4.0

CUMULATIVE IMPACTS

4.0 CUMULATIVE EFFECTS

4.1 Introduction

This chapter presents CEQA requirements for cumulative impact analysis and analyzes the potential for the proposed Project to have significant cumulative effects when combined with other past, present, and reasonably foreseeable future projects in each resource area's cumulative geographic scope. The cumulative geographic scope may differ by resource, and the cumulative regions of influence are further documented in Section 4.2, "Cumulative Impact Analysis," and presented within each of the respective resource discussions as appropriate. The presentation of requirements related to cumulative impact analyses and a description of the related projects are discussed in Sections 4.1.1 and 4.1.2, respectively. Cumulative impacts for the proposed Project when combined with other reasonable and foreseeable projects in the area are organized by resource topic and analyzed in Section 4.2.

4.1.1 Requirements for Cumulative Impact Analysis

The State CEQA Guidelines (14 CCR 15130) require a reasonable analysis of the significant cumulative impacts of a proposed project. Cumulative impacts are defined by CEQA as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (State CEQA Guidelines, Section 15355).

Cumulative impacts are further described as follows:

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

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

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

> As defined in Section 15355, a "cumulative impact" consists of an impact that is created as a result of the combination of the project evaluated in the EIR together

> with other projects causing related impacts. An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.

In addition, as stated in the State CEQA Guidelines, Section 15064(h)(4):

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

Therefore, the following cumulative impact analysis focuses on whether the impacts of the proposed Project are cumulatively considerable within the context of impacts caused by other past, present, or future projects (Section 15065(a)(3)). The cumulative impact scenario considers other projects proposed within the area defined for each resource that have the potential to contribute to cumulatively considerable impacts.

For this EIR, related area projects with a potential to contribute to cumulative impacts were identified using one of two approaches or a hybrid of the two: (1) the "list" methodology, or (2) the "projection" methodology. Most of the resource areas were analyzed using a list of closely related projects that would be constructed in the cumulative geographic scope (which differs by resource and sometimes for impacts within a resource; cumulative regions of influence are documented in Section 4.2, "Cumulative Impact Analysis"). The list of related projects is provided in Section 4.1.2.

Air quality, noise, and traffic/circulation analyses use a projection, or a combined list and projection approach as described below. Cumulative analysis of air quality impacts uses projections from the SCAB 2007 AQMP and the MATES-II. The traffic/circulation cumulative analysis uses ambient growth in traffic, which is described in Section 3.11, "Transportation and Circulation—Ground and Marine." The cumulative analysis of noise impacts uses a hybrid approach, as it relies on both the annual regional growth rates utilized for traffic (because traffic is an important contributor to noise impacts) and the list of related projects documented in Section 4.1.2.

4.1.2 Projects Considered in the Cumulative Analysis

This section describes past, present, and reasonably foreseeable projects in the area that affect cumulative conditions at the Port of Los Angeles.

4.1.2.1 Past Projects

The following discussions describe the past projects that have contributed to cumulative impacts related to the proposed Project.

4.1.2.1.1 History of the Port of Los Angeles

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

In 1822, under the newly independent Mexican government, San Pedro became a robust commercial center and an attractive home for new settlers. The Mexican government granted three ranchos near the bay: Rancho San Pedro, Rancho Los Palos Verdes, and Rancho Los Cerritos. On February 2, 1848, when California came under American control, business at San Pedro Harbor was booming. It was evident, however, that the harbor needed to be expanded to accommodate the increasing cargo volume coming into the bay. In 1906 the city annexed a 16-mile strip of land on the outskirts of San Pedro and Wilmington.

The Port was officially founded in 1907 with the creation of the Los Angeles Board of Harbor Commissioners. Between 1911 and 1912, the first 8,500-foot section of the breakwater was completed, and the Main Channel was widened to 800 feet and dredged to a depth of 30 feet to accommodate the largest vessels of that era. Concurrently, Southern Pacific Railroad completed its first major wharf in San Pedro, allowing railcars to efficiently load and unload goods simultaneously. The Port continued to grow through the twentieth century.

Following World War II, LAHD launched a broad restoration program. Many of the facilities in the harbor required maintenance that had been delayed during the war years. Then, the advent of containerization in the 1950s resulted in dramatic changes at the Port. Because of this new mode of shipping, the Port, like many major new and old harbors, modernized facilities to meet the needs of the new geometry required by containerization. In addition to new configurations (container-sized and shape-driven), larger cranes and concrete wharves (replacing timber) were required to handle the dramatically increased weight of cargo containers. Other major harbor improvements included deepening the main channel to accommodate the larger container vessels entering the bay, purchasing land to expand terminals, and replacing older wharves that could not bear the increased weight of newer containers.

4.1.2.1.2 History of the Proposed Project Area

Historically, the proposed project area (see Figures 2-1 and 2-2 in Chapter 2, “Project Description”) has been intensively used for various Port activities. Historic topographic maps of San Pedro from the middle and late nineteenth century show that prior to modern development, the LA/LB Harbor was a low-lying coastal marsh called Wilmington Lagoon or San Pedro Creek (Schell et al. 2003). The lagoon had a complex network of estuaries, stream channels, tidal channels, sand spits, beaches, and marshy inlands. Major streams draining the Los Angeles Basin, including the Los Angeles River, Compton Creek, and possibly the San Gabriel River, emptied into the lagoon primarily from the east. Smaller local creeks draining from the Palos Verdes Hills and the Torrance Plain entered the lagoon from the west (Schell et al. 2003).

In anticipation of increased shipping resulting from construction of the Panama Canal, to be completed in 1914, the Los Angeles Board of Harbor Commissioners initiated several improvements at the Port of Los Angeles in the early 1910s to capture a greater portion of the increased shipping traffic in the Pacific. Improvements to the Outer Harbor included the construction of the massive Municipal Pier No. 1. Work on the pier began with the filling of the Huntington Concession (also called the "Huntington Fill") during the spring of 1912. Over 60 acres were in-filled with materials taken from dredging the adjacent channel to a new depth of 35 feet (Appendix F). Municipal Pier No. 1 was completed in 1914. At that time, the pier was about 2,520 feet long and 650 feet wide.

Los Angeles Municipal Shed No. 1 (Berths 58–60) was constructed on site by 1915 (Appendix F). The shed, a one-story steel-frame building, measured 1,800 feet long by 100 feet wide, and was constructed for, and operated by, the American-Hawaiian Steamship Company. Additional transit sheds and other structures were added to the dock over the next several years, including Municipal Warehouse No. 1, a massive, six-story concrete warehouse, which was completed in 1917 (Appendix F).

Municipal Warehouse No. 1 was constructed in 1917, and was constructed with steel reinforced, poured-in place concrete. The building sits at the southeastern end of Municipal Pier No. 1 adjacent to Berths 59–60, between Signal Street to the west, the Main Ship Channel on the east, and the Outer Harbor to the south. Warehouse No.1 served as the Port's only bonded warehouse for the temporary storage of goods that would go through customs. During the era of break-bulk cargo handling, Warehouse No.1 served a leading role in warehousing at the Port of Los Angeles from 1917 through the 1950s (Jones & Stokes 1999). With these facilities in place, the Port of Los Angeles entered into international commerce, and by 1923 had surpassed all the other west coast ports in tonnage and value of cargo (Jones & Stokes 1999).

The Transit Shed at Berth 57 was constructed in 1923, immediately north of Municipal Shed No. 1 (Sheds at Berths 58–60), and measured 93 feet wide by 500 feet long. The all-concrete wharf was constructed in 1938, which widened the pier by another 30 feet and provided new trackage for railcars loading and unloading goods at Berths 57–60.

In 1923 the Pan American Petroleum and Transport Company entered into a 30-year lease with the LAHC for seven acres of Pier No. 1 to construct a fire-proof oil loading station along the Port's Main Channel (Westway Terminal at Berths 70–71). The purpose of the facility was to transport oil for shipment from the company's refinery at Watson via three oil lines to the Marine Loading Station located at Berths 70–71.

The SCMI facility located at Berth 260 on Terminal Island consists of a 19,000-square-foot office and research building, a 2,700-square-foot storage warehouse, and a 2,400-square-foot shop storage. This collection of modern buildings dates to the early 1970s.

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

4.1.2.1.3 Current and Future Projects

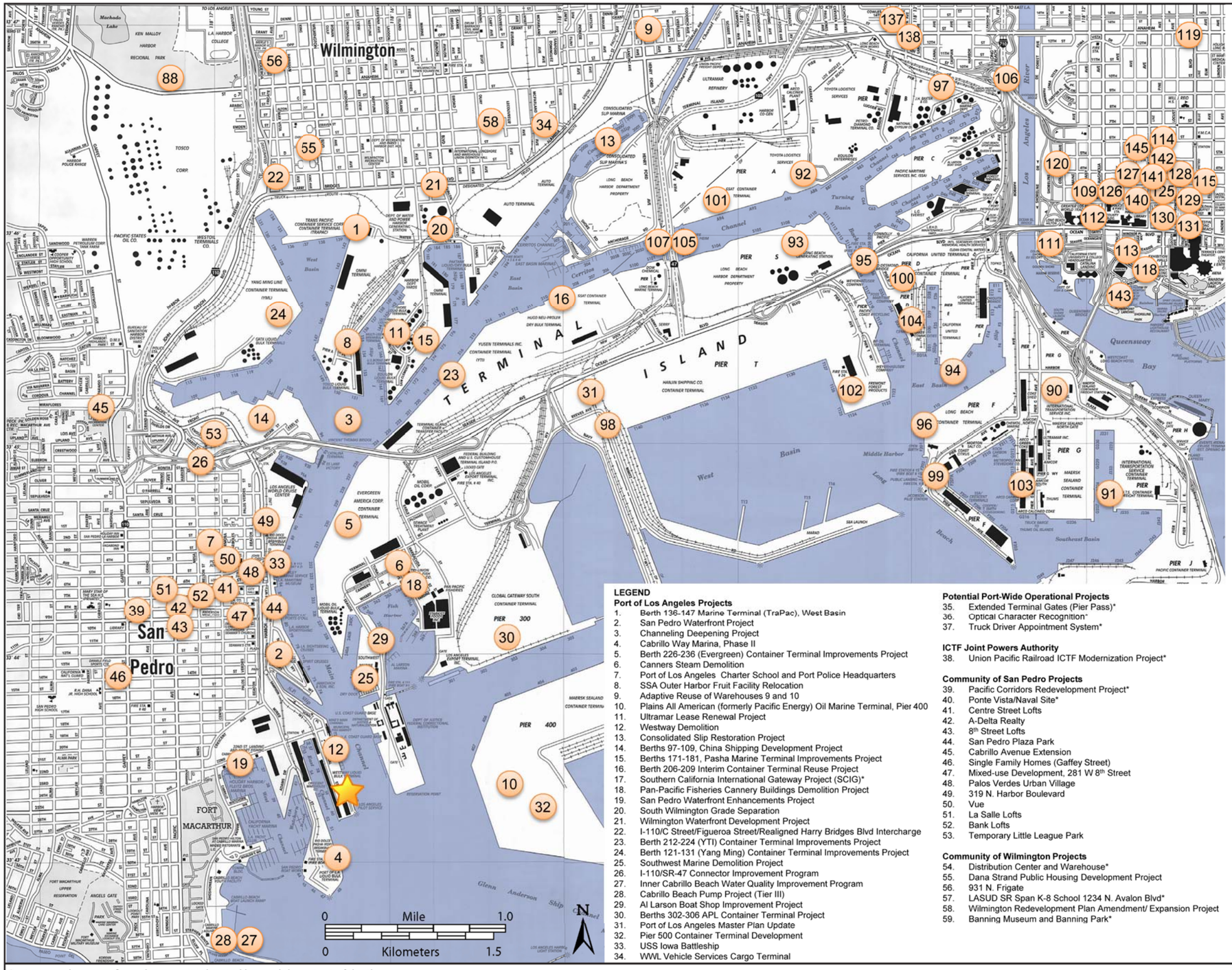
A total of 146 present or reasonably foreseeable future projects (approved or proposed) were identified within the general vicinity of the proposed Project that could contribute to cumulative impacts (Figure 4-1). A corresponding list of the cumulative projects provided by LAHD, the Port of Long Beach, and the LADOT is provided in Table 4-1. Specific projects identified in the cumulative analysis below are cross-referenced using the numbering system identified in Table 4-1 and on Figure 4-1. As discussed in Section 4.1.1 and further in the resource-specific sections below, some resource analyses use a projection approach encompassing a larger cumulative geographic scope; for those resources a larger set of past, present, and reasonably foreseeable future projects was included for analysis of cumulative impacts.

For the purposes of this EIR, the timeframe of present or reasonably foreseeable future projects extends from 2012 to 2024 (proposed project buildout), and the vicinity is defined as the area over which effects of the proposed Project could contribute to cumulative effects. The cumulative regions of influence for individual resources are documented further in each of the resource-specific subsections in Section 4.2, "Cumulative Impact Analysis."

Table 4-1. Related and Cumulative Projects

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
Port of Los Angeles Projects			
1	Marine Terminal, West Basin, Berths 136–147	Element of the West Basin Transportation Improvement Projects. Reconfiguration of wharves and backlands. Expansion and redevelopment of the TraPac Terminal.	Final EIR certified by the Los Angeles Board of Harbor Commissioners in December 2007. Construction started in 2009 and ongoing through 2015.
2	San Pedro Waterfront Project	The San Pedro Waterfront Project is a 5 to 7 year plan to develop along the west side of the Main Channel, from the Vincent Thomas Bridge to the 22nd Street Landing Area Parcel up to and including Crescent Avenue. Key components of the project include construction of a Downtown Harbor Promenade, construction of a Downtown Civic Fountain, enhancements to the existing John S. Gibson Park, construction of a Town Square at the foot of 6th Street, construction of a 7th Street Pier, construction of a Ports O'Call Promenade, development of California Coastal Trail along the waterfront, construction of additional cruise terminal facilities, construction of a Ralph J. Scott Historic Fireboat Museum, relocation of the Catalina Cruises Terminal and the S.S. Lane Victory, extension of the Waterfront Red Car line, and related parking improvements. The City Dock No. 1 project was	An NOP/NOI was released in August 2005. The LAHC certified the EIR and approved the project on September 29, 2009. Construction expected 2012–2020.

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
		evaluated programmatically as a conceptual project as part of the San Pedro Waterfront program.	
3	Channel Deepening Project	Dredging and sediment disposal. This project deepened the Main Channel of the Los Angeles Harbor to a maximum depth of –53 feet MLLW; (lesser depths are considered as project alternatives) by removing between approximately 3.94 million and 8.5 million cubic yards of sediments. The sediments were disposed at several sites for up to 151 acres of landfill. The EIR/EIS certified for the project identified significant biology, air, and noise impacts. A Supplemental EIS/EIR was prepared for new fill locations in 2008. The Additional Disposal Capacity Project would provide approximately 4 million cubic yards of disposal capacity needed to complete the Channel Deepening Project and maximize beneficial use of dredged material by constructing lands for eventual terminal development and would provide environmental enhancements at various locations in the Port of Los Angeles.	The LAHC certified the EIR and approved the project on April 29, 2009. Construction expected 2010–2012. Completion set for 2013.
4	Cabrillo Way Marina, Phase II, Port of Los Angeles	Redevelopment of the old marinas in the Watchorn Basin and development of the backland areas for a variety of commercial and recreational uses.	EIR certified December 2, 2003. Construction complete.
5	Evergreen Container Terminal Improvements Project, Berths 226–236	Proposed redevelopment of existing container terminal, including improvements to wharves, adjacent backland, crane rails, lighting, utilities, new gate complex, grade crossings, and modification of adjacent roadways and railroad tracks.	On hold.
6	Canners Steam Remediation	Remediation of the former Canner's Steam Plant in the Fish Harbor area of the Port of Los Angeles.	On hold.
7	Port of Los Angeles Charter School and Port Police Headquarters, San Pedro	Proposal to lease property for the Port of Los Angeles Charter School and to construct a Port Police Headquarters and office. 330 S. Centre Street, San Pedro.	Completed.
8	SSA Outer Harbor Fruit Facility Relocation	Proposal to relocate the existing fruit import facility at 22nd and Miner to Berth 153.	On hold.
9	Adaptive Reuse of Warehouses 9 and 10	Adaptive reuse of Warehouses 9 and 10 for visitor-serving uses to complement recreational activity at adjacent 22nd Street Park. Proposal to lease property to Crafted at the Port of Los Angeles.	Addendum to San Pedro Waterfront EIR completed. Construction expected 2012–2013.



LEGEND

Port of Los Angeles Projects

1. Berth 136-147 Marine Terminal (TraPac), West Basin
2. San Pedro Waterfront Project
3. Channeling Deepening Project
4. Cabrillo Way Marina, Phase II
5. Berth 226-236 (Evergreen) Container Terminal Improvements Project
6. Canners Steam Demolition
7. Port of Los Angeles Charter School and Port Police Headquarters
8. SSA Outer Harbor Fruit Facility Relocation
9. Adaptive Reuse of Warehouses 9 and 10
10. Plains All American (formerly Pacific Energy) Oil Marine Terminal, Pier 400
11. Ultramar Lease Renewal Project
12. Westway Demolition
13. Consolidated Slip Restoration Project
14. Berths 97-109, China Shipping Development Project
15. Berths 171-181, Pasha Marine Terminal Improvements Project
16. Berth 206-209 Interim Container Terminal Reuse Project
17. Southern California International Gateway Project (SCIG)*
18. Pan-Pacific Fisheries Cannery Buildings Demolition Project
19. San Pedro Waterfront Enhancements Project
20. South Wilmington Grade Separation
21. Wilmington Waterfront Development Project
22. I-110/C Street/Figueroa Street/Realigned Harry Bridges Blvd Intercharge
23. Berth 212-224 (YTI) Container Terminal Improvements Project
24. Berth 121-131 (Yang Ming) Container Terminal Improvements Project
25. Southwest Marine Demolition Project
26. I-110/SR-47 Connector Improvement Program
27. Inner Cabrillo Beach Water Quality Improvement Program
28. Cabrillo Beach Pump Project (Tier III)
29. Al Larson Boat Shop Improvement Project
30. Berths 302-306 APL Container Terminal Project
31. Port of Los Angeles Master Plan Update
32. Pier 500 Container Terminal Development
33. USS Iowa Battleship
34. WWL Vehicle Services Cargo Terminal

Potential Port-Wide Operational Projects

35. Extended Terminal Gates (Pier Pass)*
36. Optical Character Recognition*
37. Truck Driver Appointment System*

ICTF Joint Powers Authority

38. Union Pacific Railroad ICTF Modernization Project*

Community of San Pedro Projects

39. Pacific Corridors Redevelopment Project*
40. Ponte Vista/Naval Site*
41. Centre Street Lofts
42. A-Delta Realty
43. 8th Street Lofts
44. San Pedro Plaza Park
45. Cabrillo Avenue Extension
46. Single Family Homes (Gaffey Street)
47. Mixed-use Development, 281 W 8th Street
48. Palos Verdes Urban Village
49. 319 N. Harbor Boulevard
50. Vue
51. La Salle Lofts
52. Bank Lofts
53. Temporary Little League Park

Community of Wilmington Projects

54. Distribution Center and Warehouse*
55. Dana Strand Public Housing Development Project
56. 931 N. Frigate
57. LASUD SR Span K-8 School 1234 N. Avalon Blvd*
58. Wilmington Redevelopment Plan Amendment/ Expansion Project
59. Banning Museum and Banning Park*

Projects in Harbor City, Lomita, and Torrance

60. Harbor City Child Development Center*
61. Kaiser Permanente South Bay Master Plan*
62. Ponte Vista, 26900 Western Avenue (near Green Hills Park), Lomita*
63. 2244 Pacific Coast Highway (new address: 25820 Lucille), Lomita*
64. 25316 Ebony Lane, Lomita*
65. 25819-25 Eshelman Avenue, Lomita*
66. 262nd/Western, Lomita*
67. 25829-25837 Eshelman Ave., Lomita*
68. Sepulveda Industrial Park, Torrance*
69. Hasan Ud-Din Hashmi 1918 Artesia Blvd.,Torrance*
70. Dan Withee 24510 Hawthorne Blvd., Torrance*
71. Sunrise Senior Living 25535 Hawthorne Blvd., Torrance*
72. Capellino & Associates 1104 Sartori Ave., Torrance*
73. Linda Francis 18900 Hawthorne Blvd., Torrance*
74. Dean & Jan Thomas 3525 Maricopa St, Torrance*
75. Dave O. Roberts 435 Maples Ave., Torrance*
76. Imperial Investment & Development 2433 Moreton St., Torrance*
77. Torrance RF, L.L.C. 18203 Western Avenue, Torrance*
78. Continental Development Corp. 23248 Hawthorne Blvd., Torrance*
79. Charles Belak-Berger 3720 Pacific Coast Highway, Torrance*
80. BP West Coast Products 18180 Prairie Avenue, Torrance*
81. Graceway Church 431 Madrid Avenue, Torrance*
82. Providence Health System 5215 Torrance Blvd., Torrance*
83. Torrance Memorial Medical Center, 3330 Lomita Blvd, Torrance*
84. Chuck Stringfield 19701 Mariner Ave., Torrance*
85. Gospel Venture International Church 17811 Western Avenue, Torrance*
86. Continental Development 2843 Lomita Boulevard, Torrance*
87. Mark Sachs 2909 Pacific Coast Hwy. Torrance*
88. Wilmington Drain Multi-Use and Machado Lake Ecosystem Rehabiltation Project, Harbor City/Lomita
89. Rockefeller Group Professional Center Development*

Port of Long Beach Projects

90. Middle Harbor Terminal Redevelopment, Port of Long Beach
91. Piers G & J Terminal Redevelopment Project, Port of Long Beach
92. Pier A East, Port of Long Beach
93. Pier S Marine Terminal, Port of Long Beach
94. Administration Building and Maintenance Facility Replacement Project
95. Gerald Desmond Bridge Replacement Project, Port of Long Beach and Caltrans/FHWA
96. Chemoil Marine Terminal, Tank Installation, Port of Long Beach
97. Pier B Rail Yard Expansion
98. Terminal Island Rail Projects
99. Mitsubishi Cement Corporation Facility Modifications
100. Polaris Aggregate Terminal
101. Pier A West Remediation Project
102. Total Terminal International Grain Export Terminal Installation Project
103. Sulex Demolition Project
104. Cemera Long Beach Aggregate Terminal

ACTA and Caltrans Projects

105. Schuyler Heim Bridge Replacement and State Route (SR) 47 Termnal Island Expressway
106. I-710 (Long Beach Freeway) Major Corridor Study
107. Cerritos Channel Bridge

City of Long Beach Projects

108. Shoreline Gateway Project*
109. West Gateway Redevelopment Project
110. 2nd+PCH*
111. Golden Shore Master Plan
112. Press-Telegram Mixed Use Development
113. Sierra Hotel Project
114. Long Beach Downtown Plan
115. Art Exchange
116. North Village Center*
117. Kroc Community Center*
118. Hotel Sierra, 290 Bay St
119. 1235 Long Beach Blvd. Mixed-Use Project
120. Douglas Park Rezone Project*
121. Ocean Blvd. Project*
122. Drake/Chavez Park Expansion*
123. Poly Gateway Project, Pacific Coast Highway and Martin Luther King Jr. Avenue*
124. 15th Street and Alamitos Avenue Open Space Development and Intersection Improvements*
125. WPA Mosaic Open Space Development
126. Lyon West Gateway Residential Development, Broadway at Magnolia Avenue and 3rd Street
127. Pine – Pacific, bounded by Pine and Pacific Avenues, and 3rd and 4th Streets
128. Lofts at 3rd and Promenade
129. Broadway Block Development, Broadway, Long Beach Boulevard, 3rd street, and Elm Avenue
130. Long Beach Transit/Visitor Information Center, downtown Long Beach
131. Hotel Esterel, Promenade at Broadway
132. Promenade Master Plan, between Shoreline Drive and 5th Stre
133. Admiral Kidd Park Expansion Site, Santa Fe at Willard*
134. Pacific Coast Highway Streetscape Improvement*
135. Everbright Paper Recycling Center*
136. Redbarn Pet Products*
137. Smith-Co Construction
138. J.C.D.S Properties – Sudduth Tire
139. Westside Storm Drain Improvement Project*
140. 250 Pacific Avenue
141. Acres of Books
142. 495 The Promenade North
143. 100 Aquarium Way
144. 2010 Ocean Blvd.*
145. 433 Pine Ave.
146. 600 E. Broadway*

City Dock Project

Project not shown on figure because it is located beyond the extent of the the map.
Base map source: California State Automobile Association 2005.

