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 136-147, 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 is pushed against 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 ft (0 m) 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 ft (0.86 m) 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 ft (0.86 m) 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.

A reasonable worst-case scenario for generation of a tsunami or seiche in the San Pedro Bay Ports include the recently developed Port Complex model, which predicts tsunami wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m))above MSL at the proposed Project site, under both earthquake and landslide scenarios. Incorporating the Port MSL of +2.82 ft (0.86 m), the model predicts tsunami wave heights of 4.1 to 8.1 ft (0.8 to 2.4 m) above MLLW at the proposed Project site. Because the proposed Project site elevation ranges from 10 to 15 ft (3.0 to 4.6 m) above MLLW, localized tsunami-induced flooding would not occur.

While the analysis above considers a reasonable worst-case seismic scenario based on a maximum seismic event, with respect to MSL, a theoretical maximum worst-case wave action from a tsunami would result if the single highest tide predicted over the next 40 years at the San Pedro Bay Ports was present at the time of the seismic event. The single highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above MLLW. This condition is expected to occur less than 1 percent of the time over this 40-year period. If that very rare condition were to coincide with a maximum tsunami event, the model predicts tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above MLLW at the proposed Project site. Because the proposed Project site elevation ranges from 10 to 15 ft (3.0 to 4.5 m) above MLLW, localized tsunami-induced flooding up to 2.6 ft (0.8 m) is possible. To determine the extent of potential impacts due to tsunami-induced flooding, Port structural engineers have determined that Port reinforced concrete or steel structures designed to meet California earthquake protocols incorporated into MOTEMS would be expected to survive complete inundation in the event of a tsunami (personal communication, Yin, P., P.E., Senior Structural Engineer, Los Angeles Harbor Department 2006). However, substantial infrastructure damage and/or injury to personnel would occur as a result of complete site inundation.

As previously discussed, there is a potential for tsunami-induced flooding under the theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is very low during construction of the proposed Project and the overall probability of this worst-case scenario is less than one in a 100,000 year period.

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 would result in releases of both hazardous and non-hazardous cargo to the environment, adversely impacting 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.

Because a major tsunami is not expected during the life of the proposed Project, but could occur (see Section 3.5, Geology for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as “improbable” (less than once every 10,000 years). The potential consequence of such an event is classified as “moderate”, resulting in a Risk Code of 4 that is “acceptable.”

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 at the proposed project location would be on the order of 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.

Designing new facilities based on existing building codes may not prevent substantial damage to structures from coastal flooding as a result of tsunamis or seiches. Seismically induced tsunamis and seiches are typical for the entire California coastline and the probability of such an event would not be increased by construction of the proposed Project. However, because the proposed Project site elevation is located within 10 to 15

feet (3 to 4.6 m) above MLLW, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of the proposed Project, but could occur (see Section 3.5, Geology for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as "improbable" (less than once every 10,000 years). The potential consequence of such an event is classified as "moderate", resulting in a Risk Code of 4 that is "acceptable." In light of such a low probability of a large tsunami, in combination with applicant-proposed spill containment procedures (i.e., the Tank Vessel Response Plan), the contribution of the project would be less than cumulatively considerable.

Mitigation Measures and Residual Cumulative Impacts

None are required, as the contribution of the proposed Project to cumulative impacts would be less than considerable under CEQA and NEPA.

4.2.7.7 Cumulative Impact RISK-6: 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 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 US 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 weapons of mass destruction would be substantial in terms of impacts to the environment and public health and safety. However, the consequences of a WMD attack would not be affected by cumulative growth at the San Pedro Bay Ports. Furthermore, the likelihood of such an event would not be impacted by cumulative infrastructure growth or throughput increases at the San Pedro Bay Ports, but would be based on the terrorist's desired outcome. 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, illegal vessel transportation, etc.).

Contribution of the Proposed Project (Prior to Mitigation)

Unlike vessels carrying hazardous or highly flammable materials, such as bulk liquid carriers, an attack on a container ship would likely be economic in nature and designed to disrupt port operations. Container ships are not attractive targets in terms of loss of life or producing large fires and explosions. However, a catastrophic attack on a vessel within Port waters could block key channels and disrupt commerce, thus resulting in potential economic losses.

Container ships represent a substantial segment of maritime commerce and are the focus of much of the attention regarding seaport security. Container ships carry stacks of marine containers loaded with a wide variety of goods. A large container ship can carry more than 3,000 containers, of which several hundred might be offloaded at a given port.

The risk of a terrorist attack is considered part of the baseline for the project. Terrorism risk associated with container terminals currently exists, and is not influenced by changes in container traffic volume. Currently, the Berths 136-147 Terminal handles approximately 3.1 percent of the national containerized cargo and 8.5 percent of the POLA/POLB cargo volume. With the implementation of the proposed Project, and compared to regional and national growth projections, the relative importance of the project will remain at 3.1 percent of national containerized cargo throughput, but decrease to 5.6 of the cumulative POLA/POLB cargo volume. Overall, growth at the Berths 136-147 Terminal would not increase disproportionately as compared to regional (POLA/POLB) and national container terminal growth, and would, therefore, not change in the relative importance as a terrorist target.

An increase in the volume of container vessels visiting the terminal would not change the probability or consequences of a terrorist attack on the Berths 136-147 Terminal since the terminal is already considered a potential economic target, as well as a potential mode to smuggle a weapon of mass destruction into the United States. In addition, the measures outlined in Section 3.7.2.5 would serve to reduce the potential for a successful terrorist attack on the Berths 136-147 facility as compared to the project baseline when many of these measures had not been implemented. These measures have improved both terminal and cargo security, and have resulted in enhanced cargo screening. Therefore, potential impacts associated with a potential terrorist attack on the Berths 136-147 facility are considered less than significant.

Terrorism risk is part of the regional baseline risk and would not change as a result of the proposed project. An increase in the volume of container vessels visiting the terminal would have at best a minimal impact on the desirability of the Berths 136-147 Terminal as a target of a terrorist attack. Therefore, the contribution of the proposed project to cumulative risk is less than cumulatively considerable.

Mitigation Measures and Residual Cumulative Impacts

None are required, as the contribution of the proposed Project to cumulative impacts would be less than considerable under CEQA and NEPA.

4.2.8 Land Use

4.2.8.1 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 that would be assessed in terms of their compatibility with the already existing Port industrial uses.

4.2.8.2 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's Port Master Plan (PMP) and the Port of Los Angeles Plan. The Port's PMP has been certified by the Coastal Commission and all past development projects have been approved pursuant to the adopted PMP, ensuring compliance with the coastal zone management program. The City-approved Port of Los Angeles Plan is the City's governing document that regulates the continued development and operation of the Port. Over the years, the Port has developed consistent with the PMP and the Port of Los Angeles Plan 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 the Port of Los Angeles Plan designations and the short-term plans.

Construction and operation associated with past, present and future projects, including the Wilmington Waterfront Master Plan/Avalon Boulevard Corridor Project (#25), the Pier 400 Container Terminal and Transportation Corridor Project (#1), the Channel Deepening Project (#4), the Evergreen Container Terminal Expansion (#7), Berths 97-109, China Shipping Development (#15), the Pier 400 Oil Marine Terminal, (#11) and the Ultramar Lease Renewal Project (#12) have been modified during the project review process to ensure consistency with the Port of Los Angeles Plan and PMP land use/density designations.

Contribution of the Proposed Project (Prior to Mitigation)

As stated in Section 3.8.4.3.1.1 (**Impact LU-1**), the majority of the proposed Project is located within areas designated for commercial/industrial uses and the general cargo uses delineated in the Port of Los Angeles Plan and PMP. However, the Harry Bridges Buffer Area improvements would be located within the Wilmington-Harbor City Community Plan area. Construction of the Harry Bridges Buffer Area and proposed roadways improvements would convert land designated in the Wilmington-Harbor City Community Plan for industrial uses to open space/recreational uses. These activities would occur on vacant parcels owned by the Port and are adjacent to existing roadways. Furthermore, the proposed General Plan Amendments (GPA) (i.e., roadway downgrades, zoning designation restrictions, height variance) would ensure consistency with the land use/density designations identified in the Wilmington-Harbor City Community Plan. Therefore, the proposed Project would have no adverse effects on land use consistency, and since the cumulative impact is less than significant the

proposed Project would not have a cumulatively considerable contribution under CEQA and NEPA.

Mitigation Measures and Residual Cumulative Impacts

As the proposed Project would have less than cumulatively considerable impacts on land use, no mitigation measures would be required. Impacts would remain less than cumulatively considerable under CEQA and NEPA.

4.2.8.3 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 and the Port's PMP. The City-approved Port of Los Angeles Plan is the City's governing document that regulates the continued development and operation of the Port and is consistent with the PMP. Over the years, the Port has developed consistent with the Port of Los Angeles Plan objectives which give priority to water-dependent developments to ensure the Port is maintained as an important local, regional, and national resource, as well coordinating development of the Port and adjacent communities as stipulated in the 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 and PMP policies.

Construction and operation associated with present and future projects, including the Avalon Boulevard Corridor Development (#25), the Pier 400 Container Terminal and Transportation Corridor Project (#1), the Channel Deepening Project (#4), the Evergreen Improvements (#7), Berths 97-109, China Shipping Development (#15),, the Pier 400 Oil Marine Terminal (#11), and the Ultramar Lease Renewal Project (#12) would be modified during the project review process to ensure consistency with the Port of Los Angeles Plan and PMP goals and policies.

Contribution of the Proposed Project (Prior to Mitigation)

As stated in Section 3.8.4.3.1.1 (**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 redevelopment 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. Additionally, construction of the Harry Bridges Buffer Area would be consistent with the Wilmington-Harbor City Community Plan policies, including developing adequate buffers, landscaping, and transitional uses between the Port and the community. Accordingly, the buffer area would be consistent with the Port of Los Angeles Plan policy that requires consistency of the Port development projects with the guidelines stipulated in the Wilmington-Harbor City Community Plan. Since the cumulative impact is less than significant, and the proposed Project would have no adverse effects on land use consistency, the proposed Project would not have a cumulatively considerable contribution under CEQA and NEPA.