Figure 4-1
Related and Cumulative Projects
City Dock No. 1 Marine Research Center Project

No. on Figure 4-1	Project Title and Location	Project Description	Project Status
10	Plains All American (formerly Pacific Energy) Oil Marine Terminal, Pier 400	Proposal to construct a Crude Oil Receiving Facility on Pier 400 with tanks on Terminal Island and other locations on Port property, with the preferred location being the former LAXT terminal, as well as construct new pipelines between Berth 408, storage tanks, and existing pipeline systems.	The LAHC certified the EIR and approved the project on November 20, 2008. Construction expected 2012–2014.
11	Ultramar Lease Renewal Project	Proposal to renew the lease between the Port of Los Angeles and Ultramar Inc., for continued operation of the marine terminal facilities at Berths 163–164, as well as associated tank farms and pipelines. Project includes upgrades to existing facilities to increase the proposed minimum throughput to 10 million barrels per year (mby), compared to the existing 7.5 mby minimum.	On hold.
12	Westway Demolition	Decommissioning of the Westway Terminal along the Main Channel (Berths 70–71). Work includes decommissioning and removing 136 storage tanks with total capacity of 593,000 barrels.	Remedial planning underway. Surface demolition will start in 2012.
13	Consolidated Slip Restoration Project	Remediation of contaminated sediment at Consolidated Slip at Port of Los Angeles. Remediation may include capping sediment or removal/disposal to an appropriate facility. Work includes capping and/or treatment of approximately 30,000 cubic yards of contaminated sediments.	Remedial actions are being evaluated in conjunction with Los Angeles RWQCB and EPA.
14	China Shipping Development Project, Berths 97–109	Development of the China Shipping Terminal Phase I, II, and III including wharf construction, landfill and terminal construction, and backland development.	The LAHC certified the EIR and approved the project on December 8, 2009. Construction started in 2009 and ongoing through 2013.
15	Pasha Marine Terminal Improvements Project, Berths 171–181	Redevelopment of existing facilities at Berths 171–181 as an omni (multi-use) facility.	Project EIR on hold.
16	Interim Container Terminal Reuse Project, Berths 206–209	Proposal to allow interim reuse of former Matson Terminal as a medium-density container and breakbulk terminal. The terminal would accommodate one vessel and utilize four cranes.	Draft EIS/EIR pending. Construction anticipated in 2013–2014.
17	Southern California International Gateway Project (SCIG)	Construction and operation of a 157-acre dock railyard intermodal container transfer facility (ICTF) and various associated components, including the relocation of an existing rail operation.	Draft EIR released September 2011. Construction anticipated 2013–2015.
18	Pan-Pacific Fisheries Cannery	Demolition of two unused buildings and other small accessory structures at the former Pan-	NOP released October 2005. Draft EIR

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
	Buildings Demolition Project	Pacific Cannery in the Fish Harbor area of the Port of Los Angeles.	released July 2006. Final EIR on hold.
19	San Pedro Waterfront Enhancements Project	Project includes creation of 16 acres of public open space at 22nd Street Park, pedestrian and landscaping improvements at Cabrillo Beach, and pedestrian access, landscaping and public art at the SP Slip.	Mitigated Negative Declaration (MND) approved in April 2006. Construction from 2007 to 2012.
20	South Wilmington Grade Separation	An elevated grade separation would be constructed along a portion of Fries Avenue or Marine Avenue, over the existing rail line tracks, to eliminate vehicular traffic delays that would otherwise be caused by trains using the existing rail line and the new ICTF railyard. The elevated grade would include a connection onto Water Street. There would be a minimum 24.5-foot clearance for rail cars traveling under the grade separation.	Construction anticipated 2012–2014.
21	Wilmington Waterfront Development Project	Project includes light-industrial, commercial, and public open space uses within a 90-acre site. Features include a 10-acre elevated park over active rail lines, 250-foot observation tower, and a Wilmington waterfront promenade near Banning's Landing.	The LAHC certified the EIR and approved the project on June 18, 2009. Construction expected 2016–2020.
22	I-110/C Street/ Figueroa Street/ Realigned Harry Bridges Boulevard Interchange	Consolidation of the following intersections: I-110/C Street/Figueroa Street interchange intersection and the intersection of Harry Bridges Boulevard–Alameda Street/John S. Gibson Boulevard/Figueroa Street. Construction of a new, northbound I-110 off-ramp with a direct connector ramp to eastbound Harry Bridges Boulevard–Alameda Street (i.e., a new, free-flow, northbound off-ramp to eastbound Harry Bridges Boulevard–Alameda Street).	MND under preparation. Construction expected 2013–2016.
23	(YTI) Container Terminal Improvements Project, Berths 212–224	Wharf modifications at the YTI Marine Terminal Project involves wharf upgrades and backland reconfiguration, including new buildings.	EIR/EIS on hold.
24	(Yang Ming) Container Terminal Improvements Project, Berths 121–131	Reconfiguration of wharves and backlands. Expansion and redevelopment of the Yang Ming Terminal.	EIR/EIS to be prepared.
25	Southwest Marine Demolition	Demolition of buildings and other small accessory structures at the Southwest Marine Shipyard.	Draft EIR released September 2006. Final EIR on hold.

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
	Project		
26	I-110/SR-47 Connector Improvement Project	This project will eliminate an existing weaving condition of slow uphill moving trucks and fast downhill moving vehicles with the addition of a lane on the westbound to northbound SR-47/I-110 connector. This additional lane will continue through the I-110 Off-Ramp at John S. Gibson Boulevard where the intersection will be widened to better facilitate truck turning movements and accommodate additional southbound left turn and northbound right turn lanes.	MND approved in April 2012. Construction expected 2013–2016.
27	Inner Cabrillo Beach Water Quality Improvement Program	Phased improvements at Cabrillo Beach to reduce the wet and dry weather high concentrations of bacteria. Includes sewer and storm drain work, sand replacement, and bird excluders.	Construction complete.
28	Cabrillo Beach Pump Project (Tier III)	Phased improvements at Cabrillo Beach to reduce the wet and dry weather high concentrations of bacteria circulation improvements.	On hold.
29	Al Larson Boat Shop Improvement Project	Redevelopment and expansion of the Al Larson Boat Shop (Berth 258).	EIR under preparation. Construction anticipated 2012–2014.
30	APL Container Terminal Project, Berths 302–306	Improvements and expansion of the existing terminal, including the addition of cranes, modifications to the main gate, converting a existing dry container storage unit to a refrigerated unit, and the expansion of the terminal onto 41 acres adjacent to the existing terminal.	Public Review EIR/EIS released in December 2011. Construction anticipated 2013–2015.
31	Port of Los Angeles Master Plan Update	Redevelopment of Fish Harbor, redevelopment of Terminal Island and consideration of on-dock rail expansion, and consolidation of San Pedro and Wilmington Waterfront districts.	Conceptual planning.
32	Pier 500 Container Terminal Development	Creation of up to 200-acre fill to support backland and new wharfs for the operation of a new container terminal.	Conceptual planning.
33	USS Iowa Battleship	Permanent mooring of USS Iowa Navy Battleship at Berth 87 and construction of landside museum and surface parking to support 371,000 annual visitors.	Draft EIR released January 2012. Construction anticipated in 2012.
34	WWL Vehicle Services Cargo Terminal	Expansion of vehicle offloading processing and operations, including cargo increase up to 220,000 vehicles per year and construction of two additional rail loading tracks.	MND under preparation.
Various	Maintenance Dredging	Maintenance dredging is the routine removal of accumulated sediment from channel beds to	Continuous, but intermittent on average

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
		maintain the design depths of navigation channels, harbors, marinas, boat launches, and port facilities. This is conducted regularly for navigational purposes (at least once every five years).	every 3–5 years.
Eight cargo terminals and World Cruise Center	Alternative Maritime Power (AMP™)	AMP™ systems (also known as "cold-ironing) at the Port include a shore side power source, a conversion process to transform the shore side power voltage to match the vessel power systems, and a container vessel that is fitted with the appropriate technology to utilize electrical power while at dock.	Construction anticipated to be complete by 2014.
	Wilmington Youth Sailing and Aquatic Center	Construction of a facility that includes a sailing center and adjacent boat dock and launch ramp at Berth 204 in Wilmington at Shore Road and Anchorage Road.	MND under preparation. Construction anticipated in 2012–2014.
Port of Los Angeles and/or Port of Long Beach Potential Port-Wide Operational Projects			
35	Extended Terminal Gates (Pier Pass)	The Port of Los Angeles and Port of Long Beach program to use economic incentives to encourage cargo owners to use terminal gates during off-peak hours.	Program in progress.
36	Optical Character Recognition	Ports terminals have implemented OCR technology, which eliminates the need to type container numbers in the computer system. This expedites the truck driver through terminal gates.	Conceptual planning.
37	Truck Driver Appointment System	Appointment system that provides a pre-notification to terminals regarding which containers are planned to be picked up.	Implemented.
ICTF Joint Powers Authority			
38	Union Pacific Railroad ICTF Modernization Project	UP proposal to modernize existing intermodal yard four miles from the Port.	Draft EIR under preparation.
Community of San Pedro Projects			
39	Pacific Corridors Redevelopment Project, San Pedro	Development of commercial/retail, manufacturing, and residential components. Construction underway of four housing developments and Welcome Park.	Project underway. Estimated 2032 completion year according to Community Redevelopment Agency of Los Angeles.
40	Ponte Vista/Naval Site	Construction of 1,135 residential units, including single-family homes, apartments, and condominiums, and open space.	NOP released in October 2010.
41	Centre Street Lofts 285 W. 6th St	Construction of residential units and ground floor commercial.	Construction completed.

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
42	A-Delta Realty 731–741 S. Pacific Ave	Artist's Lofts and retail space.	Construction completed.
43	8th Street Lofts	Loft apartments at southeast corner of 8th Street and Pacific Avenue.	Construction completed.
44	San Pedro Plaza Park	Outdoor improvements including minor grading, hillside slope repair, small retaining walls, view deck, fencing, gates, security lighting, seating areas, signage, landscaping, and irrigation.	Construction is expected to begin in June 2012, and to be completed by June 2013.
45	Cabrillo Avenue Extension	This project will widen Cabrillo Avenue to 36 feet of roadway and 9 feet of sidewalk from Miraflores Avenue to existing alley. It will also widen the existing alley to 25 feet and connect it to Channel Street by acquiring right-of-way.	Construction is expected to begin in January 2012, and to be completed by June 2012.
46	Single Family Homes 1427 N. Gaffey St, San Pedro (at Basin St)	Construction of 135 single-family homes – about 2 acres.	Project approved; construction pending.
47	Mixed-use development, 281 W. 8th St, San Pedro (near Centre St)	Construction of 72 condominiums and 7,000 square feet of retail.	Under construction according to City of Los Angeles Zoning Information and Map Access System.
48	Palos Verdes Urban Village 550 South Palos Verdes St, San Pedro	Construction of 251 condominiums and 4,000 square feet of retail space. 550 South Palos Verdes Street, San Pedro.	No construction has started.
49	319 N. Harbor Blvd	Construction of a 94-unit residential condominium complex.	Construction has not started according to LADOT Planning Department.
50	Vue (Pacific Trade Center) 255 5th St, San Pedro (near Centre St)	Construction of 220 housing unit apartments.	Construction completed.
51	La Salle Lofts 255 W. 7th St	Construction of 26 units with ground floor commercial.	Construction completed.
52	Bank Lofts 407 7th St	Construction of an 89-unit apartment complex with ground floor commercial.	Construction completed.
53	Temporary Little League Park	Construction of temporary baseball fields for the Eastview Little League at Knoll Hill.	Construction completed.

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
Community of Wilmington Projects			
54	Distribution Center and Warehouse 755 E. L St, Wilmington (at McFarland Avenue)	Construction of a 135,000-square-foot distribution center and warehouse on a 240,000-square-foot lot with 47 parking spaces.	No construction has started; lot is vacant and bare. LADOT Planning Department has no estimated completion year.
55	Dana Strand Public Housing Redevelopment Project	413 units of mixed-income affordable housing to be constructed in four phases: Phase I – 120 rental units; Phase II – 116 rental units; Phase III – 100 senior units; Phase IV – 77 single family homes. The plans also include a day care center, lifelong learning center, parks, and landscaped open space.	Phases I and II have been completed and are being leased. Phases III and IV are currently under development.
56	931 N. Frigate	Private school expansion for 72 student increase for a total of 350 students.	Construction has not started according to LADOT Planning Department.
57	LASUD SR Span K-8 School 1234 N. Avalon Blvd	Construction of a 1,278-student elementary school.	Construction has not started according to LADOT Planning Department.
58	Wilmington Redevelopment Plan Amendment/ Expansion Project, Wilmington	The existing Wilmington Industrial Park would be expanded by an additional 2,487 acres, for a total of approximately 2,719 acres. Under the probable maximum level of development, the overall project area could support up approximately 7,326 residential units (primarily multi-family; zone changes under the Plan would permit multi-use and higher density residential development). In addition to the residential development, the Project could accommodate up to approximately 207 acres (9 million square feet) of commercial development and up to 333 acres (14.5 million square feet) of industrial development.	NOP for Program EIR out for public review August 2010. Currently on hold.
59	Banning Museum and Banning Park	Banning Museum: Refurbishment of museum buildings and improvements to the open space/garden, including waterproofing Banning Museum, relocating an existing LADWP Transformer, rehabilitating the walkways, and Rose garden and museum landscaping. Banning Park: Improvements to Athletic Fields, Recreation Center and Walking Paths, including: rooftop HVAC replacement to recreation center; walkway resurfacing around the entire park (except within the Banning Residence Museum's perimeter wrought iron fencing); and door replacement to the recreation center; and,	Construction began in November 2010 and is expected to be completed by December 2012.

No. on Figure 4-1	Project Title and Location	Project Description	Project Status
		reconstruct the existing baseball field.	
Projects in Harbor City, Lomita, and Torrance			
60	Harbor City Child Development Center 25000 South Normandie Ave, Harbor City (at Lomita Blvd)	Conditional use permit to open 50-student preschool at existing church building.	Construction has not started according to LADOT Planning Department.
61	Kaiser Permanente South Bay Master Plan 25825 Vermont St, Harbor City (at Pacific Coast Hwy)	Construction of a 303,000-square-foot medical office building, 42,500-square-foot records center office warehouse, with 260 hospital beds.	Under construction.
62	Ponte Vista, 26900 Western Ave (near Green Hills Park), Lomita	Construction of 1,950-unit for-sale stacked townhomes and condominiums including senior housing. Approximately 40% of the project's post-development acreage would consist of landscaped common area. Rolling Hills Prep School being developed in an adjacent lot.	Final EIR issued June 2008. LADOT Planning Department reports estimated 2012 completion year.
63	2244 Pacific Coast Hwy (new address: 25820 Lucille), Lomita	A request for a Site Plan Review to construct a new retail commercial building.	In plan check as of November 2009.
64	25316 Ebony Ln, Lomita	A request to construct 16 detached senior housing units.	In plan check.
65	25819–25 Eshelman Ave, Lomita	Proposed 20-unit senior housing development.	In plan check.
66	262nd St/Western Ave, Lomita	Construction of an 11,100-square-foot office building on the southeast corner of Western Avenue and 262nd Street.	Construction pending.
67	25829–25837 Eshelman Ave, Lomita	Construction of 16 new condominium units.	In plan check.
68	Sepulveda Industrial Park (TT65665) 1309 Sepulveda Boulevard, Torrance (near Normandie Avenue)	Construction of a 154,105-square-foot industrial park (6 lots).	No construction started. LADOT Planning Department has no estimated completion year.

No. on Figure 4-1	Project Title and Location	Project Description	Project Status
69	Hasan Ud-Din Hashmi 1918 Artesia Blvd, Torrance	Remodel/demolition of certain existing structures and the construction of a new 23,914-square-foot worship building, covered patio, and& outdoor covered lobby.	Construction underway (soil contamination issues).
70	Dan Withee 24510 Hawthorne Blvd, Torrance	Construction of mixed-use development consisting of two-story commercial office, restaurant building, and 14 attached residential condominium units.	Under construction.
71	Sunrise Senior Living 25535 Hawthorne Blvd, Torrance	Operation of an assisted living facility.	Building permit issued in March 2008.
72	Capellino & Associates 1104 Sartori Ave, Torrance	Construction of professional office condominium development.	Under construction.
73	Linda Francis 18900 Hawthorne Blvd, Torrance	Operation of a new automobile sales and repair facility (MINI Cooper).	Under construction.
74	Dean & Jan Thomas 3525 Maricopa St, Torrance	Construction of 12 attached condominium units.	Construction pending.
75	Dave O. Roberts 435 Maple Ave, Torrance	Construction of two, one-story industrial buildings exceeding 15,000 square feet.	Construction pending.
76	Imperial Investment & Development 2433 Moreton St, Torrance	Construction and operation of a 27,000-square-foot full-service spa.	Construction pending.
77	Torrance RF, L.L.C. 18203 Western Ave, Torrance	Construction of new restaurant/retail/commercial building	Construction pending.
78	Continental Development Corp. 23248 Hawthorne Blvd, Torrance	Construction of a new retail store.	Construction pending.
79	Charles Belak-Berger 3720 Pacific Coast Hwy,	Construction of new 20,300-square-foot commercial center with an 18,688-square-foot subterranean parking structure	Construction pending.

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
	Torrance		
80	BP West Coast Products, LLC 18180 Prairie Ave, Torrance	Construction of new service station and 2,300-square-foot convenience store with off-sale beer and wine.	Construction pending.
81	Graceway Church 431 Madrid Ave, Torrance	Conversion of an industrial building for the operation of a church with shared parking.	Construction pending.
82	Providence Health System 5215 Torrance Blvd , Torrance	Construction of two, three-story medical office buildings and two, three-story parking structures.	Construction pending.
83	Torrance Memorial Medical Center, 3330 Lomita Blvd, Torrance	Construction of a new seven-story hospital tower and the removal of an existing medical office condominium building.	Construction pending
84	Chuck Stringfield 19701 Mariner Ave, Torrance	Conversion of two industrial buildings to industrial condominiums.	Construction pending.
85	Gospel Venture International Church 17811 Western Ave, Torrance	Conversion of existing industrial building for operation as a church.	Construction pending.
86	Continental Development 2843 Lomita Blvd, Torrance	Construction of a 25,000-square-foot medical office building to replace existing manufacturing building.	Construction pending.
87	Mark Sachs 2909 Pacific Coast Hwy, Torrance	Construction of a new 16,978-square-foot automobile dealership showroom facility.	Application approved on November 2009.
88	Wilmington Drain Multi-Use and Machado Lake Ecosystem Rehabilitation Project, Harbor City/Lomita	The project consists of two components: (1) Wilmington Drain Multi-Use; and (2) Machado Lake Ecosystem Rehabilitation. Wilmington Drain improvements include dredging, channel and bank stabilization, habitat and park design, and site-design and structural BMPs. Improvements to Machado Lake (and Harbor Regional Park) would include habitat and park design enhancements, site-design and structural BMPs, lake rehabilitation (i.e., water quality enhancements), and miscellaneous recreational improvements.	Notice of Determination was filed in September 28, 2010. Construction is expected to begin late 2011 and through 2014.