Mitigation Measures and Residual Cumulative Impacts

As the proposed Project would have less than cumulatively considerable impacts on land use, no mitigation measures would be required. Impacts would remain less than cumulatively considerable under CEQA and NEPA.

4.2.8.4 Cumulative Impact LU-3: Cumulative impacts on disrupting, dividing, or isolating existing neighborhoods, communities, or land uses – Less Than Cumulatively Considerable With Mitigation

Cumulative Impact LU-3 represents the potential of the proposed Project along with other cumulative projects to disrupt, 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 resulted in acquisition of new property by the Port that have been attributed to the encroachment of Port-related industrial uses into surrounding communities. Past Port projects have resulted in 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 infrastructure within surrounding communities. Over the years, the Port's growth in cargo throughput has increased truck volumes within surrounding communities.

Construction and operation associated with present and future container terminal projects, including the Pier 400 Container Terminal and Transportation Corridor Project (#1), the Channel Deepening Project (#4), the Evergreen Container Terminal Expansion (#7), and Berths 97-109, China Shipping Development (#15), would be subject to the recent controls and limitations implemented by the City of Los Angeles on container storage in Wilmington. However, these projects would contribute to increased truck traffic in surrounding residential areas and indirectly contribute to the proliferation and use of off-site container storage facilities.

Contribution of the Proposed Project (Prior to Mitigation)

As stated in Section 3.8.4.3.1.2 (**Impact LU-3**), the proposed Project would include the construction of on-dock rail facilities which would reduce the percentage of

inland transport that would occur via truck. Proposed Project operations would increase rail trips; however the proposed Project would not result in construction of new rail lines or yards outside Port boundaries. Furthermore, construction of the roadway improvements associated with the Harry Bridges Buffer Area would reduce truck traffic on neighborhood streets, focusing truck movements onto Harry Bridges Boulevard, Alameda Street, and the 110 Freeway. The proposed Project also includes **Mitigation Measures LU-1** and **LU-2** that require installation of truck route signs in Wilmington and include provisions for increasing enforcement of the prohibition against truck traffic in residential neighborhoods.

Although the proposed Project does not include any offsite container storage facilities, there are container storage facilities that are owned by trucking/container leasing companies. These offsite facilities can be small or large, and are sometimes located in close proximity to residential areas due to the proximity of industrial and residential zoning and land uses in Wilmington. The Ports of Los Angeles and Long Beach contribute indirectly to the growth and use of offsite container storage facilities, and the proposed Project would also indirectly contribute (although the addition of expanded and reconfigured backlands to the Berths 136-147 Terminal would provide additional on-site container storage capacity and minimize the contribution of the proposed Project to the demand for offsite container storage). LAHD has no authority to regulate the locations of offsite storage facilities; however, recent controls and limitations implemented by the City of Los Angeles on container storage in Wilmington do apply to these offsite facilities. These regulations (described more in Section 7.2.2.3) place additional controls on existing storage facilities such as setbacks, landscaped buffers, storage and stacking height, and fencing and screening requirements, and also prohibit new container storage yards in some areas zoned Light Industrial or Limited Industrial.

Prior to the implementation of mitigation measures, the contribution of the proposed Project to cumulative impacts related to the disruption, division, and isolation of neighborhoods would be cumulatively considerable under CEQA and NEPA.

Mitigation Measures and Residual Cumulative Impacts

With the implementation of **Mitigation Measures LU-1** and **LU-2** and the controls applied by the City of Los Angeles to off-site container storage facilities, the contribution of the proposed Project to cumulative impacts related to the disruption, division, and isolation of neighborhoods would be less than cumulatively considerable under CEQA and NEPA.

4.2.8.5 Cumulative Impact LU-4: Cumulative impacts on secondary impacts to surrounding land uses – Less Than Cumulatively Considerable

Cumulative Impact LU-4 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

Due to the proximity of past projects within the project vicinity to surrounding residential areas, these actions may have resulted in generally lower residential property values in adjacent communities. However, as the residential property values in communities adjacent to the Port have risen in recent years and do not exhibit depreciated values, the incremental development of past and present projects have not contributed to decreased property values.

Construction and operation associated with present and reasonably foreseeable future projects, including the Wilmington Waterfront Master Plan (Avalon Blvd. Corridor Project) (#25), the Pier 400 Container Terminal and Transportation Corridor Project (#1), the Channel Deepening Project (#4), the Evergreen Improvements (#7), Berths 97-109, China Shipping Development (#15), the Pier 400 Oil Marine Terminal (#11), and the Ultramar Lease Renewal Project (#12) would result in increased jobs. However, this increase would not significantly contribute to increased property values within surrounding communities.

Contribution of the Proposed Project (Prior to Mitigation)

As stated in Section 3.8.4.3.1.2 (**Impact LU-4**), 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 0.25 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 contribute to any cumulatively significant impacts on land use under CEQA and NEPA.

Mitigation Measures and Residual Cumulative Impacts

As the proposed Project would have less than cumulatively considerable impacts on land use, no mitigation measures would be required. Impacts would remain less than cumulatively considerable under CEQA and NEPA.

4.2.9 Noise

4.2.9.1 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 live-aboards in the marinas near the proposed Pier A rail yard site. 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).

4.2.9.2 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 5 dBA CNEL (Section 3.9.4.2). Community noise levels are measured in decibels. For a project to make a cumulatively considerable contribution to the cumulative effect, noise from the project's construction activities must increase the cumulative level by at least 1 dBA CNEL. Otherwise, the cumulative noise level without the project would be the same as the cumulative noise level with the project's contribution.

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.

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. While a detailed assessment of construction noise levels that could result from this related project has not been completed, it is likely that construction activities and associated noise levels 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. Development of the China Shipping Terminal at Berths 97-109 (#15) would occur below the San Pedro residences located west of Knoll Hill.

Contribution of the Proposed Project (Prior to Mitigation)

In the construction phase of the proposed project, construction of the Harry Bridges Buffer Area has been identified as causing a significant noise impact under CEQA. There would be a substantial increase in noise, identified in Section 3.9.4.3. Because of the close proximity of the "C" Street/Figueroa Street interchange project, the likelihood that it could be concurrent with the construction activities required for the project, and the

proximity of other related and cumulative projects in the vicinity of the Wilmington neighborhood, there would be significant cumulative construction noise impacts upon this neighborhood.

All other construction activities at Berths 136-147 were projected in Section 3.9.4.3 to generate noise levels below existing baseline noise levels resulting from other more significant sources of noise in the Wilmington neighborhoods and the San Pedro neighborhoods west of Knoll Hill. Because project-related construction noise would be below ambient baseline levels, construction activities necessary to implement the proposed project could not cause a cumulatively considerable contribution to a substantial cumulative increase in ambient noise resulting from construction activities.

The Pier A rail yard would be moved to a new location northeast of the TraPac Terminal near the Berth 200-202 marinas. Construction activities necessary to implement the proposed project would cause a substantial increase in ambient noise levels resulting in a significant impact under CEQA. Construction activities associated with the Pier A West Remediation Project (#68) would occur in proximity to the live-aboards in the marinas and thereby cause a significant cumulative impact. Construction activities in this area would be located at a distance of more than 3,000 feet from the other identified sensitive receivers in the geographic scope located in the Wilmington District and the San Pedro neighborhoods west of Knoll Hill. Construction noise levels from construction activities in the Pier A rail yard area would make a less than cumulatively considerable contribution to construction-related noise levels in these sensitive receiver locations.

In-water work, including wharf construction with pile driving, is proposed at the Northwest Slip and at Berth 147. Work in the Northwest Slip would occur at a distance of more than 2,100 feet from the nearest "C" Street residence, the nearest residence to any of the in-water work. Construction-related noise levels resulting from this project activity are calculated to generate noise levels in the range of 58-60 dBA CNEL, 5 to 11 dBA below existing ambient noise levels resulting from street traffic on the roadway networks and other contributing sources of community noise. These activities would, therefore, make a less than cumulatively considerable contribution to construction-related noise impacts and cumulative impacts under NEPA would be less than significant.

Mitigation Measures and Residual Cumulative Impacts

The following standard construction measures shall be implemented:

NOI-1a. Construction Hours. Limit construction to the hours of 7:00 AM to 9:00 PM on weekdays, between 8:00 AM and 6:00 PM on Saturdays, and prohibit construction equipment noise anytime on Sundays and holidays as prescribed in the City of Los Angeles Noise Ordinance.

NOI-1b. Construction Days. Do not conduct noise-generating construction activities on weekends or holidays unless critical to a particular activity (e.g., concrete work).

NOI-1c. Temporary Noise Barriers. When construction is occurring within 500 feet of a residence or park, temporary noise barriers (solid fences or curtains) shall be located between noise-generating construction activities and sensitive receptors.

NOI-1d. Construction Equipment. Properly muffle and maintain all construction equipment powered by internal combustion engines.

NOI-1e. Idling Prohibitions. Prohibit unnecessary idling of internal combustion engines near noise sensitive areas.

NOI-1f. 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.

NOI-1g. Quiet Equipment Selection. Select quiet construction equipment whenever possible. Comply where feasible with noise limits established in the City of Los Angeles Noise Ordinance.

NOI-1h. Notification. Notify residents adjacent to the proposed Project site of the construction schedule in writing.

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. The impacts to Wilmington District residents and possibly to marina residents from construction of the Pier A rail yard will remain cumulatively significant with mitigation.

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

Cumulative Impact NOI-2 represents the potential of the proposed Project 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 PM and 7:00 AM, Monday through Friday, before 8:00 AM or after 6:00 pm 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 construction related noise impacts during prohibited hours as described above; consequently, no impacts under NEPA would occur. No mitigation is required.

4.2.9.4 Cumulative Impact NOI-3: Creation of Operational Noise That Would Substantially Exceed Existing Ambient Noise Levels at Sensitive Receivers – Less than 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 Harry Bridges Boulevard, the I-110 freeway, and local streets in the Wilmington and San Pedro areas are the dominant

sources of community noise and noise sensitive receivers within the geographic scope of the TraPac 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.

Contribution of the Proposed Project (Prior to Mitigation)

Onsite Operations

Noise from operation activities associated with the proposed Project is presented in Section 3.9.4.3. Analyses of onsite noise resulting from activities within the proposed Project area demonstrate that noise from onsite operations would generate noise levels below ambient baseline noise levels at sensitive receivers. This is because the baseline noise levels result primarily from vehicular traffic on the freeway, major roadways, and local roadways. Because the noise levels resulting from onsite activities would not contribute measurably to the Community Noise Equivalent Level (CNEL) noise levels, increased noise from operations at Berths 136-147 will not make a cumulatively considerable contribution to cumulative noise levels (cause noise levels to increase by 1 dBA or more). Noise levels from these terminals would continue to be intermittently audible during quiet periods, but would also continue to be indistinguishable from existing sources of community noise at the Port and on the surrounding roadways.

Therefore, the proposed Project will not result in cumulatively considerable onsite noise impacts.

Railway Corridor Noise

Rail trips along the railroad corridors serving the San Pedro Bay Ports are anticipated to increase (Parsons 2006). The peak day train trips are anticipated to increase from 98 to 257 by the year 2030. Assuming that the rail trips are distributed in the same way along the rail corridors as it is currently and the hourly distribution of railroad train movements during the daytime, evening, and the nighttime remains about the same, the cumulative increase in the noise level could be up to 4 dBA CNEL. The project would contribute approximately two daily rail trips to the cumulative increase. The analysis of the project's contribution, by itself, is set forth in Section 3.9.4.3. The analysis concluded that the railroad train movements would cause noise levels along the railroad corridors to increase by 0.1 dBA CNEL above baseline levels. The contribution of project-generated train trips to the future cumulative level would be less than 0.1 dBA CNEL. The cumulative increase in railroad train noise levels along the railroad corridors would be up to 4 dBA CNEL with or without the additional rail trips that would occur under the proposed Project. The proposed Project, therefore, would make a less than cumulatively considerable contribution to railroad train noise along the railroad corridors.

Roadway Traffic Noise

The operation of the proposed Project would cause an increase in traffic on the roadway network serving the terminals. Harry Bridges Boulevard is proposed to be widened from four lanes to six lanes as a part of the proposed Project. The combined effects of

widening the roadway and increased vehicular traffic on Harry Bridges Boulevard on the future noise level at sensitive receivers in the Wilmington neighborhood was calculated using the traffic noise model, TNM Version 2.5. Example modeling results are included in the Noise Appendix (Appendix N). Traffic data included in the Transportation Circulation Appendix (Appendix E) were also used. Cumulative traffic noise projections were calculated for the years 2015 and 2038 with the proposed Project. By the year 2015, noise levels along the Harry Bridges Boulevard corridor are calculated to increase between 1.5 and 2 dBA CNEL. By the year 2038, a combination of project-generated traffic and cumulative traffic, in combination with the widening, is calculated to increase noise levels by 2 dBA CNEL. The contribution of project-generated traffic to the increase in noise levels is approximately 1 dBA CNEL.

Sensitive receivers affected by the increase in noise from the Harry Bridges Boulevard corridor are located along "C" Street in the Wilmington District. At the western end of this neighborhood near the I-110 freeway, the baseline noise level is 71 dBA CNEL. Because the ambient noise level is greater than 70 dBA CNEL, the significance threshold is an incremental increase of 3 dBA CNEL or more. At residences further west, the ambient baseline noise level is 65-66 dBA CNEL. Because the ambient baseline noise level is less than 70 dBA CNEL, an increase of 5 dBA CNEL or more is considered to be substantial. Modeling results are presented in the Noise Appendix (Appendix N). Along "C" Street noise from Harry Bridges Boulevard is calculated to be about 60 dBA CNEL. The overall increase in noise at sensitive receivers resulting from the increase in noise along Harry Bridges Boulevard is calculated to be 0-1 dBA CNEL. This represents a less-than-significant cumulative impact.

The Transportation/Circulation Appendix (Appendix E) includes turning movement volumes for 17 intersections located along roadways in the study area. The turning movement volumes for all 17 study intersections were reviewed to determine if the project would make a cumulatively considerable contribution to traffic noise. It was determined by inspection that traffic added by the proposed Project would be insignificant on all other roadway segments and would cause a 0 dBA increase to the CNEL all other roadway segments studied, except along Harry Bridges Boulevard adjacent to the proposed Project study area.

The increase in noise levels under the No Federal Action/NEPA baseline were also calculated for 2015 and 2038. By 2015 under the No Federal Action/NEPA baseline noise levels are projected to increase about 2 dBA CNEL. By 2038 under the No Federal Action/NEPA baseline noise levels are also predicted to increase about 2 dBA CNEL. Because operational noise levels would not increase substantially above the current CNEL or the No Federal Action/NEPA baseline at sensitive receptor locations, there would be less-than-significant cumulative impacts under NEPA.

Mitigation Measures and Residual Cumulative Impacts

None are required, as the contribution of the proposed Project would be less than cumulatively considerable under CEQA and NEPA.

4.2.10 Transportation and Circulation

4.2.10.1 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 136-147 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).

4.2.10.2 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 for the West Basin terminals) would affect the cumulative construction scenario and cannot be analyzed because they are too speculative. Most construction activity for the remaining cumulative projects would occur outside of 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 AM to 5:00 PM
  - Saturday: 8:00 AM to 5:00 PM

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.

The construction worker and truck trips were assessed cumulatively for all three West Basin Container Terminals at all study intersections during the AM and PM peak hours. Thus for the AM peak hour there would be an assumed 225 inbound worker trips and 40 truck trips (400 daily truck trips divided into 10 hour work shift), and during the PM 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 construction scenario would result in significant circulation system impacts at five study intersections.

Specifically, the LOS at the Alameda Street/Anaheim Street intersection would experience a significant traffic impact during the A.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/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 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.

The LOS at the Navy Way/Seaside Avenue 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 136-147 proposed Project presented in Section 3.10.3.3.1.1 would result in a significant circulation system impact at the Figueroa Street/C-Street/I-110 Ramp intersection 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 a significant impact.

In addition, the proposed Project would make a cumulatively considerable contribution to construction-related traffic impacts on four additional intersections as noted above (Alameda Street/Anaheim Street in the A.M. peak hour, and Harbor Boulevard/SR-47 Westbound On-Ramp, Broad Avenue/Harry Bridges Boulevard, and Navy Way/Seaside Avenue in the P.M. peak hour). Therefore, there is a significant cumulative construction-related impact on the circulation system.

Mitigation Measures and Residual Cumulative Impacts

Implementation of **Mitigation Measure TRA-1** described in Section 3.10.3.3.1.1. would reduce the contribution of the proposed Project to cumulatively significant impacts on

intersection LOS due to construction traffic; however, the residual contribution of the proposed Project would remain cumulatively considerable and unavoidable.

4.2.10.3 Cumulative Impact TRANS-2: Intersection Volume/ Capacity Ratio Effects – Less Than Cumulatively Considerable with Mitigation

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 operate at acceptable LOS.

Existing 2003 traffic conditions are described in Section 3.10.2.2. The data in Section 3.10.2.2 indicate that all of the existing study intersections currently operate at LOS C or better during the peak hours, with the exception of the intersection of Harbor Boulevard/Swinford Street/SR-47 Ramps, which operates at LOS E during the P.M. peak hour.

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 and 4-3 show the cumulative traffic impact for years 2015 and 2038, 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:

- 2015 – Alameda Street/Anaheim Street (A.M. & P.M. peak hours)
  Henry Ford/Anaheim Street (p.m. peak hour)
  Navy Way/Seaside Avenue (a.m. & p.m. peak hours)
- 2038 – Avalon Boulevard/Harry Bridges Boulevard (P.M. peak hour)
  Alameda Street/Anaheim Street (A.M. & P.M. peak hours)
  Henry Ford Avenue/Anaheim Street (A.M. & P.M. peak hours)
  Harbor Boulevard/Swinford Street (A.M. & P.M. peak hours)
  Fries Avenue/Harry Bridges Boulevard (P.M. peak hour)
  John S. Gibson Blvd/Channel Street (A.M. & P.M. peak hours)
  Broad Avenue/Harry Bridges Boulevard (P.M. peak hour)
  Navy Way/Seaside Avenue (A.M. & P.M. peak hours)

Table 4-2. 2015 Intersection Level of Service Analysis – 2015 Cumulative vs. Existing 2003

Study Intersection	Existing 2003				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 and Harry Bridges Blvd (b)	A	0.402	A	0.442	-----	-----	-----	-----	-----	-----	No
Avalon Boulevard and Harry Bridges Blvd	A	0.297	A	0.399	A	0.480	B	0.667	0.183	0.268	No
Alameda Street and Anaheim Street	B	0.633	A	0.536	D	0.829	C	0.726	0.196	0.190	AM, PM
Henry Ford Avenue and Anaheim Street	A	0.525	A	0.573	B	0.676	C	0.733	0.151	0.160	PM
Harbor Blvd and SR-47 WB On-Ramp (a)	A	9.6	B	10.5	A	0.343	A	0.477	-----	-----	No
Harbor Blvd and Swinford Street/ SR-47 Ramps	A	0.599	E	0.962	B	0.606	D	0.896	0.007	-0.066	No
John S. Gibson Blvd and I-110 NB Ramps	A	0.492	A	0.413	A	0.570	A	0.575	0.078	0.162	No
Figueroa Street / "C"-Street / I-110 Ramps (b)	B	12.2	C	18.7	A	0.505	A	0.502	-----	-----	No
Pacific Avenue and Front Street	A	0.511	A	0.445	A	0.561	A	0.493	0.050	0.048	No
Fries Avenue and Harry Bridges Blvd	A	0.287	A	0.375	B	0.606	B	0.685	0.319	0.310	No
Neptune Avenue and Harry Bridges Blvd	A	0.207	A	0.315	A	0.268	A	0.382	0.061	0.067	No
ICTF Driveway #1 and Sepulveda Blvd	A	0.342	A	0.565	A	0.331	A	0.569	-0.011	0.004	No
ICTF Driveway #2 and Sepulveda Blvd	A	0.388	A	0.436	A	0.376	A	0.431	-0.012	-0.005	No
Santa Fe Avenue and Anaheim Street	A	0.379	A	0.495	A	0.413	A	0.542	0.034	0.047	No
John S. Gibson Blvd and Channel Street	A	0.568	B	0.663	A	0.581	B	0.682	0.013	0.019	No
Broad Avenue and Harry Bridges Blvd	A	0.235	A	0.316	A	0.376	A	0.546	0.141	0.230	No
Navy Way and Seaside Avenue	A	0.534	B	0.603	D	0.800	E	0.953	0.266	0.350	AM, PM