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
89	Rockefeller Group Professional Center Development	Construction of a 351,200-square-foot medical/office and professional building, and light industrial condominium buildings. The project would be constructed over two phases.	FEIR completed February 2010. Phase I construction is completed, and Phase II was expected to be completed by late 2011.
Port of Long Beach Projects			
90	Middle Harbor Terminal Redevelopment, Port of Long Beach	The project consolidates two existing container terminals into one 345-acre terminal. Construction includes approximately 54.6 acres of landfill, dredging, and wharf construction; construction of an intermodal railyard; and reconstruction of terminal buildings.	Approved project. Construction underway 2010–2019.
91	Piers G & J Terminal Redevelopment Project, Port of Long Beach	Redevelopment of two existing marine container terminals into one terminal in the Southeast Harbor Planning District area. The project will develop a marine terminal of up to 315 acres by consolidating portions of two existing terminals on Piers G and J and several surrounding parcels. Construction will occur in four phases and will include approximately 53 acres of landfills, dredging, concrete wharves, rock dikes, and road and railway improvements.	Approved project. Construction underway (2005–2015).
92	Pier A East, Port of Long Beach	Redevelopment of 32 acres of existing auto storage area into container terminal uses.	Conceptual planning.
93	Pier S Marine Terminal, Port of Long Beach	Development of a 150-acre container terminal on Pier S and construction of navigational safety improvements to the Back Channel.	Draft EIS/EIR released September 2011.
94	Administration Building Replacement Project, Port of Long Beach	Replacement of the existing Port Administration Building and Maintenance Facility with a new facility on an adjacent site on Pier G.	Approved project. Construction underway 2009–2012.
95	Gerald Desmond Bridge Replacement Project, Port of Long Beach and Caltrans/FHWA	Replacement of the existing 4-lane Gerald Desmond highway bridge over the Port of Long Beach Back Channel with a new 6- to 8-lane bridge.	Final EIR/EA certified in July 2010. Construction anticipated to begin in 2012.
96	Chemoil Marine Terminal, Tank Installation, Port of Long Beach	Construction of two petroleum storage tanks and associated relocation of utilities and reconfiguration of adjoining marine terminal uses between Berths F210 and F211 on Pier F.	EIR on hold.
97	Pier B Railyard Expansion	Expansion of the existing Pier B Railyard in two phases, including realignment of the adjacent Pier B Street and utility relocation.	EIR being prepared.

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
98	Terminal Island Rail Projects	Construction of rail improvements on Terminal Island, including a grade separation at Reeves Avenue and additional storage tracks.	EIR being prepared (2012–2015).
99	Mitsubishi Cement Corporation Facility Modifications	Facility modification, including the addition of a catalytic control system, construction of four additional cement storage silos, and upgrading existing cement unloading equipment on Pier F.	NOP/IS released in August 2011.
100	Polaris Aggregate Terminal	Construction and operation of a sand, gravel, and aggregate receiving, storage, and distribution terminal on Pier D.	NOP being prepared.
101	Pier A West Remediation Project, Port of Long Beach	Remediation of approximately 90 acres of oil production land, including remediation of soil and groundwater contamination, relocation of oil wells, filling, and paving.	Cleanup complete (2008–2009).
102	Total Terminal International (TTI) Grain Export Terminal Installation Project	Construction and operation of a grain transloading facility on a vacant 10-acre site on Pier T adjacent to the existing Hanjin container terminal. It would utilize existing infrastructure to the extent feasible and require no changes to shipping vessel operations.	NOP/IS released in August 2011.
103	Sulex Demolition Project	Demolition of a sulfur export facility on Pier G to fulfill the conditions of lease termination. No future use for the site is identified.	NOP/IS released in December 2010.
104	Cemera Long Beach Aggregate Terminal	Construction and operation of a sand, gravel, and aggregate receiving, storage, and distribution terminal on Pier D.	EIR on hold.
Alameda Corridor Transportation Authority and Caltrans Projects			
105	Schuyler Heim Bridge Replacement and SR-47 Terminal Island Expressway	ACTA/Caltrans project to replace the Schuyler Heim Bridge with a fixed structure and improve the SR-47/Henry Ford Avenue/Alameda Street transportation corridor by constructing an elevated expressway from the Heim Bridge to SR-1 (Pacific Coast Highway).	EIR/EIS approved; construction delayed/start date undetermined.
106	I-710 (Long Beach Freeway) Major Corridor Study	Develop multi-modal, timely, cost-effective transportation solutions to traffic congestion and other mobility problems along approximately 18 miles of the I-710, between the Port Complex ports and SR-60. Early Action Projects include: a) Port Terminus: Reconfiguration of SR-1 (Pacific Coast Highway) and Anaheim Interchange, and expansion of the open/green space at Cesar Chavez Park. b) Mid Corridor Interchange: Reconfigurations Project for Firestone Boulevard Interchange and Atlantic Bandini Interchange.	NOP/NOI released August 2008. Draft EIR/EIS under preparation.

No. on Figure 4-1	*Project Title and Location*	*Project Description*	*Project Status*
107	Cerritos Channel Bridge	New rail bridge adjacent to existing Badger Avenue Rail Bridge	Project delayed – start date undetermined.
City of Long Beach Projects			
108	Shoreline Gateway Project	Mixed-use development of a 22-story residential tower with retail, commercial, and office uses located north of Ocean Boulevard, between Atlantic Avenue and Alamitos Avenue, a 15- to 19-story stepped slab building west of the existing Lime Avenue and Ocean Boulevard intersection, and a 10-story building.	Final EIR certified in September 2006. Entitlements granted. City Planning Department has no estimated construction start and completion year.
109	West Gateway Redevelopment Project	Redevelopment of nine existing parcels, including apartments, condominiums, and retail, on Broadway between Chestnut and Maine.	Under construction.
110	2nd + Pacific Coast Highway 6400 E. Pacific Coast Hwy	The proposed project would include the demolition of existing onsite uses and would provide new residential, office, retail, and potential hotel uses, along with associated parking and open space.	DEIR was released on April 19, 2010. In process for entitlement. City Planning Department has no estimated construction start and completion year.
111	Golden Shore Master Plan	The proposed project would provide new residential, office, retail, and potential hotel uses, along with associated parking and open space.	Final EIR was released on January 2010. In process for entitlement. City Planning Department has no estimated construction start and completion year.
112	Press-Telegram Mixed Use Development	Construction of two high-rise buildings on the 2.5-acre Press-Telegram site. Each building would be 22 stories and 250 feet in height. The project would be a mixed-use development with 542 residential units, and 32,300 square feet of office and institutional space.	Draft EIR prepared August 2006.
113	Sierra Hotel Project	Development of a 91,304-square-foot, seven-story hotel structure with 140 rooms. Parking will be provided in the multi-level parking structure located across the street at the southwest corner of Cedar Avenue and Seaside Way.	EIR certified December 2005.
114	Long Beach Downtown Plan	Development standards and design guidelines for an expected increase in the density and intensity of existing Downtown land uses by allowing up to: (1) approximately 5,000 new residential units; (2) 1.5 million square feet of new office, civic, cultural, and similar uses; (3) 384,000 square feet of new retail; (4) 96,000 square feet of restaurants;	Draft EIR released December 2010

No. on Figure 4-1	Project Title and Location	Project Description	Project Status
		and (5) 800 new hotel rooms.	
115	Art Exchange	Project components include artist studios, multipurpose/classroom space, hot shop for glass and ceramics production, a centrally located open courtyard, gallery space, office, and service areas.	Draft EIR was released in December 2009. City Planning Department has no estimated construction start and completion year.
116	North Village Center	The proposed project involves the redevelopment of an approximately 6.3-acre site in the City of Long Beach with a mixed-use "village center" project.	Final EIR was released in November 2009. In process for entitlement. City Planning Department has no estimated construction start and completion year.
117	Kroc Community Center	The reformation of up to 19 acres of land designated by the Salvation Army, through a grant from the Kroc Foundation, for the location of a new recreation and community center.	Final EIR was released in June 2009. Entitlements granted. City Planning Department has no estimated construction start and completion year.
118	Hotel Sierra, 290 Bay St	This project consists of a new 5-story 125-room hotel with approximately 15,000 square feet of ground floor retail space.	EIR Addendum was released in May 2009. City Planning Department has no estimated construction start and completion year.
119	Mixed-Use Project 1235 Long Beach Blvd	The proposed project would include demolition of existing on-site uses and construction of a mixed-use (transit oriented) development that includes the construction of 3 buildings consisting of 170 residential condominium units, 186 senior (age-restricted) apartment units, and 42,000 square feet of retail/restaurant floor area.	EIR Addendum was released in January 2008. Entitlements granted. City Planning Department has no estimated construction start and completion year.
120	Douglas Park Rezone Project	The project consists of development of 1,400 residential units along with 3.3 million square feet of mixed commercial and light industrial development (which included a maximum of 200,000 square feet of retail uses), 400 hotel rooms, and 10.5 acres of park space, with an additional 2.5 acres for view corridors/pedestrian easements and bicycle paths.	Construction is underway. Entitlements granted.
121	Ocean Blvd Project	The proposed project would include the demolition of existing structures, the development of 51 condominium units and the remodel of an existing	Notice of Intent to Adopt was released in August 2009.

No. on Figure 4-1	Project Title and Location	Project Description	Project Status
		building to maintain 11 motel units. The residential development would be four stories in height above street level and would have two levels of subterranean parking.	Entitlements granted. City Planning Department has no estimated construction start and completion year.
122	Drake/Chavez Park Expansion	Development of new and expanding existing open space opportunities in the Drake/Chavez Park.	Project in progress.
123	Poly Gateway Project Pacific Coast Hwy and Martin Luther King Jr. Ave	Development of passive open space that will serve as a gateway to Poly High School, located directly behind the site.	Construction was expected to begin in 3rd Quarter 2008. Construction status unknown.
124	15th St and Alamitos Ave Open Space Development and Intersection Improvements	Passive park to include pedestrian hardscape, landscape lighting, light poles, and planting areas.	Construction underway.
125	WPA Mosaic Open Space Development	Relocation of historic mural to an open space development at the south end of CityPlace.	Construction was expected to start in 2010.
126	Lyon West Gateway Residential Development, Broadway at Magnolia Ave and 3rd St	Mixed-use project consisting of 291 rental apartments (265 market rate and 26 affordable) and 15,000 square feet of commercial space.	Construction underway.
127	Pine – Pacific, bounded by Pine and Pacific Aves, and 3rd and 4th Sts	Phase 1 will consist of a five-story residential project with 175 living units and 7,280 square feet of retail space. Phase 2 is slated as a 12-story mid-rise residential development with 186 units and 18,670 square feet of retail.	Approved project. Construction pending
128	Lofts at 3rd Street and Promenade	This is a mixed-use development project that consists of 104 rental homes and 13,550 square feet of first-floor retail space.	Construction underway.
129	Broadway Block Development, Broadway, Long Beach Boulevard, 3rd St, and Elm Ave	Mixed-use project consisting of an art center, residential units, and commercial space.	Conceptual project.
130	Long Beach Transit/Visitor Information Center,	1,900-square-foot transit customer service and visitor information center.	Construction underway.

No. on Figure 4-1	Project Title and Location	Project Description	Project Status
	downtown Long Beach		
131	Hotel Esterel, Promenade at Broadway	Seven-story, 165-room hotel with 8,875 square feet of retail space and 3,000 square feet of meeting space.	Construction underway.
132	Promenade Master Plan, between Shoreline Dr and 5th St	Improvement, expansion, and redesign of The Promenade. The Master Plan encompasses the gateways, hardscape, landscape, furniture, lighting, and public art plazas along the three blocks between Ocean Boulevard and 3rd Street, as well as renovation of the amphitheater.	Construction underway.
133	Admiral Kidd Park Expansion Site, Santa Fe at Willard	The Admiral Kidd Park Expansion Site consists of the acquisition and development of industrial property for a 120,000-square-foot park expansion.	The site has been acquired and cleared. Construction underway.
134	Pacific Coast Highway Streetscape Improvement Project	This project involves the design and construction of new street medians, sidewalk landscaping, public art, and refurbishment of existing bus shelters.	Approved project. Construction pending.
135	Everbright Paper Recycling Center	This is a development of a bulk paper recycling and processing center	Construction start date was expected to be in 3rd Quarter 2008, and completion date was expected to be in 2nd Quarter 2009. Construction status unknown.
136	Redbarn Pet Products	Upgrade with the development of an office and warehouse for use in the manufacturing and distribution of their pet food products.	Approved project. Construction pending.
137	Smith-Co Construction	The Smith-Co Construction project consists of a plan to develop Agency-owned property into a two-story, 6,100-square-foot office and warehouse facility for Smith-Co Construction.	Construction start date was expected to be in 3rd Quarter 2005, and completion date was expected to be in 4th Quarter 2008. Construction status unknown.
138	J.C.D.S Properties – Sudduth Tire	J.C.D.S Properties – Sudduth Tire is a new development consisting of a two-story office building and shop area as well as a storage facility for local businesses.	Construction start date was expected to be in 3rd Quarter 2005, and completion date was expected to be in 4th Quarter 2007. Construction status unknown.
139	Westside Storm	The Agency, along with developer DMJM Harris/	Construction start date

No. on Figure 4-1	Project Title and Location	Project Description	Project Status
	Drain Improvement Project	AECOM plans to improve and update existing storm drains in an effort to remedy street flooding.	was expected to be in 1st Quarter 2006, and completion date is to be determined. Construction status unknown.
140	250 Pacific Ave	Conversion of AMC Pine Square movie theaters to 74 residential units.	In process for entitlement. City Planning Department has no estimated construction start and completion year.
141	Acres of Books 240 Long Beach Blvd	Construction of 11,000-square-foot collaborative art center including the partial reuse of an historic structure	In process for entitlement. City Planning Department has no estimated construction start and completion year.
142	495 The Promenade North	Construction of 35,000-square-foot, 5-story mixed-use development including 6,000 square feet of ground floor commercial area and 21 residential units.	In process for entitlement. City Planning Department has no estimated construction start and completion year.
143	100 Aquarium Way	23,300-square-foot expansion to the Aquarium of the Pacific.	In process for entitlement. City Planning Department has no estimated construction start and completion year.
144	2010 Ocean Blvd	Construction of 56 residential condominiums units with 40 hotel rooms.	Entitlements granted. City Planning Department has no estimated construction start and completion year.
145	433 Pine Ave	Mixed use development of 28 residential units with 15,000 square feet of commercial (Newberry's Department Store)	Under construction.
146	600 E. Broadway	48,000-square-foot Vons Market with 128 rooftop parking spaces development	Under construction.

4.2 Cumulative Impact Analysis

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

4.2.1 Aesthetics

4.2.1.1 Scope of Analysis

The geographic area for cumulative visual impacts includes areas bordering the Port that have views of Port development projects, as well as areas from which cumulative projects can be viewed bordering the Port. Thus, the resulting geographic area for aesthetic impact analysis generally encompasses areas within the Port of Los Angeles; the Port of Long Beach; and the communities of San Pedro, Wilmington, and Long Beach. The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.1, "Aesthetics."

4.2.1.2 Cumulative Impact AES-1: Result in an adverse effect on a scenic vista from a designated scenic resource due to obstruction of views—Less than Cumulatively Considerable

Cumulative Impact AES-1 represents the potential of the proposed Project along with related cumulative projects to result in significant adverse impacts on a scenic vista within the cumulative study area from a designated scenic resource. A cumulative impact on a scenic vista would occur if the development activities necessary to implement the proposed Project, in combination with one or more of the related cumulative projects, would result in significant/significant adverse impacts on such scenic vistas. Significant impacts would include substantial or total blockage of views from a designated scenic view vantage point.

4.2.1.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Scenic views that encompass the proposed project site are primarily available from two scenic viewsheds in the project area, South Harbor Boulevard Viewshed and Lookout Point Park Viewshed. Views towards the proposed project site from these locations encompass the Port as well as intervening development, and horizons beyond if at high enough elevations. The visual changes that would be brought about by the proposed Project would be taking place within the southwestern portion of the Port Complex. Other past, present, and future projects at the Port that have contributed, and will contribute, to similar development patterns include the San Pedro Waterfront Project (#2), San Pedro Waterfront Enhancements Project (#19), Westway Demolition (#12), and Cabrillo Way Marina, Phase II (#4). These projects are intended to improve the visual quality of the Port nearest the community of San Pedro.

4.2.1.2.2 Contribution of the Proposed Project

The proposed Project's impact on views from the South Harbor Boulevard Viewshed and Lookout Point Park is discussed in detail in Section 3.1.4.3.1 under Impact AES-1. The changes generated by the proposed Project would generally be consistent with

other development that has occurred throughout the Port over the past several decades. Rehabilitation of the existing transit sheds would hardly be noticeable from these scenic vistas in the context of past, present, and future projects at the Port. The most visually prominent features of the project include the removal of the Westway tanks and development of the five-story, 100,000-square-foot building designed to house an 80,000-square-foot wave tank. The new structures would be similar in height, scale, and profile to existing structures. No new multistory structures would be developed that would exceed the height of the largest building on the proposed project site: Municipal Warehouse No. 1. Operation of the proposed Project, including the construction of the five-story wave tank, would have a less-than-significant impact on scenic vistas from Harbor Boulevard and Lookout Point Park in terms of obstructing of views. Furthermore, the views of and from the proposed project site would be improved and new viewing opportunities would be created. As determined in the impact analysis, the proposed Project would not obstruct views from either viewpoint and impacts would be less than significant. Therefore, the proposed Project in combination with past, present, and foreseeable projects, would result in a less than cumulatively considerable impact relative to adverse effects on scenic vistas from designated scenic resource due to obstruction of views.

4.2.1.2.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project to an adverse effect on a scenic vista would be less than cumulatively considerable. No mitigation measures are required.

4.2.1.3 Cumulative Impact AES-2: Substantially damage scenic resources (including, but not limited to, trees, rock outcroppings, and historic buildings) within a state scenic highway—No Cumulative Impact

There are no designated state scenic highways within the proposed project area; however, portions of Harbor Boulevard have been designated a local scenic highway by the City of Los Angeles. Views from this roadway that could be impacted are addressed under Impact AES-1. Because there would be no proposed project-specific impact, there would be no cumulatively considerable impacts.

4.2.1.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

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

4.2.1.3.2 Contribution of the Proposed Project

There are no designated state scenic highways within the proposed project area. There would be no proposed project–specific impact under Cumulative Impact AES-

2; therefore, the proposed Project would not contribute to a cumulatively considerable impact in regard to damage to scenic resources.

4.2.1.3.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project to damage of scenic resources would be less than cumulatively considerable. No mitigation measures are required.

4.2.1.4 Cumulative Impact AES-3: Substantially degrade the existing visual character or quality of the site or its surroundings—Less than Cumulatively Considerable.

Cumulative Impact AES-3 represents the potential of the proposed Project along with related cumulative projects to result in significant impacts on visual character or quality within the cumulative study area.

A cumulative impact on visual character or quality would occur if implementation of the proposed Project, in combination with one or more of the related cumulative projects, would alter or remove valued features that substantially define the character of the San Pedro community or the Port in positive terms—the alteration or removal of which would significantly diminish visual quality within the cumulative visual impacts study area. Significant impacts would include the demolition of visual landmarks or the construction of new development that degrades visual quality.

4.2.1.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The visual character of the cumulative project area comprises a diverse array of engineered, industrial, marine, and recreational elements associated with the working port, waterfront commerce, and recreational beaches and marinas. These contrasting elements make the Port a highly textured, large-scaled, and lively landscape. Views of the marina and water-related recreational activities are framed by cranes, cargo ships, and containers, and there is an overall compositional harmony between natural and human-made elements. Visual quality is a combination of (1) highly diverse, industrial imagery punctuated by vibrant-colored cranes that pierce the skyline, (2) a human-made landscape that is functionally intact but a kaleidoscope of contrasting visual elements, and (3) a natural harbor, ocean, and mountain setting that unifies and frames the composition from the northeast to the south.

Over the course of the past century, the construction of breakwaters, dredging of channels, filling for creation of berths and terminals, and construction of the infrastructure required to support Port operations have completely transformed the original natural setting to create a landscape that is highly engineered, nearly entirely altered, and visually dominated by large-scale human-made features. Past projects at the Port have had a demonstrable negative effect related to elimination of natural features, reductions in views from the surrounding area of the open waters of the Port's channels and basins, and intensification of the level of development that is

visible. For example, development of the Pier 400 Container Terminal and Transportation Corridor Project reduced views of open waters from hillside areas in San Pedro, and this project increased the concentration of large-scale developed facilities in the Port complex. The result of these past changes has been cumulatively significant.

Other past, present, and future projects at the Port that have contributed, and will contribute to similar development patterns include the San Pedro Waterfront Project (#2), San Pedro Waterfront Enhancements Project (#19), Westway Demolition (#12), and Cabrillo Way Marina, Phase II (#4). Present and reasonably foreseeable future projects would be consistent with existing features of the Port landscape region and are intended to improve the visual quality of the Port nearest the community of San Pedro. Overall, the Port setting would be capable of integrating well-designed Port-related development within the array of compositional elements because this type of development defines the visual imagery of the Port.

4.2.1.4.2 Contribution of the Proposed Project

The proposed Project would adaptively reuse existing transit sheds and structures located on Berths 57–60 by constructing self-contained structures within the existing warehouse envelopes. These improvements would aesthetically enhance the visual quality of the site, thereby increasing the overall vividness of the views available from surrounding viewpoints. With the exception of the five-story, 100,000-square-foot wave tank building, which would be one story shorter than the existing Municipal Warehouse No. 1 building, the new structures would be similar in height, scale, and profile to existing structures. From an aesthetic perspective, no buildings are proposed that would be out of character with the existing onsite structures in terms of size or scale. Therefore, there would not be a high degree of contrast between the proposed and existing features, and new construction would exhibit an overall unified character with existing structures.

Past projects have caused a significant cumulative impact under Cumulative Impact AES-3; however, the proposed Project would not degrade the existing visual character or quality of the site and its surroundings and would result in the reuse of existing transit sheds on the project site, resulting in minimal changes to the visual character of the area. Because the proposed Project would have less-than-significant impacts on the existing visual character or quality of the site and its surroundings, it also would result in a less than cumulatively considerable contribution to a cumulative aesthetics impact.

4.2.1.4.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project to degradation of existing visual character would be less than cumulatively considerable. No mitigation measures are required.

4.2.1.5 Cumulative Impact AES-4: Result in an adverse effect due to shading on the existing visual character

or quality of the site or its surroundings—Less than Cumulatively Considerable.

Cumulative Impact AES-4 represents the potential for the proposed Project, along with related cumulative projects, to result in significant impacts on the cumulative study area through negative shade or shadow effects that would affect shade-sensitive receivers.

4.2.1.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

None of the past, present, or future projects has the potential to contribute to cumulative effects related to shading.

4.2.1.5.2 Contribution of the Proposed Project

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

4.2.1.5.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project to negative shade or shadow effects would be less than cumulatively considerable. No mitigation measures are required.

4.2.1.6 Cumulative Impact AES-5: Create a new source of substantial light or glare that would adversely affect day or nighttime views of the area—Less than Cumulatively Considerable

Cumulative Impact AES-5 represents the potential for the proposed Project and related cumulative projects to result in cumulatively significant adverse impacts in the cumulative study area through the creation of a new source of substantial light or glare that would adversely affect day or nighttime views.

4.2.1.6.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Due to the Port's current operations, the visual setting is brightly lit at night to ensure a safe nighttime outdoor work environment. The major sources of illumination within the Port are down lights on tall light standards and floodlighting, including floodlights on the crane booms used in loading and unloading cargo. Lighting is

designed to provide an almost daylight environment through the use of these tall light standards.

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

There are ten past, present, and reasonably foreseeable future projects in the geographic area that could contribute or add light and glare, including the following: Marine Terminal, West Basin, (#1), Cabrillo Way Marina (#4), Evergreen Container Terminal Improvements (#5), China Shipping (#14), Pasha Marine Terminal Improvements (#15), SCIG (#17), APL Container Terminal Improvement (#30), Wilmington Waterfront Development Project (#21), YTI Container Terminal Improvement (#23), and Yang Ming Container Terminal Improvements (#24).

These projects include lighting designed to provide an almost daylight environment through the use of these tall light standards. Therefore, the cumulative adverse effects/impacts associated with the light and glare of each of the past, present, and reasonably foreseeable future projects would result in a significant cumulative impact.

4.2.1.6.2 Contribution of the Proposed Project

As discussed in Section 3.1.4.3, the proposed Project would create some new sources of light or glare, but would be designed to comply with the policies outlined in Section 3.1.3 the San Pedro Waterfront and Promenade Design Guidelines, and the PMP; and would represent a minimal increase in light and glare sources compared to existing conditions. Proposed project features that would contribute to ambient nighttime illumination would be negligible within the context of the functional lighting of the Port.

New lighting would be both functional and decorative to enhance visual quality. As discussed in Section 3.1.4.3, within the context of the brightly lit night setting of the Port, the incremental change in ambient proposed project lighting would have little effect on light-sensitive areas. Lighting associated with proposed project components would comply with the San Pedro Waterfront and Promenade Design Guidelines, which include lighting recommendations to minimize light pollution, spill light, and glare while promoting goals to create an attractive and safe daytime and nighttime waterfront that supports local economic growth. Additionally, lighting would comply with the PMP, which requires an analysis of design and operational effects on existing community areas. Design consistency with these guidelines and regulations would minimize lighting effects and keep the lighting impacts of the proposed Project below significance. As such, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact, and cumulative impacts on light and glare would remain less than significant.

4.2.1.6.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project to light and glare would be less than cumulatively considerable. No mitigation measures are required.

4.2.2 Air Quality and Greenhouse Gases

4.2.2.1 Scope of Analysis

For Cumulative Impacts AQ-1 through AQ-8, the geographic scope for cumulative effects on air quality is the SCAB, which is consistent with the thresholds established by SCAQMD. However, the highest project impacts would occur within the communities adjacent to the proposed project sites, including San Pedro, Wilmington, and Long Beach. For Cumulative Impacts GHG-1 and GHG-2 (global climate change), the geographic scope is the state of California.

4.2.2.2 Cumulative Impact AQ-1: Result in construction-related emissions that exceed an SCAQMD threshold of significance—Cumulatively Considerable and Unavoidable

Cumulative Impact AQ-1 assesses the potential for proposed project construction when combined with past, present, and reasonably foreseeable future projects to produce a cumulatively considerable increase in criteria pollutant emissions for which the proposed project region is in nonattainment under a national or state ambient air quality standard or for which the SCAQMD has set a daily emission threshold.

4.2.2.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

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

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

The *2007 Air Quality Management Plan* predicts attainment of all NAAQS within the SCAB, including PM2.5 by 2014 and O_3 by 2020. However, the predictions for PM2.5 and O_3 attainment are speculative at this time.

In the time period between the beginning and end of proposed project construction (2014–2023), several large construction projects would occur at the Port and surrounding areas (see Table 4-1) that would overlap and contribute to cumulative construction impacts. The construction impacts of the related projects would be cumulatively significant if their combined construction emissions would exceed the SCAQMD daily emission thresholds for construction. Because this almost certainly would be the case for all analyzed criteria pollutants and precursors (VOC, CO, NO_X, SO_X, PM10, and PM2.5), the related projects would result in a significant cumulative air quality criteria pollutant impact.

4.2.2.2.2 Contribution of the Proposed Project

SCAQMD developed emission-based air quality significance thresholds for criteria pollutants. Construction of the proposed Project would produce emissions of VOCs and NO_X that would exceed SCAQMD emissions thresholds. Overlapping construction and operational emissions, during the construction period, would also exceed SCAQMD emissions thresholds for VOC, CO, and NO_X. Any concurrent emission-generating activities that occur near the proposed project site would add an additional air emission burden to these significant levels. As a result, without mitigation, emissions from proposed project construction would make a cumulatively considerable contribution to a cumulatively significant impact for VOCs, CO, and NO_X emissions.

4.2.2.2.3 Mitigation Measures and Residual Cumulative Impacts

After implementation of Mitigation Measures MM AQ-1 through MM AQ-7, emissions from construction of the proposed Project would be reduced, but would continue to exceed SCAQMD significance thresholds for VOC and NO_X. Overlapping construction and operational emissions, during the construction period, would also continue to exceed SCAQMD significance thresholds for VOC, CO, and NO_X. These emission increases would combine with construction emissions from concurrent construction projects in the vicinity of the proposed project site and would therefore make a cumulatively considerable and unavoidable contribution to significant cumulative impacts for VOCs, CO, and NO_X.

4.2.2.3 Cumulative Impact AQ-2: Result in offsite ambient air pollutant concentrations during construction that exceed a threshold of significance—Cumulatively Considerable and Unavoidable

Cumulative Impact AQ-2 assesses the potential for proposed project construction when combined with past, present, and reasonably foreseeable future projects to produce ambient pollutant concentrations that exceed an ambient air quality standard or substantially contribute to an existing or projected air quality standard violation.

4.2.2.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The past, present, and reasonably foreseeable future projects for Cumulative Impact AQ-2 would result in significant cumulative impacts if their combined ambient pollutant concentrations, during construction, would exceed SCAQMD ambient concentration thresholds for pollutants from construction. Although there is no way to be certain if a cumulative exceedance of the thresholds would happen for any pollutant without performing dispersion modeling of past, present, and reasonably foreseeable projects, cumulative air quality impacts are likely to exceed the thresholds for NO_2, could exceed the thresholds for PM10 and PM2.5, and are unlikely to exceed for CO, as indicated by historical ambient air monitoring presented in Tables 3.2-2 and 3.2-3. Consequently, construction of the related projects would result in a significant cumulative air quality impact related to exceedances of the significance thresholds for NO_2, PM10, and PM2.5.

4.2.2.3.2 Contribution of the Proposed Project

SCAQMD developed emission-based LSTs that signify considerable increases in ambient criteria pollutants. Construction of the proposed Project would produce impacts that would exceed SCAQMD LSTs for NO_X and result in a significant NO_2 impact. Any concurrent emission-generating activity that occurs near the proposed project site would add an additional ambient air burden to this already significant level.

In addition, although the proposed Project would not produce emissions of CO, PM10, and PM2.5 above SCAQMD LSTs or SO_X emissions above federal ambient standards, these emissions would combine with construction emissions from other projects that would already be cumulatively significant.[1] As a result, without mitigation, emissions from proposed project construction would make cumulatively considerable contributions to significant cumulative ambient NO_2, SO_2, PM10, and PM2.5 levels.

4.2.2.3.3 Mitigation Measures and Residual Cumulative Impacts

After implementation of Mitigation Measures MM AQ-1 through MM AQ-7, impacts from construction would be reduced to below SCAQMD's LST thresholds and federal standards. Impacts from overlapping construction and operational emissions, during the construction period, would continue to exceed SCAQMD LST for NO_X. This impact would combine with construction emissions from concurrent construction projects in the vicinity of the proposed project site and would therefore make a cumulatively considerable and unavoidable contribution to significant cumulative impacts for NO_2. As a result, even with mitigation, impacts from proposed project construction would make a cumulatively considerable contribution to a cumulatively significant impact for NO_2, emissions, thereby substantially contributing to an existing air quality standard violation.

[1] A detailed discussion of SCAQMD's LSTs and federal standards is presented in Section 3.2, "Air Quality and Greenhouse Gases."

4.2.2.4 Cumulative Impact AQ-3: Result in operational emissions that exceed a SCAQMD threshold of significance—Cumulatively Considerable and Unavoidable

Cumulative Impact AQ-3 assesses the potential for proposed project operation when combined with past, present, and reasonably foreseeable future projects to produce a cumulatively considerable increase in criteria pollutant emissions for which the proposed project region is in nonattainment under a national or state ambient air quality standard or for which SCAQMD has set a daily emission threshold.

4.2.2.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

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

4.2.2.4.2 Contribution of the Proposed Project

SCAQMD developed emission-based air quality significance thresholds for criteria pollutants. Operation of the proposed Project would produce emissions of VOC, CO, and NO_X that would exceed SCAQMD emissions thresholds. Any concurrent emission-generating activities that occur near the proposed project site would add an additional air emission burden to these significant levels. As a result, without mitigation, emissions from proposed project operation would make a cumulatively considerable contribution to a cumulatively significant impact for criteria pollutant emissions of VOCs, CO, and NO_X.

4.2.2.4.3 Mitigation Measures and Residual Cumulative Impacts

After implementation of Mitigation Measures MM AQ-4 and MM AQ-7, emissions from operation of the proposed Project would be reduced, but would continue to exceed SCAQMD significance thresholds for VOC, CO, and NO_X. These emission increases would combine with operational emissions from concurrent projects in the vicinity of the proposed project site and would therefore make a cumulatively considerable and unavoidable contribution to significant cumulative impacts for VOCs, CO, and NO_X.

4.2.2.5 Cumulative Impact AQ-4: Result in offsite ambient air pollutant concentrations during operation that exceed a threshold of significance—Less Than Cumulatively Considerable

Cumulative Impact AQ-4 assesses the potential for proposed project operations when combined with past, present, and reasonably foreseeable future projects to produce ambient concentrations that exceed an ambient air quality standard or substantially contribute to an existing or projected air quality standard violation

4.2.2.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Related projects would result in significant cumulative impacts if their combined ambient concentration levels during operations would exceed SCAQMD ambient concentration thresholds for operations. Although there is no way to be certain if a cumulative exceedance of the thresholds would happen for any pollutant without performing dispersion modeling of past, present, and reasonably foreseeable projects, cumulative air quality impacts are likely to exceed the thresholds for NO_2, could exceed the thresholds for PM10 and PM2.5, and are unlikely to exceed the thresholds for CO, as indicated by historical ambient air monitoring, presented in Tables 3.2-2 and 3.2-3. Consequently, operation of related projects would result in a significant cumulative air quality impact related to exceedances of significance thresholds for NO_2, PM10, and PM2.5.

4.2.2.5.2 Contribution of the Proposed Project

SCAQMD developed emission-based LSTs that signify considerable increase in ambient criteria pollutants. The proposed Project's peak daily operational emissions would not exceed LST or federal thresholds for any criteria pollutants. Therefore, the proposed Project operations would not result cumulatively considerable impacts.

4.2.2.5.3 Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required because the proposed Project would not result in cumulatively considerable contributions to significant cumulative ambient air pollution concentrations.

4.2.2.6 Cumulative Impact AQ-5: Generate on-road traffic that would contribute to an exceedance of the 1- or 8-hour CO standards—Less than Cumulatively Considerable

Cumulative Impact AQ-5 assesses the potential for proposed project operations when combined with past, present, and reasonably foreseeable future projects to create onroad traffic that would contribute to an exceedance of the 1- or 8-hour CO standards.

4.2.2.6.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Related projects would result in significant cumulative impacts on air quality if they would generate traffic levels that cause exceedances of the ambient air quality standards for CO near roadways and intersections. Exceedances of the CO standards are unlikely to occur, based on the historical ambient monitoring levels of CO in the proposed project area (Tables 3.2-2 and 3.2-3) and the continued downward trend in CO levels through the SCAB due to the phase-in of stricter on-road engine standards for passenger cars and trucks. Therefore, the cumulative impacts of the other projects to exceedance of the 1- or 8-hour CO standards would be considered less than significant.

4.2.2.6.2 Contribution of the Proposed Project

Based on CO hot spot analysis, which includes cumulative growth in traffic levels, significant hot spot impacts under CEQA for proposed project operations are not anticipated because CO standards would not be exceeded. As a result, proposed project operations would not result in cumulatively considerable contributions to exceedance of CO standards within the proposed project region.

4.2.2.6.3 Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required because the proposed Project would not result in cumulatively considerable contributions to significant cumulative exceedance of CO standards.

4.2.2.7 Cumulative Impact AQ-6: Create an objectionable odor at the nearest sensitive receptor—Less Than Cumulatively Considerable

Cumulative Impact AQ-6 assesses the potential of proposed project operations when combined with past, present, and reasonably foreseeable future projects to create objectionable odors at the nearest sensitive receptor.

4.2.2.7.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

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

4.2.2.7.2 Contribution of the Proposed Project

According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed Project does not include uses identified by the SCAQMD as being associated with odors and therefore would not produce objectionable odors. Consequently, the proposed project would not result in cumulatively considerable impacts related to the generation of objectionable odors.

4.2.2.7.3 Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required because the proposed Project would not result in cumulatively considerable contributions to generation of odors.

4.2.2.8 Cumulative Impact AQ-7: Expose receptors to significant levels of TACs—Cumulatively Considerable and Unavoidable

Cumulative Impact AQ-7 assesses the potential of the proposed Project's construction and operations when combined with past, present, and reasonably foreseeable future projects to produce TACs that exceed acceptable public health criteria.

4.2.2.8.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

MATES-II, conducted by the SCAQMD in 2000, estimated the existing cancer risk from TACs in the SCAB to be 1,400 in 1,000,000 (SCAQMD 2000). In MATES III, completed by SCAQMD in 2008, the existing cancer risk from TACs was estimated at 1,000 to 2,000 in 1,000,000 in the San Pedro and Wilmington areas (SCAQMD 2008). Both the MATES-II and MATES III studies evaluated over 30 different air pollutants. In *Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach*, CARB estimates that elevated levels of cancer risks due to operational emissions from the Ports of Los Angeles and Long Beach occur within and in proximity to the two ports (CARB 2006). Based on this information, exposure to TACs within the proposed project region are cumulatively significant.

The Port has approved Port-wide air pollution control measures through their San Pedro Bay Ports CAAP (LAHD 2010). Implementation of these measures would reduce the health risk impacts from the proposed Project and future projects at the Port. Currently adopted regulations and future rules proposed by CARB and EPA will further reduce air emissions and associated cumulative health impacts from Port operations. However, because future proposed measures (other than CAAP measures) and rules have not been adopted, it is unknown at this time how these measures would reduce cumulative health risk impacts within the proposed project area; therefore, impacts from TAC emissions within the proposed project region would be cumulatively significant.

4.2.2.8.2 Contribution of the Proposed Project

SCAQMD recommends that health risk assessments be conducted for projects with substantial sources of diesel particulate and other TAC emissions. Tables 3.2-26 and 3.2-27 show that incremental cancer impacts and non-cancer chronic impacts from proposed project construction and operational activities would be below the CEQA baseline, would be better than before the project, and would therefore not contribute to cumulative cancer impacts. Table 3.2-28 in Section 3.2, "Air Quality and Greenhouse Gases," shows that project-related incremental acute impacts would be below significance levels. Although the proposed Project would not produce acute impacts above significance thresholds, these impacts would combine with impacts from other projects in the vicinity that would already be cumulatively significant. As a result, without mitigation, impacts from TAC emissions would make a cumulatively considerable contribution to an existing cumulatively significant impact.

In addition, the proposed Project would attract visitors to the proposed Project site, which is adjacent to other Port-related activities that generate emissions of DPM and other TACs.

Because the proposed Project would attract sensitive individuals to a location that most likely has a higher risk than their place of residence, an indirect recreational health risk impact may result. The magnitude of the impact would depend on a variety of factors, including the frequency and duration of a person's visit, the person's exertion level (i.e., breathing rate) during the visit, the amount of Port and industrial activity occurring during the visit, and the prevailing meteorological conditions (wind speed, wind direction, and atmospheric stability level).

Although most visitors would probably receive a relatively slight health risk impact, the possibility exists that a frequent visitor could accumulate a significant long-term cancer or non-cancer impact. The possibility also exists that any visitor could receive a significant short-term (acute) impact if the visit takes place during a high level of adjacent industrial activity coupled with worst-case meteorological conditions. Therefore, the proposed Project would expose visitors to significant health risk impacts associated with air pollutants from non-proposed project related sources.

For example, the San Pedro Waterfront project, which addressed but did not analyze operations at City Dock, conducted a quantitative assessment of health impacts and found that cancer risk and acute health impacts to recreational receptors, such as site visitors, would be above the level of significance at the Outer Harbor Park, which is close to the proposed Project. Therefore, health impacts on recreational receptors at the proposed project site would by extension also be above the level of significance.

4.2.2.8.3 Mitigation Measures and Residual Cumulative Impacts

Implementation of proposed project mitigation measures that reduce diesel combustion and other TAC emissions, specifically MM AQ-1 through MM AQ-7, would reduce TAC emissions from the proposed Project. After implementation of these mitigation measures, although the proposed Project would not result in cancer, non-cancer chronic, and acute impacts on offsite receptors, any TAC emissions

produced by the proposed Project would add to the TAC burden in the vicinity and result in a cumulatively considerable contribution to an existing cumulatively significant impact.

In addition, the proposed Project would attract visitors to the site, which is adjacent to other Port-related activities that generate emissions of DPM and other TACs. As such, in the short term, the recreational health risk impact on visitors to the proposed project site would remain significant due to the cumulative contribution from other Port activities.

In the long term, levels of pollution from Port facilities will substantially diminish in accordance with the CAAP and CARB regulatory requirements. Specifically, DPM from Port trucks has diminished by 80% under the Port's proposed Clean Trucks Program. The Ports of Los Angeles and Long Beach have also instituted voluntary programs to reduce DPM emissions from port operations including installing diesel oxidation catalysts on yard equipment, funding the incremental costs of cleaner fuels, cold-ironing ocean-going ships, and providing monetary support to the Gateway Cities truck fleet modernization program. In addition, efforts at the state and local level to implement the Diesel Risk Reduction Plan and to fulfill commitments in the SIP will also reduce emissions. For example, the new off-road engine standards adopted by CARB and EPA will reduce emissions from new off-road engines by over 95% compared to uncontrolled levels. As another example, CARB adopted a regulation in July 2008 that requires low sulfur fuel in ships operating within 24 nautical miles of the California coast, starting in 2009. This regulation would reduce DPM emissions from ships by about 75% in 2009 and 83% by 2012 compared to uncontrolled levels. Other current regulations and future rules adopted by CARB and EPA will further reduce air emissions and associated cumulative impacts in the proposed project region.

4.2.2.9 Cumulative Impact AQ-8: Conflict with or obstruct implementation of an applicable air quality plan—Less than Cumulatively Considerable

Cumulative Impact AQ-8 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to conflict with or obstruct implementation of an applicable air quality plan.

4.2.2.9.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Related projects would result in significant cumulative air quality impacts if they result in population growth or operational emissions that exceed the assumptions in the 2007 AQMP or the SIP. Related projects would be subjected to regional planning efforts and applicable land use plans (such as the General Plan, Community Plans, or PMP) or transportation plans such as the Regional Transportation Plan and the Regional Transportation Improvement Program. Because the 2007 AQMP accounts for population projections that are developed by SCAG, and accounts for planned land use and transportation infrastructure growth, related projects would be consistent

with the AQMP. Therefore, related projects would not result in significant cumulative impacts related to an obstruction of the AQMP.

4.2.2.9.2 Contribution of the Proposed Project

The proposed Project would produce emissions of nonattainment pollutants. The 2007 AQMP and most recent SIP propose stationary and mobile source control measures and clean fuel programs that are designed to bring the SCAB into attainment of the state and national AAQS. Many of these AQMP and SIP control measures are adopted as SCAQMD and CARB rules and regulations, which are then used to regulate sources of air pollution in the region. Proposed project sources would have to comply with all applicable SCAQMD and CARB rules and regulations, and in this manner, the Proposed Project would not conflict with or obstruct implementation of the AQMP or the SIP. Therefore, the proposed Project would result in a less than cumulatively considerable contribution in terms of conflicting with or obstructing implementation of the AQMP or the SIP.