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 4-3. 2038 Intersection Level of Service Analysis – 2038 Cumulative vs. Existing 2003

Study Intersection	*Existing 2003*				*Year 2038 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 and Harry Bridges Blvd (b)	A	0.402	A	0.442	-----	-----	-----	-----	-----	-----	No
Avalon Boulevard and Harry Bridges Blvd	A	0.297	A	0.399	A	0.580	C	0.723	0.283	0.324	PM
Alameda Street and Anaheim Street	B	0.633	A	0.536	F	1.104	E	0.948	0.471	0.412	AM, PM
Henry Ford Avenue and Anaheim Street	A	0.525	A	0.573	E	0.921	F	1.017	0.396	0.444	AM, PM
Harbor Blvd and SR-47 WB On-Ramp (a)	A	9.6	B	10.5	A	0.454	B	0.668	-----	-----	No
Harbor Blvd and Swinford Street/ SR-47 Ramps	A	0.599	E	0.962	C	0.785	F	1.278	0.186	0.316	AM, PM
John S. Gibson Blvd and I-110 NB Ramps	A	0.492	A	0.413	B	0.697	A	0.588	0.205	0.175	No
Figueroa Street / "C"-Street / I-110 Ramps (b)	B	12.2	C	18.7	A	0.585	A	0.592	-----	-----	No
Pacific Avenue and Front Street	A	0.511	A	0.445	B	0.653	A	0.573	0.142	0.128	No
Fries Avenue and Harry Bridges Blvd	A	0.287	A	0.375	B	0.668	C	0.725	0.381	0.350	PM
Neptune Avenue and Harry Bridges Blvd	A	0.207	A	0.315	A	0.303	A	0.406	0.096	0.091	No
ICTF Driveway #1 and Sepulveda Blvd	A	0.342	A	0.565	A	0.361	A	0.590	0.019	0.025	No
ICTF Driveway #2 and Sepulveda Blvd	A	0.388	A	0.436	A	0.401	A	0.445	0.013	0.009	No
Santa Fe Avenue and Anaheim Street	A	0.379	A	0.495	A	0.487	B	0.633	0.108	0.138	No
John S. Gibson Blvd and Channel Street	A	0.568	B	0.663	C	0.710	D	0.825	0.142	0.162	AM, PM
Broad Avenue and Harry Bridges Blvd	A	0.235	A	0.316	A	0.403	C	0.794	0.168	0.478	PM
Navy Way and Seaside Avenue	A	0.534	B	0.603	F	1.160	F	1.361	0.626	0.758	AM, PM

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.

Contribution of the Proposed Project (Prior to Mitigation)

Project-related impacts due to the Berths 136-147 proposed Project would result in significant circulation system impacts at four study intersections, relative to baseline conditions without the proposed Project (i.e., as documented in Section 3.10.3.1, baseline year 2003 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 four intersections that would be impacted by the project are as follows:

- Avalon Boulevard and Harry Bridges Boulevard
- Alameda Street and Anaheim Street
- Fries Avenue and Harry Bridges Boulevard
- Broad Avenue and Harry Bridges Boulevard

CEQA Evaluation

Future traffic conditions with the proposed Project for the years 2015 and 2038 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 3.10.3.1.4). Table 4-4 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.** To achieve the forecast TEU throughput volumes, the Port's terminals must handle more cargo during the non-peak hours than they do currently. Consistent with the Port of Los Angeles Baseline Transportation Study, the Port's Roadway Study and other on-going port-area transportation studies, it is expected that the gate moves would be distributed as follows: 80 percent day shift, 10 percent night shift, and 10 percent hoot shift in 2015; and 60 percent day shift, 20 percent night shift, and 20 percent hoot shift in 2038. Current shift splits as of 2001 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 and is currently being achieved at or better than these levels through the Pier-Pass Program. A greater reduction in day time throughput was only assumed in the longer term (2038) to be reasonably conservative given expected changes in long term port operations.

- **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.

Table 4-4. Trip Generation Analysis Assumptions and Input Data for Berths 136-147 Terminal

Berths 136-147	*CEQA Baseline*	*Proposed Project*	
	2003	2015	2038
Gross Acres	176	233	243
Resultant TEU's (annual)	891,976	1,747,500	2,389,000
Peak Month Factor	0.091	0.091	0.083
Monthly TEU's	81,170	159,023	198,287
KEY TRIP GENERATION MODEL INPUT FACTORS			
Shift Split (%) (day/2nd/night)	90/10/0	80/10/10	60/20/20
On-Dock Rail %	0%	31%	29%
% Double Cycle Trucks	29%	35%	45%
Percentage of Weekly Gate Traffic Allocated to Weekend	15%	15%	15%
TRIP GENERATION RESULTS – A.M. PEAK			
Project Added Auto Trips	-----	108	94
Project Added Truck Trips	-----	99	148
Project Added Total Trips	-----	207	242
TRIP GENERATION RESULTS – P.M. PEAK			
Project Added Auto Trips	-----	138	120
Project Added Truck Trips	-----	72	18
Project Added Total Trips	-----	210	138
Note: The trips generated for the proposed Project represent incremental increases relative to CEQA Baseline.			

- **TEU Throughput Growth**. Additional TEUs per month resulting from the Project are shown in Table 4-4. 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 2015
    - East Bound: 18.8 percent (of total throughput)
    - West Bound: 12.7 percent (includes 3 percent westbound empties)
  - Year 2038
    - East Bound: 18.6 percent (of total throughput)
    - West Bound: 10.7 percent (includes 3 percent westbound empties)

- **Weekend Terminal Operations.** Weekend throughput is assumed to be 15 percent in 2015 and 2038.

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 4-4. 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 2015 and 2038, some of the increase occurs during off-peak time periods due to the operating parameters described above.

Appendix E contains all of the CEQA Baseline, No Federal Action/NEPA baseline and future with-Project traffic forecasts and LOS calculation worksheets. Figure 3.10-2 in Section 3.10.3.3.1.2 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 4-5 and 4-6 summarize the Future Baseline and Future with-Project intersection operating conditions at each study intersection for the 2015 and 2038 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.

Based on the results of the traffic study as presented in Tables 4-5 and 4-6 and more fully set forth in Appendix E, the proposed Project would result in significant circulation system impacts at four 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 during Project build-out year 2038. At 2038, Avalon Boulevard/Harry Bridges Boulevard would operate at LOS C during the P.M. peak hour, and the level of Project-related traffic would exceed the City of Los Angeles threshold for significant impact.

Table 4-5. 2015 Intersection Level of Service Analysis – Proposed Project vs. 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 and Harry Bridges Blvd (b)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	No
Avalon Boulevard and Harry Bridges Blvd	A	0.405	A	0.575	A	0.480	B	0.667	0.075	0.092	No
Alameda Street and Anaheim Street	C	0.782	B	0.692	D	0.829	C	0.726	0.047	0.034	AM
Henry Ford Avenue and Anaheim Street	B	0.672	C	0.742	B	0.676	C	0.733	0.004	-0.009	No
Harbor Blvd and SR-47 WB On-Ramp (a)	A	0.342	A	0.477	A	0.343	A	0.477	0.001	0.000	No
Harbor Blvd and Swinford Street/ SR-47 Ramps	B	0.605	D	0.894	B	0.606	D	0.896	0.001	0.002	No
John S. Gibson Blvd and I-110 NB Ramps	A	0.566	A	0.569	A	0.570	A	0.575	0.004	0.006	No
Figueroa Street / "C"-Street / I-110 Ramps (b)	A	0.469	A	0.469	A	0.505	A	0.502	0.036	0.033	No
Pacific Avenue and Front Street	A	0.554	A	0.486	A	0.561	A	0.493	0.007	0.007	No
Fries Avenue and Harry Bridges Blvd	A	0.360	A	0.472	B	0.606	B	0.685	0.246	0.213	No
Neptune Avenue and Harry Bridges Blvd	A	0.240	A	0.332	A	0.268	A	0.382	0.028	0.050	No
ICTF Driveway #1 and Sepulveda Blvd	A	0.328	A	0.563	A	0.331	A	0.569	0.003	0.006	No
ICTF Driveway #2 and Sepulveda Blvd	A	0.373	A	0.425	A	0.376	A	0.431	0.003	0.006	No
Santa Fe Avenue and Anaheim Street	A	0.410	A	0.538	A	0.413	A	0.542	0.003	0.004	No
John S. Gibson Blvd and Channel Street	A	0.581	B	0.682	A	0.581	B	0.682	0.000	0.000	No
Broad Avenue and Harry Bridges Blvd	A	0.329	A	0.501	A	0.376	A	0.546	0.047	0.045	No
Navy Way and Seaside Avenue	C	0.799	E	0.950	D	0.800	E	0.953	0.001	0.003	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 which is based on estimated vehicle delay.

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Table 4-6. 2038 Intersection Level of Service Analysis – Proposed Project vs. Baseline

Study Intersection	*Year 2038 without Project*				*Year 2038 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 and Harry Bridges Blvd (b)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	No
Avalon Boulevard and Harry Bridges Blvd	A	0.490	B	0.643	A	0.580	C	0.723	0.090	0.080	PM
Alameda Street and Anaheim Street	F	1.069	E	0.920	F	1.104	E	0.948	0.035	0.028	AM, PM
Henry Ford Avenue and Anaheim Street	E	0.913	F	1.012	E	0.921	F	1.017	0.008	0.005	No
Harbor Blvd and SR-47 WB On-Ramp (a)	A	0.453	B	0.667	A	0.454	B	0.668	0.001	0.001	No
Harbor Blvd and Swinford Street/ SR-47 Ramps	C	0.784	F	1.277	C	0.785	F	1.278	0.001	0.001	No
John S. Gibson Blvd and I-110 NB Ramps	B	0.693	A	0.582	B	0.697	A	0.588	0.004	0.006	No
Figueroa Street / "C"-Street / I-110 Ramps (b)	A	0.554	A	0.565	A	0.585	A	0.592	0.031	0.027	No
Pacific Avenue and Front Street	B	0.647	A	0.567	B	0.653	A	0.573	0.006	0.006	No
Fries Avenue and Harry Bridges Blvd	A	0.455	A	0.575	B	0.668	C	0.725	0.213	0.150	PM
Neptune Avenue and Harry Bridges Blvd	A	0.255	A	0.363	A	0.303	A	0.406	0.048	0.043	No
ICTF Driveway #1 and Sepulveda Blvd	A	0.355	A	0.585	A	0.361	A	0.590	0.006	0.005	No
ICTF Driveway #2 and Sepulveda Blvd	A	0.395	A	0.440	A	0.401	A	0.445	0.006	0.005	No
Santa Fe Avenue and Anaheim Street	A	0.482	B	0.629	A	0.487	B	0.633	0.005	0.004	No
John S. Gibson Blvd and Channel Street	C	0.710	D	0.825	C	0.710	D	0.825	0.000	0.000	No
Broad Avenue and Harry Bridges Blvd	A	0.364	A	0.589	A	0.403	C	0.794	0.039	0.205	PM
Navy Way and Seaside Avenue	F	1.156	F	1.358	F	1.160	F	1.361	0.004	0.003	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 which is based on estimated vehicle delay.

The Alameda Street/Anaheim Street intersection would experience a significant traffic impact during the A.M. peak hour during Project build-out year 2015 and significant traffic impact for both the A.M. and P.M. peak hours in 2038. At 2015, Alameda Street/Anaheim Street would operate at LOS D during the A.M. peak hour, and the level of Project-related traffic would exceed the City of Los Angeles threshold for significant impact. At 2038, Alameda Street/Anaheim Street would operate at LOS F in the A.M. peak hour and LOS E during the P.M. peak hour, and the level of Project-related traffic would exceed the City of Los Angeles threshold for significant impacts as stated in Section 3.10.3.2.

The Fries Avenue/Harry Bridges Boulevard intersection would experience a significant traffic impact during the P.M. peak hour during proposed Project build-out year 2038. At 2038, Fries Avenue/Harry Bridges Boulevard would operate at LOS C during the P.M. peak hour; and the level of Project-related traffic would exceed the City of Los Angeles threshold for significant impacts

The Broad Avenue/Harry Bridges Boulevard intersection would experience a significant traffic impact during the P.M. peak hour during proposed Project build-out year 2038. At 2038, Broad Avenue/Harry Bridges Boulevard would operate at LOS C during the P.M. peak hour; and the level of Project-related traffic would exceed the City of Los Angeles threshold for significant impacts.

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 – Alameda Street and Anaheim Street – (A.M. peak hour)
- 2038 – Avalon Boulevard and Harry Bridges Blvd – (P.M. peak hour)
  Alameda Street and Anaheim Street – (A.M. & P.M. peak hours)
  Fries Avenue and Harry Bridges Boulevard – (P.M. peak hour)
  Broad Avenue and Harry Bridges Boulevard – (P.M. peak hour)

Therefore, the Project would result in a significant cumulative traffic 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 4-7 and 4-8 present the level-of-service results with implementation of the mitigation measures for 2015 and 2038, respectively.

Table 4-7. 2015 Intersection Level of Service Analysis – Proposed Project vs. 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 and Harry Bridges Blvd (b)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Avalon Boulevard and Harry Bridges Blvd	A	0.405	A	0.575	A	0.480	B	0.667	-----	-----	-----	-----
Alameda Street and Anaheim Street	C	0.782	B	0.692	D	0.829	C	0.726	C	0.787	C	0.726
Henry Ford Avenue and Anaheim Street	B	0.672	C	0.742	B	0.676	C	0.733	-----	-----	-----	-----
Harbor Blvd and SR-47 WB On-Ramp (a)	A	0.342	A	0.477	A	0.343	A	0.477	-----	-----	-----	-----
Harbor Blvd and Swinford Street/ SR-47 Ramps	B	0.605	D	0.894	B	0.606	D	0.896	-----	-----	-----	-----
John S. Gibson Blvd and I-110 NB Ramps	A	0.566	A	0.569	A	0.570	A	0.575	-----	-----	-----	-----
Figueroa Street / "C"-Street / I-110 Ramps (b)	A	0.469	A	0.469	A	0.505	A	0.502	-----	-----	-----	-----
Pacific Avenue and Front Street	A	0.554	A	0.486	A	0.561	A	0.493	-----	-----	-----	-----
Fries Avenue and Harry Bridges Blvd	A	0.360	A	0.472	B	0.606	B	0.685	-----	-----	-----	-----
Neptune Avenue and Harry Bridges Blvd	A	0.240	A	0.332	A	0.268	A	0.382	-----	-----	-----	-----
ICTF Driveway #1 and Sepulveda Blvd	A	0.328	A	0.563	A	0.331	A	0.569	-----	-----	-----	-----
ICTF Driveway #2 and Sepulveda Blvd	A	0.373	A	0.425	A	0.376	A	0.431	-----	-----	-----	-----
Santa Fe Avenue and Anaheim Street	A	0.410	A	0.538	A	0.413	A	0.542	-----	-----	-----	-----
John S. Gibson Blvd and Channel Street	A	0.581	B	0.682	A	0.581	B	0.682	-----	-----	-----	-----
Broad Avenue and Harry Bridges Blvd	A	0.329	A	0.501	A	0.376	A	0.546	-----	-----	-----	-----
Navy Way and Seaside Avenue	C	0.799	E	0.950	D	0.800	E	0.953	-----	-----	-----	-----

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.

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Table 4-8. 2038 Intersection Level of Service Analysis – Proposed Project vs. Baseline

Study Intersection	*Year 2038 without Project*				*Year 2038 with Project*				*Year 2038 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 and Harry Bridges Blvd (b)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Avalon Boulevard and Harry Bridges Blvd	A	0.490	B	0.643	A	0.580	C	0.723	A	0.528	B	0.635
Alameda Street and Anaheim Street	F	1.069	E	0.920	F	1.104	E	0.948	F	1.076	C	0.792
Henry Ford Avenue and Anaheim Street	E	0.913	F	1.012	E	0.921	F	1.017	-----	-----	-----	-----
Harbor Blvd and SR-47 WB On-Ramp (a)	A	0.453	B	0.667	A	0.454	B	0.668	-----	-----	-----	-----
Harbor Blvd and Swinford Street/ SR-47 Ramps	C	0.784	F	1.277	C	0.785	F	1.278	-----	-----	-----	-----
John S. Gibson Blvd and I-110 NB Ramps	B	0.693	A	0.582	B	0.697	A	0.588	-----	-----	-----	-----
Figueroa Street / "C"-Street / I-110 Ramps (b)	A	0.554	A	0.565	A	0.585	A	0.592	-----	-----	-----	-----
Pacific Avenue and Front Street	B	0.647	A	0.567	B	0.653	A	0.573	-----	-----	-----	-----
Fries Avenue and Harry Bridges Blvd	A	0.455	A	0.575	B	0.668	C	0.725	B	0.627	B	0.671
Neptune Avenue and Harry Bridges Blvd	A	0.255	A	0.363	A	0.303	A	0.406	-----	-----	-----	-----
ICTF Driveway #1 and Sepulveda Blvd	A	0.355	A	0.585	A	0.361	A	0.590	-----	-----	-----	-----
ICTF Driveway #2 and Sepulveda Blvd	A	0.395	A	0.440	A	0.401	A	0.445	-----	-----	-----	-----
Santa Fe Avenue and Anaheim Street	A	0.482	B	0.629	A	0.487	B	0.633	-----	-----	-----	-----
John S. Gibson Blvd and Channel Street	C	0.710	D	0.825	C	0.710	D	0.825	-----	-----	-----	-----
Broad Avenue and Harry Bridges Blvd	A	0.364	A	0.589	A	0.403	C	0.794	A	0.403	A	0.461
Navy Way and Seaside Avenue	F	1.156	F	1.358	F	1.160	F	1.361	-----	-----	-----	-----

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.

TRA-2: *Avalon Boulevard and Harry Bridges Boulevard* – Provide an additional eastbound through-lane on Harry Bridges Boulevard. This measure shall be implemented by 2038.

TRA-3: *Alameda Street and Anaheim Street* – Provide additional northbound and southbound through-lanes on Alameda Street, and provide a northbound free right-turn lane from northbound Alameda Street to eastbound Anaheim Street This measure shall be implemented by 2015.

TRA-4: *Fries Avenue and Harry Bridges Boulevard* – Add dual northbound left-turn lanes from northbound Fries Avenue to westbound Harry Bridges Boulevard, and provide an additional northbound right-turn lane from northbound Fries Avenue to eastbound Harry Bridges Boulevard. This measure shall be implemented by 2038.

TRA-5: *Broad Avenue and Harry Bridges Boulevard* – Provide an additional eastbound through-lane on Harry Bridges Boulevard. This measure shall be implemented by 2038.

In addition, the related projects discussed in Section 3.10.3.1.5 have been assumed as part of the analysis. If the related projects are not constructed in the timeframe assumed, the following mitigation measures shall also be applied to the proposed Project:

TRA-6: *Figueroa Street and Harry Bridges Boulevard* – Provide dual southbound left-turn lanes from southbound Figueroa Street to eastbound Harry Bridges Boulevard and change southbound left-turn phasing from a permitted phase to protected phase. This measure shall be implemented by 2038.

TRA-7: *Figueroa Street/C-Street and I-110 Ramps* – Signalize this intersection, provide dual northbound left-turn lanes from northbound Figueroa Street to the I-110 northbound on-ramp, and re-stripe the eastbound shared left-through-right lane to an exclusive right turn only lane. This measures shall be implemented by 2015.

Residual Impact

Project contribution impacts would be less than cumulatively significant under CEQA after implementation of the above mitigation measure.

Secondary impacts of the implementation of **TRA 2-7** would include temporary lane closures, the use of temporary traffic signals and traffic detours while the mitigation measures are being constructed. The secondary impacts would be mitigated by the mitigation measures listed for **TRA-1**.