4.2.2.9.3 Mitigation Measures and Residual Cumulative Impacts

Mitigation measures are not required because cumulative impacts on obstruction of an applicable air quality plan would be less than significant.

4.2.2.10 Cumulative Impact GHG-1: Produce GHG emissions that exceed CEQA thresholds —Cumulatively Considerable and Unavoidable

Cumulative Impact GHG-1 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to contribute to global climate change.

4.2.2.10.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Scientific evidence indicates a trend of warming global surface temperatures over the past century due at least in part to the generation of GHG emissions from human activities. Some observed changes include shrinking glaciers, thawing permafrost, and shifts in plant and animal ranges. Credible predictions of long-term impacts from increasing GHG levels in the atmosphere include sea level rise, changes to weather patterns, changes to local and regional ecosystems including the potential loss of species, and significant reductions in winter snow packs. These and other effects would have environmental, economic, and social consequences on a global scale. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. According to the Intergovernmental Panel on Climate Change (IPCC), the atmospheric concentration of CO_2 in 2005 was 379 ppm compared to the pre-industrial levels of 280 ppm (IPCC

2007). Based on this information, past, current, and future global GHG emissions, including emissions from projects in the Ports of Los Angeles and Long Beach (Table 4-1) and elsewhere in California, are cumulatively significant.

4.2.2.10.2 Contribution of the Proposed Project

The challenge in assessing the significance of an individual project's contribution to global GHG emissions and associated global climate change impacts is determining whether a project's GHG emissions, which are at a micro-scale relative to global emissions, result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. Table 3.2-29 in Section 3.2, "Air Quality and Greenhouse Gases," shows that the proposed Project would produce GHG emissions that would exceed SCAQMD significance threshold for GHG and result in significant GHG impacts. Project impacts would combine with impacts from related projects and add additional burden to existing cumulatively significant GHG impacts, thereby resulting in cumulatively considerable contributions to significant cumulative GHG impacts.

4.2.2.10.3 Mitigation Measures and Residual Cumulative Impacts

After implementation of Mitigation Measure MM GHG-1 as identified in Section 3.2, "Air Quality and Greenhouse Gases," GHG impacts associated with the proposed Project would be reduced, but would continue to exceed the SCAQMD GHG CEQA thresholds. These impacts would combine with GHG impacts from concurrent projects and would make a cumulatively considerable and unavoidable contribution to significant cumulative climate change impacts.

4.2.2.11 Cumulative Impact GHG-2: Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions—Less than Cumulatively Considerable

Cumulative Impact GHG-2 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects, to conflict with or obstruct implementation of an applicable GHG plan, policy, or regulation.

4.2.2.11.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Related projects would result in significant cumulative GHG impacts if they result in population growth, emissions, or practices that conflict with CARB's GHG Scoping Plan and resulting regulatory framework as described in Section 3.2.3, "Applicable Regulations" (CARB 2008, CARB 2011). CARB's GHG Scoping Plan provides a roadmap to reach the GHG reduction goals required in the Global Warming Solutions Act of 2006, or AB 32. Many of the strategies in the Scoping Plan and the resulting regulatory framework stipulate measures enforced at the state level and imposed on equipment manufacturers and fuel suppliers (i.e., clean fuels, clean equipment measures). Related projects that comply with the GHG Scoping Plan and resulting

regulations would not conflict with or obstruct implementation of an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions and would therefore not result in significant cumulative impacts.

4.2.2.11.2 Contribution of the Proposed Project

The proposed Project would utilize stationary and mobile equipment compliant with state and federal emission requirements, implement GHG Scoping Plan measures, and comply with regulatory requirements stipulated by CARB. Therefore, the proposed Project would not conflict with or obstruct implementation of plans, policies, or regulations adopted for the purpose of reducing GHG emissions and as such would result in a less than cumulatively considerable contribution.

4.2.2.11.3 Mitigation Measures and Residual Cumulative Impacts

Mitigation measures are not required because cumulative GHG emissions impacts would be less than significant.

4.2.3 Biological Resources

4.2.3.1 Scope of Analysis

The geographic region of analysis for biological resources differs by organism group. For benthic communities, water column communities (plankton and fish), and water-associated birds, the region of analysis includes the aquatic areas of the LA/LB Harbor (Inner and Outer Harbor areas) because the basins, channels, and open water areas are hydrologically and ecologically connected. For marine mammals, the analysis area includes the LA/LB Harbor as well as the Pacific Ocean from near Angels Gate out to Catalina Island in order to cover vessel traffic effects. Sea turtles are not expected to occur in the harbor and their presence in the nearshore areas where vessel traffic could affect them is unlikely and unpredictable; consequently, these animals are not considered in the cumulative analysis.

Special-status bird species have differing population sizes and dynamics, distributional ranges, breeding locations, and life history characteristics. They are not year-long residents, but migrate to other areas where stresses unrelated to the proposed Project and other LA/LB Harbor projects can occur. Therefore, the area for cumulative analysis is limited to the LA/LB Harbor and adjacent water and lands, where impacts associated with the proposed Project and other projects in the harbor could affect such birds.

For terrestrial biological resources, the region of analysis consists of the land areas of the proposed Project (the existing SCMI facility and the City Dock No. 1 site). The resources present in upland areas are common species that are abundant throughout the region and are adapted to industrial areas in the LA/LB Harbor.

Past, present, and reasonably foreseeable future development that could contribute to cumulative impacts on terrestrial biological resources are those projects that involve land disturbance such as grading, paving, landscaping, construction of roads and

buildings, and related noise and traffic impacts. Operational impacts from these development projects can also be expected to have cumulative impacts on terrestrial species.

Marine organisms could be affected by activities in the water such as dredging, filling, wharf demolition and construction, and vessel traffic. Runoff of pollutants from construction and operations activities on land into harbor waters via storm drains or sheet runoff, as well as discharges of spent seawater and sewage treatment facilities, also have the potential to affect marine biota.

The significance criteria used for the cumulative analysis are the same as those used in Section 3.3.4.2. This cumulative effects analysis considers past, present, and reasonably foreseeable projects in the proposed project area. The year of NOP publication (2010) is the year that separates past and present projects and serves as the environmental baseline for the proposed Project.

4.2.3.2 Cumulative Impact BIO-1: Cause the loss of individuals, or the reduction of existing habitat, of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a species of special concern, or the loss of federally listed critical habitat—Less than Cumulatively Considerable

Cumulative Impact BIO-1 represents the potential for the proposed Project, when combined with past, present, and reasonably foreseeable future projects, to cause a loss of individuals, or the reduction of existing habitat or habitat quality, of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern; or the loss of federally designated critical habitat. No critical habitat for any federally listed species is present in the harbor; therefore, no cumulative impacts on critical habitat would occur.

4.2.3.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction of marine terminal projects in the harbor has reduced the amount of marine surface water present and thus foraging, nesting and resting areas for special-status bird species, but some of these projects have also added more land and structures that can be used by birds for perching near the water and by marine species as hard substratum for attachment and foraging. Construction of Pier 400 provided a new nesting site for the California least tern and elegant tern that is still being used by these species. Shallow-water areas that provide foraging habitat for these terns and other sensitive bird species have been constructed on the east side of Pier 300 and inside the San Pedro breakwater as mitigation for loss of such habitat from past projects, and more such habitat is to be constructed as part of the Channel Deepening project. Established roosting areas for sensitive bird species, such as brown pelican, and haul-out areas for harbor seals and sea lions occur along the breakwaters, especially the Middle Breakwater, which is isolated from human access.

Development of the vacant land on Pier 400 adjacent to the tern nesting site (Plains All-American Oil Marine Terminal Project (#10 in Table 4-1 and on Figure 4-1) has the potential to adversely affect those species during construction. Also, construction of the Cabrillo Shallow Water Habitat Expansion and Eelgrass Habitat Area as part of the Channel Deepening Project (#3) has the potential to adversely affect tern foraging during construction activities. Any significant impacts on these tern species would be avoided or minimized through timing of construction activities in areas used for foraging to avoid work when they are present. With respect to other special-status species, it is not expected that any nesting habitat, foraging habitat, or individuals would be lost as a result of backland or in-water development. Because of the amount of suitable habitat that exists in the harbor and as a result of mitigation for habitat loss, cumulative impacts of past, present, and reasonably foreseeable future projects, including the proposed Project, on special-status species would be less than significant.

Past projects that have increased vessel traffic, have also increased underwater sound in the harbor and in the ocean from the vessel traffic lanes to Angels Gate and Queens Gate. Ongoing and future terminal upgrade and expansion projects (e.g., Marine Terminal, West Basin [#1], Channel Deepening [#3], Evergreen Container Terminal Improvements [#5], Plains All-American Oil Marine Terminal [#10], Ultramar [#11], China Shipping [#14], YTI Container Terminal Improvements [#23], Yang Ming Container Terminal Improvements [#24], Middle Harbor [#90], Piers G & J [#91], TTI Grain Export Terminal [#102], and Pier S Marine Terminal [#93], as well as the San Pedro Waterfront Project [#2] and the Wilmington Waterfront Project [#21]; see Table 4-1) would increase vessel traffic and its associated underwater sound in the harbor. The frequency of vessel sound events would increase and contribute a small increment to the average underwater sound level within the harbor that would not be expected to affect the hearing or behavior of marine mammals. While the number of vessels would increase in the harbor, the number of vessels transiting the Main Channel at any given time would not increase substantially. Individual marine mammals would likely respond to noise from vessels that pass near them by moving away. Cumulative impacts from past, present, and reasonably foreseeable future projects, including the proposed Project, of underwater sound from vessels on marine mammals would be less than significant.

Past, present, and reasonably foreseeable future projects will increase offshore vessel traffic. Ship strikes involving marine mammals and sea turtles, although uncommon, have been documented for the following listed species in the eastern North Pacific: blue whale, fin whale, humpback whale, sperm whale, southern sea otter, loggerhead sea turtle, green sea turtle, olive ridley sea turtle, and leatherback sea turtle (NOAA Fisheries and USFWS 1998a, 1998b, 1998c, 1998d; Stinson 1984; Carretta et al. 2001). Ship strikes have also been documented involving gray, minke, and killer whales. The blue whale, fin whale, humpback whale, sperm whale, gray whale, and killer whale are all listed as endangered under the ESA, although the Eastern Pacific grey whale population was delisted in 1994.

In Southern California, potential strikes to blue whales are of the most concern due to their migration patterns relative to established shipping channels. Collisions between whales and large commercial vessels are most likely to lead to reported whale mortality or injury. Blue whales normally pass through the Santa Barbara Channel

en route from breeding grounds in Mexico to feeding grounds to the north. Blue whales have historically been a target of commercial whaling activities worldwide. In the North Pacific, the pre-whaling population was estimated at approximately 4,900, and the current population estimate is approximately 3,300 with 1,700 in the eastern North Pacific (NMFS 2008). Along the California coast, blue whale abundance has increased over the past two decades (Calambokidis et al. 1990, Barlow 1995, Calambokidis 1995). However, the increase is too large to be accounted for by population growth alone and is more likely attributed to a shift in distribution. Incidental ship strikes and fisheries interactions are listed by NMFS as the primary threats to the California population. The number of strikes per year ranged from 0 to 7 and averaged 2.6, but the actual number is likely to be greater because not all strikes are reported. As the number of vessels increases, the number of incidents is also expected to increase. Therefore, the cumulative impacts associated with past, present, and reasonably foreseeable future projects, including the proposed Project, would be significant and unavoidable due to the low population size of blue whales relative to historic levels and the potential risk for strikes as vessels cross their migration path to enter the harbor.

In-water construction activities (e.g., Marine Terminal, West Basin [#1], San Pedro Waterfront Project [#2], Channel Deepening [#3], Cabrillo Way Marina [#4], Evergreen Container Terminal Improvements [#5], Plains All American Oil Marine Terminal [#10], China Shipping [#14], YTI Container Terminal Improvements [#23], Yang Ming Container Terminal Improvements [#24], Middle Harbor Terminal Redevelopment [#90], Piers G & J Redevelopment [#91], Pier S Marine Terminal [#93], and Schuyler Heim Bridge [#105]; see Table 4-1) could disturb or cause special-status birds, including brown pelican and the tern species addressed above, to avoid the construction areas for the duration of the activities. In-water construction activities, and particularly pile driving (including the soft start method, which begins impact pile driving at 40–60% of full force for a period of 5 minutes), would also result in underwater sound pressure waves that could affect the behavior of marine mammals and diving birds, as they abandon the area where pile driving activities are occurring. These activities (e.g., driving of support and sheet piling) occur in areas where few marine mammals and diving birds are expected, where nearby projects are not expected to occur concurrently, and where these species could avoid the disturbance area by moving to other areas of the harbor. Because these projects would occur at different locations throughout the harbor and only some are likely to overlap in time, these species could use other undisturbed areas in the harbor, and few individuals would be affected at any one time.

Construction of the Schuyler Heim Bridge (#105), however, would have the potential to adversely affect the peregrine falcon if any are nesting at the time of construction. If nesting were to be affected, impacts would be significant but mitigable by scheduling the work to begin after the nesting season is complete. Because no other related projects would substantially affect the peregrine falcon or other special-status species, the cumulative impacts associated with past, present, and reasonably foreseeable future projects, including the proposed Project, would be less than significant.

A small (e.g., up to 238 bbl) or larger oil spill within the harbor, even though associated with a low probability of occurrence, could result in significant and

unavoidable impacts on sensitive species of water birds. Past, present, and reasonably foreseeable future projects, including the proposed Project, would slightly increase the potential for an accidental oil spill, and would constitute a significant and unavoidable cumulative impact on sensitive species of water birds. Effects of oil spills on other special-status species would be less than significant.

4.2.3.2.2 Contribution of the Proposed Project

As discussed in Section 3.3.3.1 (Impact BIO-1a), construction of the proposed Project would have significant impacts on special-status species related to noise from in-water construction and disturbance of upland nesting habitat. Mitigation Measures BIO-1, BIO-2, and BIO-3 would reduce those impacts to less than significant. Because the cumulative impact of construction of the past, present, and future projects, including the proposed Project, is less than significant, and given the small scale of the proposed Project, construction of the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact on special-status species.

Operation of the proposed Project (as discussed in Impact BIO-1b) would not contribute to impacts on the California least tern or other sensitive bird species because it would have no measurable effect on the species. The proposed Project would slightly increase vessel traffic within and outside the harbor, due to the increase in research vessel traffic. Although the proposed Project's impact on marine mammals would be less than significant, it would contribute to a significant cumulative impact on marine mammals related to vessel strikes. However, given the small number of vessels associated with the proposed Project relative to the overall volume of vessel traffic at the Port, the operation of the proposed Project would not result in a cumulatively considerable impact on special-status species.

The slight increase in the risk of an accidental oil spill associated with the proposed Project's vessel traffic would contribute to a cumulatively considerable impact on sensitive species (i.e., sensitive bird species). The small number of vessels and the implementation of spill control measures (described in Section 3.13, "Water Quality, Sediments, and Oceanography") would reduce the likelihood and the consequences of spills. Accordingly, the proposed Project's contribution to a significant cumulative impact would not be a cumulatively considerable impact on special-status species.

4.2.3.2.3 Mitigation Measures and Residual Cumulative Impacts

Mitigation Measures BIO-1 (Avoid Marine Mammals), BIO-2 (Minimize In-water Pile Driving Noise), and BIO-3 (Conduct Nesting Bird Surveys) as presented in Section 3.3, "Biological Resources," would be implemented to minimize adverse effects of Project construction on sensitive species of birds and marine animals. These measures would reduce the impacts of construction of the proposed Project to less than significant. In view of the small scale of Project construction and the application of mitigation measures to further reduce impacts, the proposed Project's contribution to cumulative impacts on special-status species would not be cumulatively considerable after mitigation.

4.2.3.3 Cumulative Impact BIO-2: Result in a substantial reduction or alteration of a state-, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands—Less Than Cumulatively Considerable

Cumulative Impact BIO-2 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to substantially reduce or alter state-, federally, or locally designated natural habitats, special aquatic sites, or plant communities, including wetlands.

4.2.3.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

EFH has been and will be lost due to past, present, and future projects in the harbor (Figure 4-1), including the Pier 400 project in the early 1990s, Marine Terminal, West Basin (#1), Channel Deepening (#3), China Shipping (#14), Middle Harbor Terminal Redevelopment (#90), Piers G & J (#91), Pier T in the mid-1990s, and Pier S Marine Terminal (#93) (see Table 4-1 and Figure 4-1). These impacts are significant but mitigable under CEQA; the use of mitigation bank credits for the marine habitat loss impacts also offsets impacts on EFH. Impacts of fill for the future projects would also be offset by use of mitigation bank credits.

Temporary disturbances to EFH also would occur during in-water construction activities from cumulative projects: San Pedro Waterfront (#2), Channel Deepening (#3), Cabrillo Way Marina (#4), Evergreen Container Terminal Improvements (#5), Consolidated Slip Restoration (#13), China Shipping (#14), YTI Container Terminal Improvements (#23), Yang Ming Container Terminal Improvements (#24), Middle Harbor Terminal Redevelopment (#90), Piers G & J (#91), and Pier S (#93). These disturbances occur at specific locations that are scattered in space and time across the harbor and would not likely cause a significant impact on EFH. Increased vessel traffic and runoff from on-land construction activities and operations resulting from the cumulative projects would not result in a loss of EFH, nor would these activities substantially degrade EFH. Thus, cumulative impacts on EFH would be less than significant from past, present, and reasonably foreseeable future projects.

As discussed in Section 3.3, "Biological Resources," natural habitats, special aquatic sites (e.g., eelgrass beds, kelp, mudflats), and plant communities (wetlands) have a limited distribution and abundance in the harbor. Prior to agreements to preserve natural habitats such as mitigation credit systems, losses of eelgrass, kelp, mudflats, and saltmarsh from early harbor development projects were not documented but were likely to have occurred due to the physical changes to the Port. Therefore, cumulative impacts of construction activities on EFH are considered significant.

Oil spills from tankers in the harbor would have the potential to affect eelgrass beds at Cabrillo Beach and the Pier 300 Shallow Water Habitat, mudflats, and the Cabrillo saltmarsh under a worst-case scenario. Cumulative impacts of oil spills on EFH would be significant and unavoidable for eelgrass beds and other natural habitats.

4.2.3.3.2 Contribution of the Proposed Project

Construction and operation of the proposed Project would not result in any reduction in the amount of marine habitat in the harbor, would have only minor, short-term impacts on special aquatic sites (kelp and eelgrass), and would not affect terrestrial plant species. Furthermore, impacts on aquatic and terrestrial habitats would be construction-related and thus short-term and localized. Accordingly, the proposed Project's contribution to a significant cumulative impact would not be cumulatively considerable.

The slight increase in the risk of an accidental oil spill associated with the proposed Project's vessel traffic would contribute to a cumulatively considerable impact on natural habitats. However, the small number of vessels and the implementation of spill control measures (described in Section 3.13, "Water Quality, Sediments, and Oceanography") would reduce the likelihood and the consequences of spills. Accordingly, the proposed Project's contribution to a significant cumulative impact to EFH would not be cumulatively considerable.

4.2.3.3.3 Mitigation Measures and Residual Cumulative Impacts

Because the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact related to natural habitats, special aquatic sites, or plant species, no mitigation is necessary. The residual cumulative impacts would be less than significant.

4.2.3.4 Cumulative Impact BIO-3: Result in interference with wildlife movement/migration corridors that may diminish the chances for long-term survival of a species—No Cumulative Impact

Cumulative Impact BIO-3 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to interfere with wildlife migration or movement corridors.

4.2.3.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

No known terrestrial wildlife or aquatic species migration corridors are present in the LA/LB Harbor. Migratory birds pass through the LA/LB Harbor area and some, such as the California least tern, rest or breed in this area, but aerial migration has not been impeded nor would it be by LA/LB Harbor construction. Past, present, and reasonably foreseeable future projects in the LA/LB Harbor would not interfere with movement of these species because the birds are agile and would avoid obstructions caused by equipment and structures. Some species of fish move into and out of the LA/LB Harbor during different parts of their life cycle or seasonally, but no identifiable corridors for this movement are known. Marine mammals migrate along the coast, and vessel traffic associated with the cumulative projects could interfere with their migration. However, because the area in which the marine mammals can

migrate is large and the cargo vessels and cruise ships generally use designated travel lanes, the probability of interference with migrations is low.

4.2.3.4.2 Contribution of the Proposed Project

The proposed Project would not affect any migration or movement corridors in the LA/LB Harbor or along the coast. Consequently, it would not contribute a cumulatively considerable impact on wildlife migration or movement corridors. Accordingly, the proposed Project's contribution to a significant cumulative impact to migration or movement corridors would not be cumulatively considerable.

As discussed in Section 3.3.4.3, the proposed Project would only interfere with fish and wildlife movement or migration through temporary avoidance of construction noise and activity. Avoidance would be short term and temporary and would not constitute a significant impact. No migration corridors would be blocked or measurably restricted. The proposed Project's contribution to cumulative impacts to fish and wildlife migration or movement corridors would be less than cumulatively considerable.

4.2.3.4.3 Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required and there would be no residual cumulative impact of the proposed Project on fish and wildlife migration or movement corridors.