NEPA Impact Determination

Table 4-9 summarizes the TEU throughput for the No Federal Action/NEPA Baseline and proposed Project and also 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 4-10 and 4-11 summarize the No Federal Action/NEPA Baseline and Project intersection operating conditions at each study intersection for the 2015 and 2038 scenarios, respectively.

Table 4-9. Trip Generation Analysis Assumptions and Input Data for Berths 136-147 Terminal

Berths 136-147	*NEPA Baseline/No Federal Action*		*Proposed Project*	
	2015	*2038*	*2015*	*2038*
Gross Acres	233	233	233	243
Resultant TEU's (annual)	1,491,200	1,697,000	1,747,500	2,389,000
Peak Month Factor	0.091	0.083	0.091	0.083
Monthly TEU's	135,699	140,851	159,023	198,287
KEY TRIP GENERATION MODEL INPUT FACTORS				
Shift Split (%) (day/2nd/night)	80/10/10	60/20/20	80/10/10	60/20/20
On-Dock Rail %	35%	35%	31%	29%
% Double Cycle Trucks	35%	45%	35%	45%
Percentage of Weekly Gate Traffic Allocated to Weekend	15%	15%	15%	15%
TRIP GENERATION RESULTS – A.M. PEAK				
Project Added Auto Trips	-----	-----	30	56
Project Added Truck Trips	-----	-----	62	130
Project Added Total Trips	-----	-----	92	186
TRIP GENERATION RESULTS – P.M. PEAK				
Project Added Auto Trips	-----	-----	41	76
Project Added Truck Trips	-----	-----	87	141
Project Added Total Trips	-----	-----	128	217

Note: The trips generated for the Project represent incremental increases relative to the No Federal Action/NEPA baseline.

The Project measured against the No Federal Action/NEPA Baseline would result in adverse impacts based on the City of Los Angeles impact criteria. The level of impact would be similar or reduced in magnitude compared to the CEQA Baseline. Three intersections would be adversely impacted based on comparison to the No Federal Action/NEPA Baseline, as follows:

- 2038 – Avalon Boulevard and Harry Bridges Blvd – (P.M. peak hour)
  Alameda Street and Anaheim Street – (A.M. & P.M. peak hours)
  Fries Avenue and Harry Bridges Boulevard – (P.M. peak hour)
  Broad Avenue and Harry Bridges Boulevard – (P.M. peak hour)

Therefore, the Project would result in a cumulatively significant traffic impact under NEPA.

Mitigation Measures

Mitigation Measures TRA-2, TRA-3, TRA-4 and **TRA-5** would apply to the NEPA proposed Project impact determination. Additionally, if the related projects discussed in Section 3.10.3.1.5 are not constructed in the timeframe assumed, **Mitigation Measures TRA-6** and **TRA-7** shall also be applied to the proposed Project.

Table 4-10. 2015 Intersection Level of Service Analysis – Proposed Project vs. No Federal Action/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 and Harry Bridges Blvd (b)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	No
Avalon Boulevard and Harry Bridges Blvd	A	0.464	B	0.641	A	0.480	B	0.667	0.016	0.026	No
Alameda Street and Anaheim Street	D	0.812	C	0.715	D	0.829	C	0.726	0.017	0.011	No
Henry Ford Avenue and Anaheim Street	B	0.675	C	0.746	B	0.676	C	0.733	0.001	-0.013	No
Harbor Blvd and SR-47 WB On-Ramp (a)	A	0.343	A	0.477	A	0.343	A	0.477	0.000	0.000	No
Harbor Blvd and Swinford Street/ SR-47 Ramps	B	0.606	D	0.895	B	0.606	D	0.896	0.000	0.001	No
John S. Gibson Blvd and I-110 NB Ramps	A	0.569	A	0.573	A	0.570	A	0.575	0.001	0.002	No
Figueroa Street / "C"-Street / I-110 Ramps (b)	A	0.493	A	0.491	A	0.505	A	0.502	0.012	0.011	No
Pacific Avenue and Front Street	A	0.559	A	0.491	A	0.561	A	0.493	0.002	0.002	No
Fries Avenue and Harry Bridges Blvd	A	0.421	A	0.571	B	0.606	B	0.685	0.185	0.114	No
Neptune Avenue and Harry Bridges Blvd	A	0.281	A	0.360	A	0.268	A	0.382	-0.013	0.022	No
ICTF Driveway #1 and Sepulveda Blvd	A	0.331	A	0.567	A	0.331	A	0.569	0.000	0.002	No
ICTF Driveway #2 and Sepulveda Blvd	A	0.375	A	0.429	A	0.376	A	0.431	0.001	0.002	No
Santa Fe Avenue and Anaheim Street	A	0.412	A	0.541	A	0.413	A	0.542	0.001	0.001	No
John S. Gibson Blvd and Channel Street	A	0.581	B	0.682	A	0.581	B	0.682	0.000	0.000	No
Broad Avenue and Harry Bridges Blvd	A	0.360	A	0.531	A	0.376	A	0.546	0.016	0.015	No
Navy Way and Seaside Avenue	C	0.800	E	0.952	D	0.800	E	0.953	0.000	0.001	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 which is based on estimated vehicle delay.

Table 4-11. 2038 Intersection Level of Service Analysis – Proposed Project vs. No Federal Action/NEPA Baseline

Study Intersection	*2038 – NEPA (No Federal Action)*				*Year 2038 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 and Harry Bridges Blvd (b)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	No
Avalon Boulevard and Harry Bridges Blvd	A	0.546	B	0.679	A	0.580	C	0.723	0.034	0.044	PM
Alameda Street and Anaheim Street	F	1.086	E	0.925	F	1.104	E	0.948	0.018	0.023	AM, PM
Henry Ford Avenue and Anaheim Street	E	0.918	F	1.013	E	0.921	F	1.017	0.003	0.004	No
Harbor Blvd and SR-47 WB On-Ramp (a)	A	0.454	B	0.668	A	0.454	B	0.668	0.000	0.000	No
Harbor Blvd and Swinford Street/ SR-47 Ramps	C	0.785	F	1.277	C	0.785	F	1.278	0.000	0.001	No
John S. Gibson Blvd and I-110 NB Ramps	B	0.695	A	0.585	B	0.697	A	0.588	0.002	0.003	No
Figueroa Street / "C"-Street / I-110 Ramps (b)	A	0.564	A	0.574	A	0.585	A	0.592	0.021	0.018	No
Pacific Avenue and Front Street	B	0.651	A	0.571	B	0.653	A	0.573	0.002	0.002	No
Fries Avenue and Harry Bridges Blvd	A	0.512	A	0.598	B	0.668	C	0.725	0.156	0.127	PM
Neptune Avenue and Harry Bridges Blvd	A	0.286	A	0.378	A	0.303	A	0.406	0.017	0.028	No
ICTF Driveway #1 and Sepulveda Blvd	A	0.359	A	0.586	A	0.361	A	0.590	0.002	0.004	No
ICTF Driveway #2 and Sepulveda Blvd	A	0.399	A	0.442	A	0.401	A	0.445	0.002	0.003	No
Santa Fe Avenue and Anaheim Street	A	0.485	B	0.630	A	0.487	B	0.633	0.002	0.003	No
John S. Gibson Blvd and Channel Street	C	0.710	D	0.825	C	0.710	D	0.825	0.000	0.000	No
Broad Avenue and Harry Bridges Blvd	A	0.382	B	0.600	A	0.403	C	0.794	0.021	0.194	PM
Navy Way and Seaside Avenue	F	1.159	F	1.359	F	1.160	F	1.361	0.001	0.002	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 which is based on estimated vehicle delay.

Residual Impact

Impacts would be less than cumulatively significant under NEPA after implementation of the above mitigation measures.

Mitigation Measures and Residual Cumulative Impacts

Implementation of **Mitigation Measures TRA-2** through **TRA-7** would mitigate the cumulative traffic impacts to less than significant for both CEQA and NEPA.

4.2.10.4 Cumulative Impact TRANS-3: Public Transit Use – Less Than Cumulatively Considerable

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 Project along with other cumulative 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, all of 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 3.10.3.3.1.2 describes the transit impact assessment for the project.

Contribution of the Proposed Project (Prior to Mitigation)

An increase in on-site employees due to the Berths 136-147 proposed Project presented in Section 3.10.3.3.1.2 would result in less than cumulatively considerable contribution to related public transit use, as described below.

CEQA Impact Determination

Although the Project would result in additional on-site 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. Also, 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. Finally, parking at the Port is readily available and free, which encourages workers to drive to work. Therefore, it is expected that less than ten work trips 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 which would exceed the supply of such services. Observations of transit usage in the area for bus routes that serve the 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. Consequently, impacts due to additional demand on local transit services due to the contribution of the project would be less than significant under CEQA.

NEPA Impact Determination

The Project would result in a slightly higher employment level compared to the No Federal Action/NEPA Baseline due to in-water construction activities and increased throughput operations, but as discussed above, the increase in work-related trips using public transit would be negligible. Less than significant impacts under NEPA would occur.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures would be required for the proposed Project contribution and residual cumulative impacts would not be significant.

4.2.10.5 Cumulative Impact TRANS-4: Freeway Congestion – Less Than Cumulatively Considerable

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 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 136-147 proposed Project presented in Section 3.10.3.3.1.2 would result in a less than cumulatively considerable contribution to freeway congestion.

CEQA Impact Determination

According to the Congestion Management Plan (CMP), Traffic Impact Analysis (TIA) Guidelines, 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 P.M. weekday peak hours; and
- CMP freeway monitoring locations where the proposed Project would add 150 or more trips during either the A.M. or P.M. weekday peak hours.

Per CMP guidelines, an increase of 0.02 or more in the demand-to-capacity (D/C) ratio with a resulting LOS F is deemed a significant impact.

The closest CMP arterial monitoring station to the Project is Alameda Street/Pacific Coast Highway. The Project would add at least 50 trips through this intersection, and, 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 Project traffic at this location is north-south oriented, the 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 Project would not result in more than 0.02 increase in the V/C ratio at this location; therefore, there is no CMP system impact.

The closest freeway monitoring station is located at I-110 at "C"-Street and I-710 at Willow Street. The results of the analysis indicate that the Project would not result in more than 150 additional Project trips on either of the CMP freeway monitoring locations; therefore, no CMP system analysis is required at those locations.

Consequently, the contribution of the proposed Project to cumulative freeway traffic impacts would be less than cumulatively considerable under CEQA.

NEPA Impact Determination

As described above, the proposed Project would not result in an increase of 0.02 or more in the D/C ratio, and therefore would not result in LOS F. Therefore, the contribution of the proposed Project to cumulative freeway traffic impacts would be less than cumulatively considerable under NEPA.

Mitigation Measures and Residual Cumulative Impacts

No mitigation measures would be required for the proposed Project contribution and residual cumulative impacts would not be significant.

4.2.10.6 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 all of 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 136-147 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.

CEQA Impact Determination

Rail activity causes delay at 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 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 Fries Avenue 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 all of 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). 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 sub-routes 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 project are limited to the at-grade crossings that are located south of the downtown rail yards, and focus on the at-grade crossings 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 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, Berths 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 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 and 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 Project and beginning of the corridor (crossings internal to port terminals which 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 of 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 Project, the two at-grade crossings are located on relatively low-volume minor arterial roadways, which serve primarily port traffic.

Table 4-12 summarizes the vehicle delay that is anticipated at the crossings due to the 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 91 seconds per vehicle at Henry Ford Avenue with the proposed Project. Based on the threshold of significance of 55 seconds of average vehicle delay, the proposed Project would have a cumulatively significant impact at both locations.

NEPA Impact Determination

Rail delay from the proposed Project would be higher when compared to the No Federal Action/NEPA Baseline. The proposed Project's contribution would be cumulatively significant at the Henry Ford Avenue and Avalon Boulevard crossings.

Table 4-12. Rail Crossing Vehicle Delay Due to Proposed Project

A.M. PEAK HOUR		
Rail Crossing	*Average Delay **per Vehicle** (sec/veh)*	
	YEAR 2015	YEAR 2038
1. Avalon Blvd (With Project)	71	71
2. Henry Ford Avenue (With Project)	81	87
P.M. PEAK HOUR		
Rail Crossing	*Average Delay **per Vehicle** (sec/veh)*	
	YEAR 2015	YEAR 2038
1. Avalon Blvd (With Project)	73	74
2. Henry Ford Avenue (With Project)	84	91

Mitigation Measures and Residual Cumulative Impacts

The proposed Project would make a cumulatively considerable and unavoidable contribution to cumulative transportation/circulation impacts at the Henry Ford Avenue and Avalon Boulevard grade crossings as a result of the proposed Project contribution to rail traffic.

4.2.11 Marine Transportation

4.2.11.1 Scope of Analysis

The proposed Project will allow a greater number of larger container vessels to call at the Port. Like all commercial vessels, these ships will 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 Port's existing federal channel limits (i.e., channel and berthing areas). 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 increased use of the Port areas.

4.2.11.2 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 3.11.2.1, 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 Berths 163-164 Lease Renewal Project, and the Berths 171-181 Pasha Marine Terminal Improvements Project, as well as the Berths 136-147 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. USACE permit requirements would also apply.

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 136-139 and 145-147 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 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 Berths 97-109 Project (#15), and the Berths 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%) compared to vessel traffic volumes within the Port. While proposed Project operations would result in a 35 percent increase or an additional 88 vessel calls per year (approximately 8 vessel calls per month) at Berths 136-147, project operations would result in only a 3.3 percent increase over the number of vessels that called at the Port in 2003 (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 proposed 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 35 percent increase in annual vessel calls at Berths 136-147 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, the Project considered together with other present and reasonably foreseeable future projects in the proposed Project area would result in less than significant cumulative impacts on vessel transportation safety under CEQA and NEPA.

Mitigation Measures and Residual Cumulative Impacts

As the proposed Project would have less than cumulatively considerable impacts on marine transportation, no mitigation measures would be required. Impacts would remain less than cumulatively considerable under CEQA and NEPA.

4.2.12 Utilities and Public Services

4.2.12.1 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 Harbor's subwatershed 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. The region of analysis for cumulative recreational impacts includes public recreational opportunities located within the Port.

4.2.12.2 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

As 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 3.12.2.1.2), cumulative Port development would only directly impact the Port Police. However, the Project would result in a minimal increased likelihood that a special circumstance situation might occur (i.e., terrorism). This would result in a negligible increase in demand on the LAPD because such situations would be unlikely proposed Project 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), Evergreen Improvements Project (#7), Berths 121-131 Yang Ming Container Terminal (#29), Middle Harbor Terminal Redevelopment (POLB) (#66), Berths 97-109 China Shipping Development Project (#15), Berths 171-181 Pasha Marine Terminal Improvements (#16), and Berths 302-305 APL Container Terminal (#23) 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 as 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.

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, as 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 243 acres of terminal lands would require less than one (i.e., 0.273) new Port Police officer, which is a negligible contribution to cumulative demands. Additionally, as described

in Section 3.11, 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 result in less than cumulatively considerable impacts under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

As the proposed Project would have less than cumulatively considerable impacts on police protection, no mitigation measures would be required. Impacts would remain less than cumulatively considerable under CEQA or NEPA.

4.2.12.3 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 as 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 3.12.4.3.1, 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), Evergreen Improvements Project (#7), Berths 121-131 Yang Ming Container Terminal (#29), Middle Harbor Terminal Redevelopment (POLB) (#66), Berths 97-109 China Shipping Development Project (#15), Berths 171-181 Pasha Marine Terminal Improvements (#16), and Berths 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, as future cumulative development occurs and land uses are intensified, future projects would be subject to stricter fire codes that would further reduce the impact on the LAFD.

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 3.12.4.3.1, the proposed Project, including the new 10-acre fill, 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, as emergency access to the Wilmington Marinas is provided waterside by LAFD boats, any land based delays would not affect emergency responses. As 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 result in a less than cumulatively considerable contribution under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

As the proposed Project would have less than cumulatively considerable impacts on fire protection, no mitigation measures would be required. Impacts would remain less than cumulatively considerable under CEQA or NEPA.

4.2.12.4 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

Construction and operation of past projects has created a demand for storm drain, water, and wastewater line infrastructure that is currently accommodated by existing utility lines. Storm drains within the Port area are maintained by the LAHD and have sufficient capacity to accommodate current demands (personal communication, Dave Walsh 2002). The LADWP has a built capacity to ensure adequate accommodation of increased future growth and demand through at least 2015; therefore, existing water infrastructure demands can be accommodated (personal communication, Alvin Bautista 2007). Lastly, the TITP is currently operating at 54 percent of its capacity of 30 million gallons per day and is therefore able to adequately accommodate current wastewater generations that are a result of past projects.

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 storm water runoff, water consumption, and wastewater generation would remain similar to current levels. However, several of the projects involve new or expanded land uses or throughput operations that may result in additional demand on utilities and service systems. These projects include the Pier 400 Container Terminal and Transportation Corridor Project (#1), Evergreen Improvements Project (#7), Berths 121-131 Yang Ming Container Terminal (#29), Middle Harbor Terminal Redevelopment (POLB) (#66), Berths 97-109 China Shipping Development Project (#15), Berths 171-181 Pasha Marine Terminal Improvements (#16), Berths 302-305 APL Container Terminal Expansion (#23), Ponte Vista (#63) and Dana Strand (#58). The number of related projects would place an additional demand on utilities, and reasonably foreseeable future development would require the construction and/or expansion of utility lines and infrastructure.

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 would occur within City streets, comply with the City's municipal code, and 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 be less than cumulatively considerable under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

As the proposed Project would have less than cumulatively considerable impacts on utility line construction and/or expansion, no mitigation measures would be required. Impacts would remain less than cumulatively considerable under CEQA or NEPA.

4.2.12.5 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 determined an existing water demand of 680,000 acre-feet per year within the DWP service area which 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. LADWP 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 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, Dave Fumaer 2007). The two landfills that serve the Port area are the Bradley Landfill and the Sunshine Canyon Landfill. As described in Section 3.12.2.2.4, Bradley Landfill is has an allotted daily throughput capacity of 10,000 tons and is currently operating at 12 percent capacity. The Sunshine Canyon Landfill has a daily throughput capacity of 5,500 tons allotted for City use and is expected to accommodate demands until 2011 (Sunshine Landfill 2006).

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 and generations. These projects include the Pier 400 Container Terminal and Transportation Corridor Project (#1), Evergreen Improvements Project (#7), Berths 121-131 Yang Ming Container Terminal (#29), Middle Harbor Terminal Redevelopment (POLB) (#66), Berths 97-109 China Shipping Development Project (#15), Berths 171-181 Pasha Marine Terminal Improvements (#16), Berths 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. Further, because of the finite capacities and supplies of applicable facilities, reasonably foreseeable development may result in increased demands and generations that would contribute to the depletion of the remaining facility capacities.

Contribution of the Proposed Project (Prior to Mitigation)

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 2025 and would generate a maximum water demand of approximately 14.5 acre-feet per year, which represents 0.0019 percent of the planned 2025 water supply of 755,000 acre-feet. Although this is a relatively small percentage, water supply from LADWP past 2030 is speculative. Therefore, any demand would be cumulatively considerable if water supply falls short of demand in future years. Wastewater generation would be 0.17 million gallons per day, contributing 0.58 percent to the TITP daily capacity, or 1.2 percent to the remaining capacity of 13.8 million gallons per day. The proposed Project would generate 90.4 tons of solid waste per year, which would represent 0.0025 percent of the Bradley Landfill permitted daily throughput and 0.005 percent of the Sunshine County Landfill permitted daily throughput.

When considered cumulatively, the increases in water demands would contribute to a cumulatively significant impact and would therefore be cumulatively considerable and unavoidable under CEQA or NEPA. The increases in wastewater generation would be minimal and would be less than cumulative considerable under CEQA or NEPA. The increases in solid waste demands would be less than cumulatively considerable with mitigation under CEQA or NEPA, as described below.