4.2.3.5 Cumulative Impact BIO-4: Result in a substantial disruption of local biological communities—Less Than Considerable Cumulative Impact

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

4.2.3.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Dredging and Wharf Work. Construction of past projects in the harbor has involved in-water disturbances such as dredging and wharf construction that removed surface layers of soft bottom habitat, and temporarily removed or permanently added hard substrate habitat (e.g., piles and rocky dikes). These disturbances altered the benthic habitats present at the location of the specific projects, but effects on benthic communities were localized and of short duration as invertebrates recolonized the habitats. Because these activities only affected a small portion of the harbor at any given time and recovery has occurred or is in progress, biological communities in the harbor have not been continually changing. Similar construction activities (e.g., wharf construction/reconstruction and dredging) would occur for cumulative projects that are currently underway and for some that would begin in the future (see Table 4-1 and Figure 4-1), including Marine Terminal, West Basin (#1), San Pedro

Waterfront Project (#2), Wilmington Waterfront Project (#21), Channel Deepening (#3), Cabrillo Way Marina (#4), Evergreen Container Terminal Improvements (#5), Plains All American Oil Marine Terminal (#10), China Shipping (#14), YTI Container Terminal Improvements (#23), Yang Ming Container Terminal Improvements (#24), Middle Harbor Terminal Redevelopment (#90), Piers G & J (#91), and Pier S (#93).

Construction disturbances, including noise, turbidity, and physical removal, would result in fish and marine mammals avoiding the work area, but the disturbances would be spread around the harbor complex and would only occasionally coincide in time. Recolonization of dredged areas and new riprap and piles begins immediately following the disturbance and proceeds rapidly (e.g., MEC 1988). Furthermore, based on biological baseline studies described in Section 3.3, "Biological Resources," the benthic marine resources of the harbor have not declined during Port development activities occurring since the late 1970s. The biological baseline conducted by SAIC (2010) identified healthy benthic communities in the Outer Harbor despite major dredging and filling activities associated with the Port's Deep Draft Navigation Project (USACE and LAHD 1992) and subsequent dredging in the Main Channel and various basins and slips. Accordingly, past, present, and reasonably foreseeable future projects, including the proposed Project, would not result in significant cumulative impacts related to disruption of local biological communities.

Landfilling. Landfilling has removed, and may continue to remove, marine habitat and to disturb adjacent habitats in the harbor. The projects listed in Table 4-1 that involve landfill construction are: Channel Deepening (#3), China Shipping (#14), APL Container Terminal (#30), Middle Harbor Terminal Redevelopment (#90), and Piers G & J (#91). Numerous other projects in the past (prior to those listed in Table 4-1) also included landfill construction. During the filling process, suspension of sediments would result in turbidity in the vicinity of the work with rapid dissipation upon completion of the fill to above the water level. Water column and soft bottom habitats are lost while riprap habitats are gained. Although the total amount of marine habitat in the harbor has decreased, a large amount remains, and the biological communities present in the remaining harbor habitats have not been substantially disrupted as a result of those habitat losses. All marine habitat loss impacts from landfill construction have been mitigated to less than significant through onsite (shallow water habitat construction) and offsite (Batiquitos and Bolsa Chica restorations) mitigation since implementation of the agreement with the regulatory agencies (see Cumulative Impact BIO-5). The landfill impacts of past projects on marine biological habitat, prior to the application of mitigation offsets or mitigation agreements, are unquantified; however, due to the level of development that has occurred since then, the past projects are assumed to constitute the current baseline.

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

Backland Construction and Operations. Runoff from construction activities on land has reached harbor waters at some locations during past project construction, particularly for projects implemented prior to the 1970s when environmental regulations were introduced. Past projects included Pier 300, Pier J, and the remaining terminal land areas within the LA/LB Harbor. Runoff also has the potential to occur during present and future projects (consisting of all projects in Table 4-1 because all drainage in the area containing the cumulative projects is ultimately to the harbor).

Construction runoff would only occur during construction activities so that projects that are not concurrent would not have cumulative effects. Construction runoff would add to ongoing runoff from operation of existing projects in the harbor at specific project locations and only during construction activities. For past, present, and future projects, the duration and location of such runoff would vary over time.

Measures such as berms, silt curtains, and sedimentation basins are used to prevent or minimize runoff from construction, and this keeps the concentration of pollutants below thresholds that could measurably affect marine biota. Runoff from past construction projects (e.g., turbidity and any pollutants) has either dissipated shortly after construction was completed or settled to the bottom sediments. For projects more than 20 years in the past, subsequent settling of suspended sediments has covered the pollutants, or the pollutants have been removed by dredging projects. Runoff from operation of these past projects continues but is regulated. Biological baseline surveys in the harbor (MEC 1988; MEC and Associates 2002; SAIC 2010) have not shown any disruption of biological communities resulting from runoff. Effects of runoff from construction activities and operations would not substantially disrupt local biological communities in the harbor, and, as a consequence, past, present, and reasonably foreseeable future projects, including the proposed Project, would not result in significant cumulative local biological community impacts related to runoff from backlands.

Much of the development in the harbor has occurred and continues to occur on landfills that were constructed for that purpose. As a result, those developments do not affect natural terrestrial biological communities. Redevelopment of existing landfills to upgrade or change backland operations temporarily affected the terrestrial biota (e.g., landscape plants, rodents, and common birds) that had come to inhabit or use these industrial areas. Future cumulative developments such as hotels and other commercial developments on lands adjacent to the harbor would be in areas that do not support natural terrestrial communities or are outside the region of analysis.

Projects in Table 4-1 that are within the geographical region of analysis and could affect terrestrial biological resources are: Marine Terminal, West Basin (#1), Channel Deepening (#3), Evergreen Container Terminal Improvements (#5), SSA Outer Harbor Fruit Facility Relocation (#8), Wilmington Waterfront (#21), Ultramar (#11), China Shipping (#14), Pasha Marine Terminal Improvements (#15), Interim Container Terminal Reuse (#16), South Wilmington Grade Separation (#20), I-110/C Street/Figueroa Street/Realigned Harry Bridges Boulevard Interchange (#22), YTI Container Terminal Improvements (#23), Yang Ming Container Terminal Improvements (#24), Pier A West Remediation (#101), Pier A East (#92), and Schuyler Heim Bridge Replacement (#105). Construction and operation of these

projects would not substantially disrupt terrestrial biological communities because no well-developed communities are present.

Cumulative projects could temporarily affect some bird nesting habitat, although these habitats would typically be replaced either directly or indirectly through mitigation. For example, the replacement of the Schuyler Heim Bridge (#105) would remove a structure used for peregrine falcon nesting, although the new bridge would be in place before the existing bridge (and nesting site) is removed. Therefore, it is assumed that the new structure would provide suitable replacement nesting habitat, or mitigation habitat would be provided. Based on these past, present, and reasonably foreseeable future projects, the proposed Project would not result in significant cumulative impacts on local biological communities related to upland development within the geographic scope.

Vessel Traffic. Cumulative marine terminal projects (e.g., Marine Terminal, West Basin [#1], San Pedro Waterfront Project [#2], Channel Deepening [#3], Evergreen Container Terminal Improvements [#5], Pier 400 Oil Marine Terminal [#10], Ultramar [#11], China Shipping [#14], YTI Container Terminal Improvements [#23], Yang Ming Container Terminal Improvements [#24], Middle Harbor [#90], Piers G & J Redevelopment [#91], Pier S [#93]) and Schuyler Heim Bridge [#105] that involve vessel transport of cargo and recreational boat traffic into and out of the harbor have increased vessel traffic in the past and would continue to do so in the future. Commercial and recreational vessels have introduced invasive exotic species into the harbor through ballast water discharges and via their hulls. Ballast water discharges are now regulated so that the potential for introduction of invasive exotic species by this route has been greatly reduced. The potential for introduction of exotic species via vessel hulls has remained about the same, but use of antifouling paints and periodic cleaning of hulls to minimize frictional drag from growth of organisms keeps this source low. While exotic species are present in the harbor, there is no evidence that these species have disrupted its biological communities. Biological baseline studies conducted in the harbor continue to show the existence of diverse and abundant biological communities. However, absent the ability to eliminate the introduction of new species through ballast water or on commercial and recreational vessel hulls, it is possible that additional invasive exotic species could become established in the harbor over time, even with these control measures. As a consequence, past, present, and reasonably foreseeable future projects, including the proposed Project, would result in significant cumulative local biological community impacts related to the introduction of invasive species.

The amount of chemicals released to harbor waters from leaching of antifouling paints on vessel hulls would increase in proportion to the increased number of vessels resulting from cumulative projects. As described below for water quality (Section 4.2.13), cumulative impacts would be significant because waters in parts of the harbor are impaired for some of these chemicals. However, the concentration of chemicals toxic to marine biota would not be increased to a level that would substantially disrupt local communities, and the cumulative impacts of past, present, and reasonably foreseeable future projects, including the proposed Project, on local biological communities would be less than significant.

Oil spills on land would likely be at tank farms within containment berms where few to no biological resources are present and would be cleaned up immediately. Spills from pipelines would likely be underground or in containment areas at oil facilities. Cumulative impacts of past, present, and reasonably foreseeable future projects, including the proposed Project, on local terrestrial biological communities would be less than significant.

Saltwater Intake and Discharge. Large volume intakes may result in substantial losses of aquatic organisms through impingement on the intake screens or entrainment into the intake. While proper design of the intake and intake screens substantially minimizes or eliminates these effects on most juvenile and adult fish, they are not expected to substantially minimize the entrainment of planktonic eggs or larvae. Other seawater intake/discharge facilities in the LA/LB Harbor area include the Harbor Generating Station, the Aquarium of the Pacific, and the current SCMI facility. However, the proposed Project would replace the existing SCMI facility. The Cabrillo Aquarium also operates a seawater intake/discharge system, but it does not draw or discharge water into the harbor.

Detailed analyses of the Harbor Generating Station intake estimated entrainment rates of about 153 million fish larvae per year, and about 269 million fish eggs per year, with the intake operating at the design capacity of about 400 million gallons per day (MBC et al. 2007). However, this was also estimated to be a small fraction of the larvae and eggs in the source water. Therefore, cumulative impacts of past, present, and reasonably foreseeable future seawater intake projects, including the proposed Project, on local aquatic resources would be less than significant.

4.2.3.5.2 Contribution of the Proposed Project

Due to the developed existing condition of the terrestrial portion of the site, the proposed Project would not result in any significant alteration of terrestrial biological communities. For marine biological communities, potential alterations of biological communities would include short-term construction impacts and the potential for introduction of non-indigenous species via vessels and the discharge of spent seawater from research facilities. The possibility of the accidental introduction of non-indigenous species is remote and would be further reduced by existing and planned controls, as described in Section 3.3.4.3.2. Accordingly, the proposed Project's contribution to a significant cumulative impact on marine biological communities would not be cumulatively considerable.

Operation of the seawater intake for the proposed Project would result in up to 2 million gallons of seawater pumped through the system per day. The impingement or entrainment of aquatic organisms, particularly eggs and larvae, would occur. However, such losses would be a small fraction of the overall abundance of eggs and larvae occurring in the harbor, and would result in no measurable effects on fish populations in the area. Therefore, the proposed Project's contribution to a significant cumulative impact on eggs and larvae would not be cumulatively considerable.

4.2.3.5.3 Mitigation Measures and Residual Cumulative Impacts

No mitigation is required and there would be no residual cumulative impact of the proposed Project on biological communities.

4.2.3.6 Cumulative Impact BIO-5: Result in a permanent loss of marine habitat—No Cumulative Impact

Cumulative Impact BIO-5 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in a permanent loss of marine habitat.

4.2.3.6.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Numerous landfill projects have been implemented in the harbor since it was first developed, and these projects have resulted in an unquantified loss of marine habitat. Many of the cumulative projects listed in Table 4-1 have resulted or will result in additional losses through fill for new land (Pier 400, Marine Terminal, West Basin [#1], Channel Deepening [#3], Piers G & J Redevelopment [#73], China Shipping [#14], and Middle Harbor Terminal Redevelopment [#90]). Losses of marine habitat prior to implementation of the agreements among the ports and regulatory agencies (City of Los Angeles 1984, 1997) were not mitigated, and represent a significant cumulative impact. Losses since the implementation of the agreements have been, and will be for future projects, mitigated by use of existing mitigation bank credits from marine habitat restoration off site and through creation of shallow water habitat within the Outer Harbor as established in the agreements with the regulatory agencies. As a result, present and reasonably foreseeable future projects, including the proposed Project, would not result in additional significant cumulative impacts related to the loss of marine habitat.

4.2.3.6.2 Contribution of the Proposed Project

Construction and operation of the proposed Project would not result in permanent losses of marine habitat. Accordingly, the proposed Project's contribution to a significant cumulative impact on the loss of marine habitat would not be cumulatively considerable.

4.2.3.6.3 Mitigation Measures and Residual Cumulative Impacts

No mitigation is required, and there would be no residual cumulative impact of the proposed Project to loss of marine habitat.

4.2.4 Cultural Resources

4.2.4.1 Scope of Analysis

The geographic region of analysis for cumulative effects on cultural and paleontological resources related to Port projects varies on the type of resource. In general, areas situated on natural landforms within and surrounding the Port need to be considered for prehistoric archaeological resources as well as paleontological resources. This also includes portions of the natural landscape located within harbor waters that may contain prehistoric and/or paleontological resources that have become submerged as a result of rising sea levels and/or dredging activities.

Historical archaeological resources and historic architectural resources may be found on both natural landforms and/or in fill/artificial soils. In addition, submerged cultural resources such as historic sailing vessels may be encountered within harbor waters. Impacts on prehistoric and historical archaeological resources as well as paleontological resources typically include ground disturbance such as grading or dredging. In contrast, impacts on the historic built environment typically result from modification, relocation, and demolition. Impacts on submerged historical archaeological resources, such as sunken ships, may also result from dredging and modification of the harbor.

The significance criteria used for the cumulative analysis is the same as those used for the proposed Project in Section 3.4, "Cultural Resources."

4.2.4.2 Cumulative Impacts CR-1, CR-2, and CR-3: Result in adverse effects on known and unknown prehistoric or historical archaeological resources including buried human remains—Less than Cumulatively Considerable

Cumulative Impacts CR-1, CR-2, and CR-3 represent the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to disturb, damage, or degrade listed, eligible, or otherwise unique or important known or unknown prehistoric and/or historical archaeological resources including buried human remains.

4.2.4.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

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

The proposed project area is located on artificial land, built with fill dredged from the harbor. For this reason, there is no potential to encounter buried prehistoric cultural resources in the proposed project area. There is a very low potential to encounter unknown historical archaeological deposits in the proposed project area—similar to the historical deposits found at Mexican Hollywood—and a remote possibility of encountering unknown historic period human remains within the proposed project area. No historic period cemeteries have been documented within the proposed project boundaries.

However, the cumulative total of Port and other development projects could impact buried cultural resources and/or unanticipated human remains. Construction activities (i.e., excavation, dredging, and land filling) associated with present and future Port projects, including the following (see Table 4-1)—Marine Terminal, West Basin (#1), San Pedro Waterfront (#2), Channel Deepening (#3), Cabrillo Way Marina (#4), Evergreen Container Terminal Improvements (#5), Plains All-American Oil Marine Terminal (#10), Westway Demolition (#12), Consolidated Slip Restoration (#13), China Shipping (#14), Pasha Marine Terminal Improvements (#15), Interim Container Terminal Reuse (#16), Southern California International Gateway (#17), YTI Container Terminal Improvements (#23), Yang Ming Container Terminal Improvements (#24), Southwest Marine Demolition (#25), Pier 500 Container Terminal Development (#32), USS Iowa Battleship landside work (#33), WWL Vehicle Services Cargo Terminal (#34)—as well as maintenance dredging and the Alternative Marine Power system would potentially require excavation and there may be a potential for these projects to impact significant prehistoric and/or historical archaeological resources and/or human remains.

Although much of the area has been previously disturbed, there is the potential for projects located on natural landforms, and other related upland Port projects on the periphery of the Port, including the following (see Table 4-1)—San Pedro Waterfront Enhancements (#19), South Wilmington Grade Separation (#20),Wilmington Waterfront Development (#21), I-110/C Street/Figueroa Street/Realigned Harry Bridges Boulevard Interchange (#22), and the I-110/SR-47 Connector Improvement (#26)—to disturb unknown, intact subsurface prehistoric or historic archaeological resources. Reasonably foreseeable future projects within upland areas—such as those within the Community of San Pedro (projects #39 through #53 in Table 4-1); the Community of Wilmington (#54 through #59); Harbor City, Lomita, and Torrance (#60 through # 89); and the City of Long Beach (#108 through #146)—would also potentially contribute to this impact. Projects proposed by local and state agencies, such as ICTF (#38), ACTA and Caltrans (#105 through #107) would also potentially contribute to this impact. Therefore, the combination of each of these projects would result in significant cumulative impacts on prehistoric and/or historical archaeological resources and/or human remains.

4.2.4.2.2 Contribution of the Proposed Project

Prehistoric Archaeology

As documented in Section 3.4.4.3.1 (Impacts CR-1 and CR-2), the proposed project area is located on artificial land, built with fill dredged from the harbor. For this reason, there is no potential to encounter buried prehistoric cultural resources in the

proposed project area, and there is no potential for disturbing, damaging, or degrading unknown prehistoric archaeological resources.

There is no potential to encounter buried prehistoric period human remains within the proposed project area, and a very low potential to encounter historic period human remains (Impact CR-3). No historic period cemeteries have been documented within the proposed project boundaries. In the event human remains are discovered, the Port would be required to comply with state law, which states that there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner is contacted and the appropriate steps taken pursuant to Health and Safety Code §7050.5 and Public Resource Code §5097.98. The proposed Project's contribution to a cumulatively significant impact would not be cumulatively considerable; therefore, the proposed Project would not result in a cumulatively considerable impact on prehistoric resources or human remains.

Historical Archaeology

According to the records search, no known historical archaeological sites are located within the proposed project area. There is a very low potential to encounter unknown historical archaeological deposits in the proposed project area—similar to the historical deposits found at Mexican Hollywood—and a remote possibility of encountering unknown historic period human remains within the proposed project area. No historic period cemeteries have been documented within the proposed project boundaries. In the remote event human remains are discovered, the Port would be required to comply with state law, as detailed above. Therefore, the proposed Project would not contribute to a cumulatively considerable impact on historic archaeological resources or human remains.

4.2.4.2.3 Mitigation Measures and Residual Cumulative Impacts

Construction and operation of the proposed Project is not anticipated to impact cultural resources. There would be no ongoing ground-disturbing activities once construction is completed. The proposed Project would not produce any long-term indirect impacts on cultural resources. It would not increase access to sensitive cultural sites or impair the continued use of any known historic structures or sites. Therefore, the proposed Project would not result in a cumulatively considerable contribution to cumulative impacts on cultural resources within the Port.

4.2.4.3 Cumulative Impact CR-4: Result in the permanent loss of, or loss of access to, a paleontological resource of regional or statewide significance—Less than Cumulatively Considerable

Cumulative Impact CR-4 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in the permanent loss of, or loss of access to, a paleontological resource of regional or statewide significance.

4.2.4.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The number of significant paleontological resources in the immediate Port area destroyed by past and present projects is likely to have been low because near surface geologic deposits underlying the Port are primarily Holocene-age, near shore, marine and non-marine deposits, including beach, estuary, tidal flat, lagoon, shallow-water bay sediments, and shoreline terrace deposits, which have a low potential to encompass paleontological resources. These younger alluvial deposits are overlain in many places by artificial fill materials, as land has been built up during the historic development of the Port.

In upland areas and on the periphery of the Port projects may encompass geological formations in which important terrestrial vertebrate fossils may be found. However, many of these sediments have been substantially disturbed by urban development without systematic analysis by a professional paleontologist. Many fossils encountered during past construction may have been in poor condition or have been redundant examples of species previously recognized and characterized. There is the potential, however, for unusual (i.e., because of their age, size, and/or condition) or previously unrecorded fossil species to be encountered within an urban project area. It is assumed that past excavation and construction projects undertaken prior to legislation requiring expert assessment of encountered fossils have resulted in a substantial number of significant resources being destroyed without analysis. Their destruction without proper assessment has reduced the ability to reconstruct the region's fossil record.

However, the cumulative total of Port and other development projects could potentially impact paleontological resources. Construction activities (i.e., excavation, dredging, and land filling) associated with present and future Port projects, including the following (see Table 4-1)—Marine Terminal, West Basin (#1), San Pedro Waterfront (#2), Channel Deepening (#3), Evergreen Container Terminal Improvements (#5), Plains All-American Oil Marine terminal (#10), Consolidated Slip Restoration (#13), China Shipping Container Terminal (#14), Pasha Marine Terminal Improvements Project (#15), Southern California International Gateway (#17), YTI Container Terminal Improvements (#23), Yang Ming Container Terminal Improvements (#24), Pier 500 Container Terminal Development (#32), USS Iowa Battleship landside work (#33), and WWL Vehicle Services Cargo Terminal (#34)—as well as maintenance dredging and the Alternative Marine Power system would potentially require excavation; and there may be a potential for these projects to impact paleontological resources.

Although much of the area has been previously disturbed, there is the potential for projects located on natural landforms, and other related upland Port projects on the periphery of the Port, including the following (see Table 4-1)—San Pedro Waterfront Enhancements (#19), South Wilmington Grade Separation (#20),Wilmington Waterfront Development (#21), I-110/C Street/Figueroa Street/Realigned Harry Bridges Boulevard Interchange (#22), and I-110/SR-47 Connector Improvement (#26)—to disturb paleontological resources. Reasonably foreseeable future projects within upland areas that may affect paleontological resources include those in the Community of San Pedro (#39 through #53 of Table 4-1); the Community of

Wilmington (#54 through #59); Harbor City, Lomita, and Torrance (#60 through #89); and the City of Long Beach (#108 through #146). Projects proposed by local and state agencies, such as ICTF (#38), and ACTA and Caltrans (#105 through #107), would also potentially contribute to this impact. The County of Los Angeles (Los Angeles County 2007) and City of Long Beach (City of Long Beach 2007) do not have code requirements ensuring that paleontological resources encountered during construction are professionally assessed and preserved. Therefore, such past, present, and foreseeable future projects may result in the destruction of paleontological resources. The effects of each of these projects could result in a significant cumulative impact on paleontological resources.