Mitigation Measures and Residual Cumulative Impacts

Mitigation Measures PS-1 through **PS-3,** as described in Section 3.12.4.3.1, provide that: 1) demolition and/or excess construction materials shall be separated on-site for reuse/recycling or proper disposal and separate bins for recycling of construction materials shall be provided on-site, 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 applicant shall implement a Solid Waste Management Program to achieve a 50 percent reduction in waste generation and ensure compliance with the California Solid Waste Management Act (AB 939). The referenced section provides additional information about these mitigation measures. The implementation of **Mitigation Measures PS-1** through **PS-3** would reduce the proposed Project specific impacts on solid waste generation to less than cumulatively considerable under CEQA or NEPA.

Additionally, **Mitigation Measure PS-5** would reduce the Project's impact on water supply. However, the proposed Project's impact on water supply would remain cumulatively considerable.

Mitigation Measure PS-5: The new LEED certified administrative building shall incorporate additional water conservation measures, such as low-flow toilets. Additionally, the terminal operator shall plant drought-resistant planting and restrict watering to the evening hours.

4.2.12.6 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, several of the 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), Evergreen Improvements Project (#7), Berths 121-131 Yang Ming Container Terminal (#29), Middle Harbor Terminal Redevelopment (POLB) (#66), Berths 97-109 China Shipping Development Project (#15), Berths 171-181 Pasha Marine Terminal Improvements (16), and Berths 302-305 APL Container Terminal Expansion (#23). These related projects would place an additional demand on electricity and natural gas. As there is only a finite supply of these resources, reasonably foreseeable development may require the construction and/or expansion of utility infrastructure.

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, facility and backlands operations, site and security lighting, and general site maintenance. However, the increase in electricity demands associated with the Berths 136-147 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 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's 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 Administration Building and Maintenance and Repair 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. As administrative offices 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 result in a significant increase in demands on electricity and natural gas and impacts would be less than cumulatively considerable under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

As the proposed Project would have less than cumulatively considerable impacts on energy demands, supply facilities, and distribution infrastructure, no mitigation measures would be required. Impacts would remain less than cumulatively considerable under CEQA or NEPA.

4.2.12.7 Cumulative Impact PS-6: Cumulative Impacts on Recreational Resources – Less than Cumulatively Considerable

Cumulative Impact PS-6 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), Evergreen Improvements Project (#7), Berths 121-131 Yang Ming Container Terminal (#29), Middle Harbor Terminal Redevelopment (POLB) (#66), Berths 97-109 China Shipping Development Project (#15), Berths 171-181 Pasha Marine Terminal Improvements (#16), and Berths 302-305 APL Container Terminal (#23). These actions represent expansion or intensification of existing 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 land use would not significantly impact existing recreational resources and a number of cumulative projects would result in additional available recreational opportunities.

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. Project-related construction of the Harry Bridges Buffer Area with recreational amenities for community use would enhance existing recreational facilities in the proposed Project area and surrounding communities. 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. As on-land recreational resources would be incorporated into the proposed Project site and 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 result in less than cumulatively considerable impacts under CEQA or NEPA.

Mitigation Measures and Residual Cumulative Impacts

As the proposed Project would have less than cumulatively considerable impacts on recreational resources, no mitigation measures would be required. Impacts would remain less than cumulatively considerable under CEQA or NEPA.

4.2.13 Water Quality, Sediments, and Oceanography

4.2.13.1 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 water body 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 3.13.4. These criteria are the same for both CEQA and NEPA impact analyses.

4.2.13.2 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 and 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 3.13, portions of the Los Angeles/Long Beach harbor complex are identified on the current 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 3.13.2.1). 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 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 3.13. 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), China Shipping Development (#15) and Berths 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) and Phase I construction for Project #15 has been completed, whereas Project #29 is still in the planning phase. 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, water quality effects from these projects would be limited to the immediate dredging or construction area and would not extend into the West Basin.

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.

Development of port facilities associated with the cumulative projects, including Port 400 (#1), Evergreen Improvements (#7), Berths 97-109 (#15), Berths 302-305 APL Terminal (#23), Berths 212-224 Upgrades (#28), Berths 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 and illegal vessel discharges 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 3.13.4.3.1.2), there is no evidence that illegal discharges for ships are causing widespread impacts to water quality in the harbor.

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, rail yard, and road improvement 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 No Federal Action/NEPA baseline conditions, the proposed Project operations would contribute only slightly higher volumes of runoff (due to the increased surface area associated with the landfill) and no substantial differences in the chemical composition because the land uses would be essentially the same. While 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. Thus, the proposed Project without mitigation would contribute to a cumulatively considerable impact relative to both the CEQA and No Federal Action/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 3.13, changes to water quality associated from in-water construction are not expected to exceed applicable standards outside of the mixing zone. Because the effects are not expected to overlap in time and space with those from other projects, the impacts of such disturbances would not be cumulatively considerable relative to both the CEQA and No Federal Action/NEPA baselines. Once the construction phase of the proposed Project was completed, operations would not be expected to cause further disturbances to bottom sediments or contribute to cumulative impacts.

The proposed Project would 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. A large volume spill or waste discharge directly to the harbor could result in significant impacts to water quality. The proposed Project would contribute to the cumulative risk of a significant spill or discharge. Therefore, impacts to water quality from the proposed Project and other projects would be cumulatively considerable and unavoidable with mitigation relative to both the CEQA and No Federal Action/NEPA baselines.

Mitigation Measures and Residual Cumulative Impacts

Best management practices to prevent or minimize contaminant loadings to the harbor from stormwater runoff from past, present, and future projects, including the proposed Project, are required by the Standard Urban Stormwater Mitigation Plan (SUSMP), which is incorporated into the Los Angeles County Urban Runoff and Stormwater NPDES Permit issued by the RWQCB. SUSMP requirements must be incorporated into the project plan and approved prior to issuance of building and grading permits. Specifically, the SUSMP requires that each project incorporate BMPs specifically designed to minimize stormwater pollutant discharges. While adopted BMPs will vary by project, all BMPs must meet specific design standards to mitigate stormwater runoff and control peak flow discharges. The SUSMP also requires implementation of a monitoring and reporting program to ensure compliance with the constituent limitations in the permit. These BMPs and compliance monitoring would reduce the residual cumulative impacts from runoff to less than considerable relative to both the CEQA and No Federal Action/NEPA baselines.

As discussed in Section 3.13, safety measures specified in the Los Angeles Harbor District Risk Management Plan and in project-specific SPCC plans minimize the risks of a large, accidental spill from impacting the harbor. However, these plans cannot completely eliminate the risk of a spill. Consequently, the proposed Project's contribution to the cumulative impact would be significant and unavoidable relative to both the CEQA and No Federal Action/NEPA baselines.

4.2.13.3 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 3.13, 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 No Federal Action/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 in the vicinity of the proposed Project with the potential to affect drainage patterns and runoff volumes are 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 alter runoff patterns, velocities, or volumes sufficiently to increase risks of local flooding or harm to people, property, or biological resources.

Contribution of the Proposed Project (Prior to Mitigation)

As discussed in Section 3.13, new on-site 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 proposed Project would increase impervious surface area incrementally due to filling the Northwest Slip, thereby increasing the runoff volumes slightly compared to existing conditions. Site grading and the storm drain system would be adequate to convey runoff to the harbor, without the risk of flooding, under most conditions. Runoff associated with a 50-year or 100-year storm event would exceed the design capacity of the storm drain system, resulting in temporary ponding of water on-site. However, because the terrain of the proposed Project site and adjacent properties is flat and runoff velocity would not be increased, the proposed Project without mitigation would not substantially increase the risk of harmful flooding and impacts would not be cumulatively considerable relative to both the CEQA and No Federal Action/NEPA baselines.

Mitigation Measures and Residual Cumulative Impacts

None are required, as the contribution of the proposed Project to cumulative impacts would be less than considerable under CEQA and NEPA.

4.2.13.4 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 97-109 (#15), Berths 302-305 APL (#23), Middle Harbor (#66), Piers G & J (#67) (see Table 4-1 and Figure 4-1) would add fill totaling over 700 acres (283 ha), of which about 600 acres [243 ha] 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 which, 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 3.13, 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 water exchanges between different areas of the harbor complex that are adequate to avoid stagnation.

Contribution of the Proposed Project (Prior to Mitigation)

The proposed Project would add a small amount of fill (9.5 acres) within the West Basin. Because the fill for the proposed Project would occur at the closed end of the Northwest Slip, this 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. 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, cumulative impacts from construction of fill on surface water movement would not be cumulatively significant, and the proposed Project

without mitigation would not have a cumulatively considerable contribution to water quality effects relative to both the CEQA and No Federal Action/NEPA baselines.

Mitigation Measures and Residual Cumulative Impacts

None are required, as the contribution of the proposed Project to cumulative impacts would be less than considerable under CEQA and NEPA.

4.2.13.5 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), San Pedro Waterfront (#3), Cabrillo Marina (#5), China Shipping (#15), San Pedro Waterfront Enhancements (#21) and Berths 121-131 (#29), have or are expected to disturb soils and make them subject to erosion by wind or runoff, with potentials for subsequent transport into and accumulation in the harbor. 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 from construction sites. The effectiveness of these BMPs is likely to vary depending on the type of structures or systems installed and site conditions. Further, information to evaluate the contribution of cumulative projects to soil inputs and sedimentation in the harbor compared with those associated with other watershed sources is unavailable. However, the watershed is characterized primarily by urban and industrial land uses with a high proportion of paved surface. Therefore, soil loadings to the harbor are not excessive and waters are not impaired by sedimentation.

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. Operations associated with the proposed Project would not affect soil erosion or sedimentation in the harbor or the watershed. The cumulative impacts on rates of erosion and sedimentation would not be cumulatively considerable, and the contribution of the proposed Project without mitigation would not be cumulatively considerable relative to the CEQA and No Federal Action/NEPA baselines.

Mitigation Measures and Residual Cumulative Impacts

None are required, as the contribution of the proposed Project to cumulative impacts would be less than considerable under CEQA and NEPA.

4.3 Alternatives

Alternatives 1-5 would have less than or similar impacts as compared to the proposed Project. Therefore, the cumulative impact analysis for Alternatives 1-5 would be the same as presented for the proposed Project.