4.2.4.3.2 Contribution of the Proposed Project

The proposed project area is located on artificial land, built with fill dredged from the harbor. A report prepared for the San Pedro Waterfront Project (Kirby and Demere 2007), which encompasses the proposed project area, determined that the proposed project site is underlain by artificial fill. The original shoreline of the harbor lies approximately 0.2 mile to the west of the proposed project area. This precludes the possibility of intact fossils or paleontological deposits being found in the proposed project area. There is a remote possibility that displaced paleontological materials or fossils material may be present in the artificial fill, having been dredged up from the shallow harbor floor, but these organic remains have lost their original stratigraphic and geologic context due to the disturbed nature of the artificial fill materials. Any fossils found in this material are not in situ, and would not be a significant paleontological resource under CEQA. Therefore, the proposed Project would not contribute to significant cumulative impacts on paleontological resources.

4.2.4.3.3 Mitigation Measures and Residual Cumulative Impacts

No mitigation is required. There would be no cumulative impacts on paleontological resources due to development of the proposed Project.

4.2.4.4 Cumulative Impact CR-5: Result in a substantial adverse change in the significance of a historical resource, involving demolition, relocation, conversion, rehabilitation, alteration, or other construction that reduces the integrity or significance of important resources on the site or in the vicinity—Cumulatively Considerable and Unavoidable

Cumulative Impact CR-5 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to disturb structures that have been determined eligible for the CRHR or the NRHP, or otherwise considered unique or important historic architectural resources under CEQA.

4.2.4.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

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

Proposed present and future Port projects requiring removal of significant or potentially significant historical architectural resources (i.e., demolition of structures over 45 years of age) include the following (see Table 4-1): San Pedro Waterfront (#2), Canner's Steam Remediation (#6), Pan-Pacific Fisheries Cannery Buildings Demolition (#18), Dana Strand Public Housing Redevelopment (#55), Port of Long Beach Administration Building Replacement (#94), and Southwest Marine Demolition (#25).

Cumulative impacts associated with past, present, and reasonably foreseeable future projects regarding historical architectural resources would be cumulatively significant because these projects would include the removal of significant or potentially significant historical architectural resources.

4.2.4.4.2 Contribution of the Proposed Project

As documented in Section 3.4, "Cultural Resources" (Impact CR-5), there are seven properties, including one potential historic district, in the proposed Project's Area of Potential Effects that are listed in or have been determined to be eligible for the NRHP, the CRHR, and/or the Los Angeles Historic-Cultural Monument List. One property, Municipal Warehouse No. 1, is listed in the NRHP. Two properties, Westway/Pan-American Oil Company Pump House and the Municipal Wholesale Fish Market, have been determined eligible for the NRHP by the Lead Agency. Five properties have been identified as eligible for listing in the NRHP as a result of a historical resources survey. These are Transit Sheds at Berth 57 and Berths 58–60, the United States Immigration Station, Municipal Pier No. 1, and a potential Municipal Pier No. 1 Historic District. The District encompasses all of Municipal Pier No. 1, including six contributors and two non-contributors.

Although no demolitions or relocations would occur under the proposed Project, modification of existing historic buildings and structure, and new construction within a potential historic district, has the potential to affect historic resources. As discussed under Impact CR-3 in Section 3.4, "Cultural Resources," the proposed Project would rehabilitate Transit Sheds 57 and 58–60 for reuse as a marine research center by SCMI, including associated wharf and ground improvements; would construct a new 50,000-square-foot facility for use as office and laboratory space by NOAA; would construct a new 11,500-square-foot classroom at Berth 56; and would construct a new 100,000-square-foot wave tank near Berths 70 and 71. Although Mitigation

Measure MM CR-1 as presented in Section 3.4, "Cultural Resources," would help to reduce the impacts of most Project components to a less-than-significant level, indirect impacts of the wave tank on the historic setting of individually eligible buildings and contributors to the potential Municipal Pier No. 1 Historic District would remain significant and unavoidable.

Although the majority of the proposed Project would have impacts on historic architectural resources that would be less than significant, construction of the wave tank would have a significant and unavoidable impact on historic resources that cannot be mitigated to a less-than-significant level. Given the significant and unavoidable nature of the impact on historic resources, the contribution of the proposed Project would be cumulatively considerable under Impact CR-5 when combined with past, present, and reasonably foreseeable future projects.

4.2.4.4.3 Mitigation Measures and Residual Cumulative Impacts

Mitigation Measure MM CR-1 (HABS/HAER Recordation of Municipal Pier No. 1 Historic District Setting) as identified in Section 3.4, "Cultural Resources," would also reduce the cumulative impacts of the proposed Project. However, the contribution of the proposed Project would continue to be cumulatively considerable even with the implementation of this measure. No additional mitigation measures have been identified to reduce the significant cumulative impacts of the proposed Project on historical architectural resources to a less-than-significant level.

4.2.5 Geology

4.2.5.1 Scope of Analysis

The geographic scope for cumulative impacts varies for geological resources, depending on the geologic issue. The geographic scope with respect to seismicity (Impact GEO-1) is the Port of Los Angeles and Port of Long Beach (Port Complex), and the communities of San Pedro and Wilmington because an earthquake capable of creating substantial damage or injury could cause substantial damage or injury throughout this area of human-made fill, which is prone to liquefaction and differential settlement. The geographic scope with respect to tsunamis and seiches (Impact GEO-2) is the area of potential inundation due to a large tsunami, which could extend throughout the low-lying coastal areas of Los Angeles and Orange counties. The geographic scope with respect to subsidence/settlement (Impact GEO-3), expansive soils (Impact GEO-4), and unstable soil conditions (Impact GEO-6) would be confined to the proposed project area because these impacts are site-specific and relate primarily to construction techniques. The geographic scope with respect to landslides and mudflows (Impact GEO-5) would be confined to the proposed project area; however, the Port Complex is generally flat and not generally subject to slope instability. Modification or destruction of topography or prominent geologic features would not occur because the Port Complex contains no unique geologic or topographic features.

Past, present, and reasonably foreseeable future developments that could contribute to cumulative impacts associated with geologic resources under CEQA are those that

involve the addition of infrastructure and personnel that would be subject to local and regional geologic hazards conditions.

All projects located in and surrounding the Port Complex are subject to severe seismically induced ground shaking due to an earthquake on a local or regional fault. Structural damage and risk of injury as a result of such an earthquake are possible for most cumulative projects listed in Table 4-1, with the exception of projects that do not involve existing or proposed structural engineering or onsite personnel, such as Channel Deepening (#3).

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.5, "Geology and Soils."

4.2.5.2 Cumulative Impact GEO-1: Result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure—Less than Cumulatively Considerable.

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

Southern California is recognized as one of the most seismically active areas in the United States. The region has been subjected to at least 50 earthquakes of magnitude 6.0 or greater since 1796. Earthquakes of $M \geq 7.5$ are expected to have an average probability of 37% in a 30-year period and 97% for earthquakes of $M \geq 6.5$ (USGS Working Group on California Earthquake Probabilities 2008). Therefore, it is reasonable to expect a strong ground motion seismic event during the lifetime of any project in the region.

Ground motion in the region is generally the result of sudden movements of large blocks of the earth's crust along faults. Numerous active faults in the Los Angeles region are capable of generating earthquake-related hazards, particularly in the Los Angeles Harbor area, where the Palos Verdes Fault is present and hydraulic fill and alluvial deposits are pervasive. Also noteworthy, due to its proximity to the site, is the Newport-Inglewood Fault, which was the source of the 1933 Long Beach magnitude 6.4 earthquake. Large events could occur on more distant faults in the general area, but the effects at the cumulative geographic scope would be reduced due to the greater distance.

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

4.2.5.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past, present, and reasonably foreseeable future projects would not change the risk of seismic ground shaking. However, past projects have resulted in the backfilling of natural drainages at Port of Los Angeles berths with various undocumented fill materials. In combination with natural soil and groundwater conditions in the area (i.e., unconsolidated, soft and saturated natural alluvial deposits and naturally occurring shallow groundwater), backfilling of natural drainages and spreading of dredged materials associated with past development at the Port has resulted in conditions with increased potential for liquefaction following seismic ground shaking.

In addition, past development has increased the amount of infrastructure, structural improvements, and the number of people working on site in the Port Complex. This past development has placed commercial, industrial, and residential structures and their occupants in areas that are susceptible to seismic ground shaking. Therefore, these developments have had the effect of increasing the potential for seismic ground shaking to result in damage to people and property.

All of the present and reasonably foreseeable future projects listed in Table 4-1 that would result in increased infrastructure, structures, and number of people working on site in the cumulative geographic scope would potentially contribute to this impact because they would result in greater exposure to seismically induced ground failure and would expose new workers to these hazards. However, each project is required to design structures in accordance with the latest design standards and City building codes to minimize seismic-related geotechnical hazards. Implementation of appropriate engineering standards would minimize impacts, and combined impacts would not result in significant cumulative impacts.

4.2.5.2.2 Contribution of the Proposed Project

As discussed in Section 3.5.4.3, the proposed Project would result in less-than-significant impacts relative to Impact GEO-1 with incorporation of modern construction engineering and safety standards. Because the proposed project area is in a region where large earthquakes are likely, is very near strands of the active Palos Verdes Fault, and is potentially underlain by liquefaction-prone soils, there is a substantial risk of seismic impacts. Although the proposed Project would not increase the risk of seismic ground shaking, it would marginally contribute to the potential for seismically induced liquefaction settlement and/or ground shaking to result in injury to people and damage to structures because it would increase the amount of structures and people present at the Port Complex. However, with the incorporation of modern design standards that comply with applicable regulations and building codes, the contribution of the proposed Project would not be cumulatively considerable.

4.2.5.2.3 Mitigation Measures and Residual Cumulative Impacts

LAHD uses a combination of probabilistic and deterministic seismic hazard assessments for seismic design prior to any construction project to account for the probable high levels of ground shaking. Structures and infrastructure planned for

areas with high liquefaction potential must have installation or improvements that comply with regulations to ensure proper construction and consideration for associated hazards. With the incorporation of modern construction engineering and safety standards, no other mitigation is required. Therefore, the proposed Project would result in a less than cumulatively considerable impact with regard to seismically induced liquefaction settlement and/or ground shaking.

4.2.5.3 Cumulative Impact GEO-2: Result in substantial damage to structures or infrastructure, or expose people to substantial risk involving tsunamis or seiches—Less than Cumulatively Considerable.

Cumulative Impact GEO-2 addresses the degree to which the proposed Project, along with other cumulative projects, exposes people and structures to substantial risk from local or distant tsunamis or seiches. Impacts from a tsunami are equal to or more severe than those from a seiche and are considered in the analysis.

Tsunamis are a relatively common natural hazard world-wide, although most of the events are small in amplitude and not particularly damaging. As has been shown historically, the potential loss of human life following a tsunami can be great if a large submarine earthquake or landslide occurs in reasonable proximity to a populated area. As discussed in Section 3.5.2.2.1, abrupt sea level changes associated with tsunamis in the past had a great impact on human life. Tsunamis also have reportedly caused damage to moored vessels within the outer portions of the Los Angeles Harbor.

The most likely direct cause of significant local tsunamis in Southern California would be tectonic movement during large offshore earthquakes, although lower probability large submarine landslides could also cause a significant tsunami. A detailed tsunami hazard assessment for the Port Complex area (Moffatt and Nichol, 2007) concluded that large earthquakes (M ~7.5) are very infrequent and not every large earthquake is expected to generate a tsunami.

For onsite personnel and visitors, the risk of tsunami or seiches is a part of any ocean-shore interface, and therefore workers and visitors in the cumulative effects area cannot avoid some risk of exposure. Similarly, berth infrastructure and ocean vessels would be subject to some risk of damage as well. Designing new facilities based on existing building codes may not prevent substantial damage to structures from coastal flooding; however, emergency planning and coordination would contribute to reducing onsite injuries during a tsunami.

4.2.5.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past, present, and reasonably foreseeable future projects would not change the risk of tsunamis or seiches. However, past projects have resulted in the backfilling of natural drainages and creation of new low-lying land areas, which are subject to inundation by tsunamis or seiches. In addition, past development has increased the amount of

infrastructure, structural improvements, and the number of people working on site in the Port Complex. This past development has placed commercial and industrial structures and their occupants in areas that are susceptible to tsunamis and seiches. Thus, these developments have had the effect of increasing the potential for tsunamis and seiches to result in damage to people and property.

All of the present and reasonably foreseeable future projects listed in Table 4-1 would result in increased infrastructure, structures, and number of people working and visiting the areas in the cumulative geographic scope. The cumulative projects would expose new workers and visitors to these hazards. However, emergency planning and coordination between the Port tenants, LAHD, and emergency response agencies would contribute to reducing onsite injuries during a tsunami. Compliance with all applicable laws and emergency response plans would minimize exposure to risk from tsunami and seiche hazards, and cumulative impacts would be less than significant.

4.2.5.3.2 Contribution of the Proposed Project

The Port Complex model indicates that worst-case simulations of tsunamis generated by uplift on the Catalina Fault suggest waves in the Port in excess of 12 feet, with an arrival time within 20 minutes (Legg et al. 2004; Borrero et al. 2004 and 2005). Based on the lowest deck elevations, tsunami-induced flooding could occur in the proposed project area under both the worst-case earthquake simulation and landslide scenario, particularly in the area of the West Channel where deck elevations are the lowest. Additionally, the modeled landslide tsunami scenario could result in localized overtopping of the existing deck in the proposed project area and affect the proposed floating dock facilities.

The additional infrastructure, structural improvements, and onsite personnel associated with the proposed Project would contribute to the potential for damage to infrastructure and harm to people. However, Port engineers and LAHD police will work with tenants to develop earthquake and tsunami response training and procedures based on the Port's tsunami plan to ensure that employees and visitors to the site will be prepared to act in the event of a large seismic event. These procedures will include immediate evacuation requirements in the event that a large seismic event is felt at the proposed project site. Compliance with all applicable laws and regulations would minimize exposure to risk from tsunami and seiche hazards; therefore, the proposed Project's contribution would be less than cumulatively considerable.

4.2.5.3.3 Mitigation Measures and Residual Cumulative Impacts

No mitigation is required other than implementation of existing emergency preparation and response plans that LAHD has in place to minimize tsunami hazard risks. Therefore, the proposed Project would result in less than cumulatively considerable impacts associated with tsunamis.

4.2.5.4 Cumulative Impact GEO-3: Result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from land

subsidence/settlement—Less than Cumulatively Considerable.

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

4.2.5.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The cumulative geographic scope is the same as the proposed project site because the effects of subsidence/non-seismic settlement are site-specific and related primarily to geologic materials present and to construction techniques. Regional subsidence due to historic oil withdrawal has been arrested through subsurface water injection; therefore, regional subsidence impacts are not anticipated. However, localized non-seismic settlement could occur as a result of improperly placed proposed Project–related artificial fill (e.g., pipeline trench backfill) or weak underlying geologic materials.

Past projects on the proposed project site have contributed artificial fill and therefore there is risk, albeit low, of settlement. Portions of the proposed project site are underlain by older fill that may have been subject to settlement during the years following construction. However, the risk of such settlement decreases over a relatively long period of time as potential areas of non-uniformly compacted fill settle and generally reach equilibrium in the years immediately following construction. Therefore, the risk of non-seismic related settlement impacts in these older areas of fill is low. (See Impact GEO-1 in Section 3.5, “Geology and Soils,” for a discussion of potential seismic-related differential settlement.)

4.2.5.4.2 Contribution of the Proposed Project

Settlement impacts in proposed project areas would be less than significant under CEQA, because the proposed Project would be designed and constructed in compliance with the recommendations of the geotechnical engineer, consistent with Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, and in conjunction with criteria established by LAHD, and would not result in substantial damage to structures or infrastructure or expose people to substantial risk of injury from non-seismic settlement of geologic materials encountered. Past projects on the proposed project site may have contributed to artificial fill that was non-uniformly compacted, resulting in soil settlement. However, as described above, such non-seismic settlement would have occurred primarily in the years immediately following construction, such that the contribution of risk of those past projects would be less than significant. Therefore, the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative impact with regard to subsidence/non-seismic settlement.

4.2.5.4.3 Mitigation Measures and Residual Cumulative Impacts

The proposed Project would comply with existing regulations guiding the design and construction of buildings to reduce impacts of settlement of soils and/or previously placed artificial fill. No additional mitigation measures are required, and the contribution of the proposed Project to subsidence/non-seismic settlement would be less than cumulatively considerable.

4.2.5.5 Cumulative Impact GEO-4: Result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from expansive soils—Less than Cumulatively Considerable.

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

4.2.5.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The cumulative geographic scope is the same as the proposed project site because the effects of expansive soils are site-specific and related primarily to construction techniques. Past projects on the site of the proposed project site have contributed artificial fill and therefore there is a risk that these soils are expansive. However, because only past, present, and reasonably foreseeable future projects on the proposed project site would contribute to a cumulative impact in this area, and no other such projects are identified beyond the Westway Demolition (#12; see Table 4-1), impacts would not be cumulatively significant with regard to expansive soils.

4.2.5.5.2 Contribution of the Proposed Project

Expansive soil impacts in proposed Project areas would be less than significant because the proposed Project would be designed and constructed in compliance with the recommendations of the geotechnical engineer, consistent with implementation of Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, and in conjunction with criteria established by LAHD and would not result in substantial damage to structures or infrastructure or expose people to substantial risk of injury from the impacts of expansive soils. Because the proposed Project may place structures on existing fill, compliance with the Los Angeles Municipal Code would be enforced to mitigate any impacts. Therefore, the proposed Project would not result in a cumulatively considerable impact with regard to expansive soils.

4.2.5.5.3 Mitigation Measures and Residual Cumulative Impacts

The proposed Project would comply with existing regulations guiding the design and construction of buildings to reduce impacts of expansive soils. No additional mitigation measures are required, and the contribution of the proposed Project with regard to expansive soils would be less than cumulatively considerable.

4.2.5.6 Cumulative Impact GEO-5: Result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from landslides or mudslides—No Cumulative Impact.

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

As described in Section 3.5.2.2.1, a 1976 Converse Davis Dixon Associates geotechnical investigation at Berth 49 south determined that "land slippage" (lateral up to 14 feet and vertical up to 5 feet) occurred due to a landslide that moved on soft, eastward dipping Malaga Mudstone weak bedding planes. Such bedding plane conditions may exist at the proposed project site, and a similar bedding plane failure is possible. During the proposed project design phases, a geotechnical engineer would evaluate the potential for landslide areas where structures are proposed. If such conditions are present design measures outlined in Section 3.5.2.2.1 must be implemented to reduce the potential for landslide occurrence.

4.2.5.6.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The cumulative geographic scope is possibly greater than the proposed project site because the effects of landslides and associated mudflows could be exhibited up slope (to the west) and down slope (to the east) of the proposed project site. Effects are related to site-specific and local geologic conditions, and would be related primarily to project design and construction. Past projects on the site may also be located on the Malaga Mudstone and therefore risk damage and injury from the effects of landslide. However, only past, present, and reasonably foreseeable future projects on the proposed project site would contribute to a cumulative impact in this area. Furthermore, except for the proposed Project, only the Westway Demolition (#12) would occur in this area. Therefore, impacts with regard to landslides or mudflows would not be cumulatively significant.

4.2.5.6.2 Contribution of the Proposed Project

The effects of landslide and mudflows in proposed project areas would be less than significant under CEQA because the proposed Project would be designed and constructed in compliance with the recommendations of the geotechnical engineer, consistent with implementation of Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, and in conjunction with criteria established by LAHD and would not

result in substantial damage to structures or infrastructure or expose people to substantial risk of injury. Although the proposed Project may place structures on the Malaga Mudstone, compliance with the Los Angeles Municipal Code would mitigate any impacts. Therefore, the proposed Project would not result in a cumulatively considerable impact with regard to landslides or mudflows.

4.2.5.6.3 Mitigation Measures and Residual Cumulative Impacts

The proposed Project would comply with existing regulations guiding the design and construction of buildings to reduce impacts of landslide and mudslide. No additional mitigation measures are required, and the contribution of the proposed Project would be less than cumulatively considerable with regard to landslides or mudflows.

4.2.5.7 Cumulative Impact GEO-6: Result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from unstable soil conditions from excavation, grading, or fill—Less than Cumulatively Considerable.

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

Natural alluvial and marine deposits, as well as human-made artificial fill consisting of dredged deposits or imported soils, would be encountered during excavations for foundations, utility relocation, retaining structures, or other facilities at the proposed project site. Groundwater (seawater) is present at depths approximately equivalent to mean sea level or roughly 10 feet. Saturated materials near and below this level would be relatively soft and unstable for engineering purposes, requiring implementation of geotechnical remediation, such as installation of dewatering wells and/or temporary sheet pile shoring, to facilitate excavation and worker/equipment access. These methods would lower the water level and stabilize excavations, thus reducing the potential for construction impacts due to the unstable soils. During the proposed project design phases, a geotechnical engineer would evaluate the potential for unstable soil areas where structures are proposed. If such conditions are present design measures outlined in Section 3.5.2.2.1 must be implemented to reduce the potential for unstable soil effects.

4.2.5.7.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The cumulative geographic scope is the same as the proposed project site, because the effects of unstable soil conditions are site-specific and related primarily to construction techniques. Past projects on the proposed project site have contributed artificial fill and therefore risk unstable soil conditions. However, because only past, present, and reasonably foreseeable future projects on the proposed project site would contribute to a cumulative impact, and, in addition to the proposed Project, only the

Westway Demolition (#12) would occur in that area, impacts would not be cumulatively significant.

4.2.5.7.2 Contribution of the Proposed Project

Unstable soil impacts in proposed project areas would be less than significant under CEQA because the proposed Project would be designed and constructed in compliance with the recommendations of the geotechnical engineer, consistent with implementation of Sections 91.000 through 91.7016 of the Los Angeles Municipal Code, and in conjunction with criteria established by LAHD and would not result in substantial damage to structures or infrastructure or expose people to substantial risk of injury. Although the proposed Project may place structures on existing fill, compliance with the Los Angeles Municipal Code would mitigate any impacts. Therefore, the proposed Project would not result in a cumulatively considerable impact with regard to unstable soil conditions.

4.2.5.7.3 Mitigation Measures and Residual Cumulative Impacts

The proposed Project would comply with existing regulations guiding the design and construction of buildings to reduce impacts of unstable soils. No additional mitigation measures are required, and the contribution of the proposed Project would be less than cumulatively considerable with regard to unstable soil conditions.

4.2.5.8 Cumulative Impact GEO-7: Destroy, permanently cover, or materially and adversely modify one or more distinct and prominent geologic or topographic features. Such features may include, but not be limited to, hilltops, ridges, hillslopes, canyons, ravines, rock outcrops, water bodies, streambeds, and wetlands—No Cumulative Impact.

Cumulative Impact GEO-7 addresses the degree to which the proposed Project along with other cumulative projects results in destruction, permanent cover, or material and adverse modification of one or more distinct and prominent geologic or topographic features, including hilltops, ridges, hillslopes, canyons, ravines, rock outcrops, water bodies, streambeds, and wetlands.

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

4.2.6 Groundwater and Soils

4.2.6.1 Scope of Analysis

The geographic scope for cumulative impacts on groundwater quality and soil quality varies depending on the impact. The geographic scope with respect to contaminated soils would be confined to the proposed project area. These impacts are site-specific and relate primarily to potential exposure of onsite personnel to contaminants during construction, or of onsite personnel or visitors subsequent to construction. However, the geographic scope with respect to contaminated groundwater would be the aerial extent of the semi-perched aquifer and underlying Gage Aquifer, which underlie much of the coastal area of southern Los Angeles and Long Beach.

The time frame for the cumulative analysis of contaminated soil and groundwater includes the historical time since the study area was developed and extends for decades into the future. Hazardous substances can be retained in soil and groundwater for decades after the original spill occurred.

Past, present, and reasonably foreseeable future developments that could contribute to cumulative impacts associated with groundwater and soil contamination are confined to projects that would either encounter historical onsite contamination and that could result in increased areas of site paving (for either site development or for encapsulation of contaminated soil) and potential reduction in groundwater recharge, and any project that would introduce any type of contaminant to the soil or groundwater. Because the proposed Project would not result in impacts with respect to changes in potable water levels, reduction in potable groundwater capacity, and potential violation of regulatory water quality standards at an existing production well, it would not result in a cumulatively considerable contribution to a cumulative impact and no determination of geographic scope is required for these issues.

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

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.6, “Groundwater and Soils.”

4.2.6.2 Cumulative Impact GW-1: Result in short-term exposure to construction/operations personnel and/or long-term exposure to future site occupants—Less than Cumulatively Considerable

Cumulative Impact GW-1 addresses the degree to which the proposed Project, when combined with past, present, and reasonably foreseeable future projects, would result

in exposure to soils containing toxic substances and petroleum hydrocarbons, associated with prior operations, which would be deleterious to humans. Exposure to contaminants associated with historical uses of the proposed project area could result in short-term effects (duration of construction) on onsite personnel and/or long-term impacts on future site occupants.

4.2.6.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The cumulative geographic scope is the same as the proposed project site because the effects of soil contamination are site-specific in that they relate primarily to potential exposure of onsite personnel to contaminants during construction or of onsite personnel or recreational users subsequent to construction. Past and present projects on the proposed project site, including those discussed in Section 3.6, "Groundwater and Soils," have contributed to soil and groundwater contamination. However, each project listed in Table 4-1 is subject to regulatory standards that must be achieved during construction and demolition activities, including compliance with LARWQCB, DTSC, and Los Angeles Fire Department regulations governing handling and cleanup of hazardous materials, and Cal EPA worker safety requirements, all of which would reduce potential impacts associated with soil contamination. Therefore, past and present projects within the proposed project vicinity would not contribute to a cumulatively significant impact regarding exposure to soil contamination.

4.2.6.2.2 Contribution of the Proposed Project

As discussed in Section 3.6, "Groundwater and Soils," portions of the proposed project area have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses (Berths 70–71). These areas are in various stages of contaminant site characterization and remediation. The construction of Phase II could potentially result in the exposure of onsite personnel or visitors of the Phase I facilities (e.g., the Learning Center or SCMI Research Facilities at Berths 56–57, respectively) to soils containing toxic substances and to petroleum hydrocarbons. LAHD would require compliance with all applicable regulations and best management practices to minimize the exposure of toxic materials, and would prepare a contamination contingency plan should unknown soil or groundwater contamination be discovered. Therefore, the proposed Project would not contribute to significant cumulative impacts with regard to exposure to soil contamination, and when combined with past, present, and future projects, the impacts would not be cumulatively considerable.

4.2.6.2.3 Mitigation Measures and Residual Cumulative Impacts

No mitigation is required with the implementation of required contingency measures and compliance with applicable laws concerning the handling and remediation of hazardous materials. Therefore, the proposed Project would not result in cumulatively considerable impacts with regard to exposure to soil contamination.

4.2.6.3 Cumulative Impact GW-2: Result in changes in the rate or direction of movement of existing contaminants, expansion of the area affected by contaminants, or increased level of groundwater contamination, which would increase risk of harm to humans—Less than Cumulatively Considerable

Cumulative Impact GW-2 addresses the degree to which the proposed Project when combined with past, present, and reasonably foreseeable future projects would change the rate or direction of movement of existing contaminants, expand the area affected by contaminants, or increase the level of groundwater contamination, which would increase the risk of harm to humans (see Table 3.6-1 in Section 3.6, "Groundwater and Soils"). Excavation and grading activities in contaminated soils would potentially result in inadvertent spreading of such contamination to areas that were previously unaffected by spills of petroleum products or hazardous substances, thus potentially exposing construction and existing operations personnel, future occupants of the site, and future recreational users to contaminants.

4.2.6.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The cumulative geographic scope with respect to cross-contamination related to soil and groundwater contamination would be the aerial extent of the semi-perched aquifer and underlying Gage Aquifer, which underlie much of the coastal area of southern Los Angeles and Long Beach, as groundwater contamination can spread over relatively large areas subsequent to construction. Past activities on the proposed project site, as discussed in Section 3.6, "Groundwater and Soils," have contributed to soil and groundwater contamination. Other projects listed in Table 4-1 have contributed to contamination of soil and groundwater within the cumulative setting. The effects of past projects are cumulatively significant. Present and reasonably foreseeable future projects would have no impact on soil or groundwater contamination on site, and include remedial activities at the former Westway Terminal (#12).

4.2.6.3.2 Contribution of the Proposed Project

As discussed for Cumulative Impact GW-2, soil in limited and isolated portions throughout the proposed project area have been impacted by hazardous substances and petroleum products as a result of spills during historic industrial land uses (see Table 3.7-2 in Section 3.7, "Hazards and Hazardous Materials"). In addition, groundwater has been impacted by hazardous substances and petroleum products within the proposed project area and potentially within the larger perched aquifer. Areas within the proposed project site are in various stages of contaminant site characterization and remediation, and would be improved prior to development and construction. Excavation and grading in potential remaining or unknown contaminated soils could result in inadvertent spreading of such contamination to areas that were previously unaffected by spills of petroleum products or hazardous substances. Additionally, demolition activities at Berths 57 and 260 during Phase I

could result in the exposure of toxic substances (e.g., asbestos and lead-based paint) to surrounding areas. If contamination were encountered prior to or during construction, it would be remediated prior to development or demolition. The removal of site contamination prior to development would further minimize the potential for movement or expansion of existing contamination.

The proposed Project would be required to remediate and remove existing groundwater and soil contamination during construction activities and prior to the full operation of the proposed Project. The proposed Project would not result in an increase in soil and groundwater contamination. The proposed Project would ultimately reduce the existing amount of soil and groundwater contamination caused by other past projects. Because contribution from the proposed Project would lessen the effects of contamination movement, the proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact.

4.2.6.3.3 Mitigation Measures and Residual Cumulative Impacts

LAHD would require remediation and a contamination contingency plan, which would minimize potential impacts. Impacts would be less than significant, and would not contribute to cumulatively considerable impacts with regard to movement or expansion of existing contamination.

4.2.6.4 Cumulative Impact GW-3: Result in a change to potable water levels—No Cumulative Impact

Cumulative Impact GW-3 addresses the degree to which the proposed Project when combined with past, present, and reasonably foreseeable future projects would result in a demonstrable and sustained reduction in potable groundwater recharge capacity or change in potable water levels sufficient to:

- reduce the ability of a water utility to use the groundwater basin for public water supplies, conjunctive use purposes, storage of imported water, summer/winter peaking, or emergencies and drought;
- reduce yields of adjacent wells or well fields (public or private); or
- adversely change the rate or direction of groundwater flow.

4.2.6.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

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

4.2.6.4.2 Contribution of the Proposed Project

As described in Section 3.6, “Groundwater and Soils,” the localized groundwater withdrawal that may occur as a result of the proposed Project (during construction dewatering operations) would have no impacts on underlying potable water supplies

because withdrawals would occur from the shallower, non-potable groundwater table. Also, drinking water is provided to the proposed project area by the City of Los Angeles Department of Water and Power. Therefore, cumulative impacts would not occur, and the proposed Project would not result in a cumulatively considerable impact related to groundwater recharge capacity or change in potable water levels.

4.2.6.4.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project to groundwater recharge capacity and change in potable water levels would be less than cumulatively considerable. No mitigation measures are required.

4.2.6.5 Cumulative Impact GW-4: Result in a violation of regulatory water quality standards at an existing production well, as defined in CCR, Title 22, Division 4, Chapter 15 and in the Safe Drinking Water Act—No Cumulative Impact

Cumulative Impact GW-4 addresses the degree to which the proposed Project, along with other cumulative projects, results in violation of regulatory water quality standards at an existing production well, as defined in CCR, Title 22, Division 4, Chapter 15 and in the Safe Drinking Water Act.

4.2.6.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

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

4.2.6.5.2 Contribution of the Proposed Project

Because no existing production wells are located in the vicinity of the proposed project site, the proposed Project would not contribute to any cumulative potential to violate regulatory water quality standards at existing production wells; therefore, cumulative impacts would not occur, and the proposed Project would not result in a cumulatively considerable impact with regards to violating regulatory water quality standards.

4.2.6.5.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project to a violation of regulatory water quality standards would be less than cumulatively considerable. No mitigation measures are required.

4.2.7 Hazards and Hazardous Materials

4.2.7.1 Scope of Analysis

The geographic scope for cumulative impacts associated with accidental spills, releases, or explosions of hazardous materials encompasses the entire Port Complex. The importance of a regional project diminishes in magnitude with distance from the Port as potential adverse impacts associated with a hazardous material release, spill, or explosion diminish in magnitude with distance. Thus, past, present, and reasonably foreseeable future projects that could contribute to these cumulative impacts include those projects that transport hazardous materials in the vicinity of the Port.

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.7, "Hazards and Hazardous Materials."

4.2.7.2 Cumulative Impact RISK-1: Comply with applicable federal, state, regional, and local security and safety regulations, and LAHD policies guiding Port development—Less than Cumulatively Considerable

Cumulative Impact RISK-1 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to fail to comply with applicable regulations and policies guiding development within the Port.

4.2.7.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

All projects within the Port are required to comply with applicable development regulations and policies. All projects are also required to be consistent with the PMP, or be subject to approved amendments to the PMP in order to accommodate the project. Therefore, the cumulative impacts of past, present, and foreseeable future projects with regard to safety and security regulations would be less than cumulatively significant.

4.2.7.2.2 Contribution of the Proposed Project

The construction and operation of the proposed Project is subject to numerous security and safety regulations for operation of the proposed facilities. Proposed project plans and specifications would be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, as a standard practice. Buildings would be equipped with fire protection equipment as required by the Los Angeles Municipal Fire Code. Access to all buildings and adequate access and firefighting features would be provided. Proposed project plans would include an internal circulation system, code-required features, and other firefighting design elements, as approved by LAFD.

Additionally, construction and operation of the proposed Project would be required to comply with all existing hazardous waste and materials laws and regulations, including, but not limited to, RCRA, CERCLA, SCAQMD Rule 1403, and CCR Titles 22 and 26. The proposed Project would comply with these laws and regulations, which would ensure that potential hazardous materials handling would occur in an acceptable matter during construction and operation of the proposed Project.

Therefore, because the proposed Project would comply with applicable federal, state, regional, and/or local security and safety regulations and/or LAHD policies guiding Port development, including the Port RMP as discussed in Section 3.7, "Hazards and Hazardous Materials," the proposed Project's contribution to cumulative impacts on safety and security regulations would be less than significant.

4.2.7.2.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to impacts on safety and security regulations would not be cumulatively considerable. No mitigation measures are required.

4.2.7.3 Cumulative Impact RISK-2: Substantially interfere with an existing emergency response or evacuation plan or require a new emergency or evacuation plan, thereby increasing the risk of injury or death—Less than Cumulatively Considerable

Cumulative Impact RISK-2 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to substantially interfere with an existing emergency response or evacuation plan or require a new emergency or evacuation plan, thereby increasing the risk of injury or death.

4.2.7.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Virtually all of the proposed cumulative projects that would have an impact on emergency response or evacuation plans would be subject to approval by the Ports of Los Angeles or Long Beach, or the Cities of Los Angeles and Long Beach, and would be subject to the conditional approval of these agencies. Therefore, projects that would impact applicable emergency response or evacuation plans would not be approved. Consequently, the impacts from past, present, and reasonably foreseeable future projects are less than cumulatively significant with regard to emergency response or evacuation plans.

4.2.7.3.2 Contribution of the Proposed Project

The proposed Project would generally increase the number of employees and visitors to the area. Proposed project operations would be subject to emergency response and evacuation systems implemented by the LAHD, LAFD, and Port Police and enforced

by these agencies, as well as the USCG. The proposed project construction and demolition activities would be subject to emergency response and evacuation systems implemented by the Port Police and LAFD. Prior to commencement of construction/demolition activities, standard protocol would be followed, and all plans would be reviewed by LAFD to ensure adequate emergency access is maintained throughout the process. Additionally, LAFD would be responsible for waterside first response in the event of an emergency, deploying their fireboats as needed. The USCG and Port Police would also support LAFD in the event of a waterside emergency. Operation of the proposed Project would be subject to existing emergency response and tsunami evacuation plans developed by the City of Los Angeles, in conjunction with LAHD, which provide general emergency response guidance to all City departments including LAHD. The general Port evacuation plans are maintained and managed by AMSEC and cover all areas encompassed by the Ports of Los Angeles and Long Beach, which includes the proposed project area. The tenants of the Port are required to have their own emergency management plans. Therefore, any new tenants under the proposed Project would be required to have their own emergency response plan. These requirements and the adequacy of the tenant emergency plans would be enforced by LAFD, the Port Police, and the Homeland Security Division of LAHD. Therefore, the proposed Project would not substantially interfere with existing emergency response plans for the existing tenants on the proposed project site; however, new emergency responses plans would be required for some new tenants. Furthermore, proposed project operations would not interfere with any existing emergency response or evacuation plan. Therefore, the contribution of the proposed Project to impact applicable emergency response or evacuation plans would not be cumulatively considerable.

4.2.7.3.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project's impact on applicable emergency response or evacuation plans would be less than cumulatively considerable. No mitigation measures are required.

4.2.7.4 Cumulative Impact RISK-3: Result in a substantial increase in public health and safety concerns as a result of the accidental release, spill, or explosion of hazardous materials due to a tsunami—Less Than Cumulatively Considerable.

Cumulative Impact RISK-3 represents the potential of the proposed Project, along with other cumulative projects, to result in an accidental spill as a result of a tsunami.

4.2.7.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Due to the historic occurrence of earthquakes and tsunamis along the Pacific Rim, placement of any development on or near the shore in Southern California, including the Port and activities within the Port, would always involve some measure of risk of impacts from a tsunami. Although relatively rare, should a large tsunami occur, it

would be expected to cause some amount of damage to most onshore or near-shore locations, including the Port. Impacts due to seismically induced tsunamis are typical for the entire California coastline and would not be increased by the cargo operation, cruise terminal operations, or other facility operations of the Port in general. However, because of the low elevation of the Port facilities, there is a substantial risk of coastal flooding generally within the Port in the event of a tsunami.

As discussed in Sections 3.5, "Geology and Soils," and 3.7, "Hazards and Hazardous Materials," there is the potential for a large tsunami to impact the Port. A large tsunami would likely lead to a fuel spill if moored vessels (i.e., cargo vessels and cruise vessels) are present or if hazardous material bulk storage facilities are damaged in the event of tsunami-caused flooding or deck overtopping. A model has been developed specifically for the Port Complex to predict tsunami wave heights (Moffatt and Nichol 2007).

Although the probability of a tsunami occurring during the life of the proposed Project is low, damage to ships or landside storage facilities would result in the release of both hazardous and non-hazardous cargo to the environment, adversely impacting persons and/or the marine waters. The existing oil spill response capabilities in the LA/LB Harbor are sufficient to isolate spills with containment booms and recover the maximum possible spill from an oil tanker within the LA/LB Harbor. LAHD's and other agency's regulations would prevent hazardous materials spills, releases, and explosions, as well as reduce the magnitude of any hazardous materials spills, releases, and explosions of past, present, and reasonably foreseeable projects—including the proposed Project. Therefore, the cumulative impacts of past, present, and foreseeable future projects with regard to an accidental spill would not be cumulatively significant.

4.2.7.4.2 Contribution of the Proposed Project

Seismically induced tsunamis are typical for the entire California coastline, and the probability of such an event would not be increased by construction or operation of the proposed Project. The Moffatt and Nichol (2007) tsunami hazard assessment indicated that in some landslide-induced tsunami situations, overtopping would occur in parts of the West and East Channels. Designing new facilities based on existing building codes may not prevent substantial damage to structures from coastal flooding as a result of tsunamis or seiches. There is a risk of flooding at the proposed project site during a tsunami, which, in turn, could lead to an accidental release, spill, or explosion of hazardous material(s).

Facility damage due to a tsunami could result in release of hazardous materials (i.e., fuel, solvents, water treatment chemicals, etc.) into the environment. These materials would adversely impact persons or the marine waters. However, during construction and operation of the proposed Project, there would be no handling or storing of substantial amounts of hazardous materials, and the potential for major damage from a tsunami is very low during the period of construction and the long-term operation of the proposed Project. Additionally, the potential consequences of such accidents would be small due to the localized, short-term nature of the releases. The volume of spilled fuel or other materials is also expected to be relatively low because fuel products would be limited to construction phases and would be handled appropriately, and during

operation of the proposed Project there would be no handling of large quantities of hazardous materials. The combination of these factors would result in a remote risk and consequence related to health and safety concerns from the accidental release, spill, or explosion of hazardous materials due to a tsunami. Therefore, impacts from the proposed Project in this regard are not cumulatively considerable.

4.2.7.4.3 Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required because the contribution of the proposed Project to an accidental spill due to a tsunami would be less than cumulatively considerable.

4.2.7.5 Cumulative Impact RISK-4: Substantially increase the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action—Less Than Cumulatively Considerable

Cumulative Impact RISK-4 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to increase the risk of a terrorist attack resulting in adverse consequences to areas at or near the proposed project site, including the spill, release, or explosion of hazardous materials.

4.2.7.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The proposed Project would incorporate a variety of land uses that are historically very different from traditional Port industrial land uses, such as terminal facilities, liquid bulk fuel facilities, and cargo vessels. Many of the past, present, and reasonably foreseeable future projects identified in Table 4-1 include typical Port land uses; therefore, when analyzing the cumulative impacts associated with past, present, and foreseeable future projects, it is logical to explore terrorism within the context of typical Port land uses.

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

However, at the national level, potential terrorist targets are plentiful, including those having national significance, those with a large concentration of the public (e.g., major sporting events, mass transit, skyscrapers, etc.), or critical infrastructure facilities. Currently, the United States has over 500 chemical facilities operating near large populations. U.S. waterways also transport over 100,000 annual shipments of hazardous

marine cargo, including LPG, ammonia, and other volatile chemicals. All of these substances pose hazards that far exceed those associated with a container terminal.

The Port of Los Angeles is one of the world's largest trade gateways, and the economic contributions to the regional and national economy are substantial. Although cumulative container throughput would continue to grow in importance on a national level, the San Pedro Bay Ports already represent a substantial fraction of national container terminal throughput, and by default, an attractive economic terrorist target. Given the relative importance of the San Pedro Bay Ports under baseline conditions, cumulative growth would not be expected to materially change their relative importance as a potential terrorist target. Therefore, the cumulative impact of past, present, and reasonably foreseeable future projects with regard to terrorist action is not significant.

4.2.7.5.2 Contribution of the Proposed Project

The risk of a terrorist attack is considered part of the baseline for the proposed Project. The proposed Project would construct a marine research center within a 28-acre portion of the 400-acre San Pedro Waterfront Plan area. Large-scale projects that use hazardous materials or fuels are not part of the proposed Project. The Westway Terminal is no longer operational and is in the process of being decommissioned, remediated, and demolished (Table 4-1, #12).

Elements that are part of the proposed Project are unlikely terrorist targets as they would not attract large numbers of people. The proposed Project would be expected to attract smaller crowds in a few visitor- and public-serving facilities such as the public plaza at Berth 57 and the public plaza/viewing platform at Berth 60, and at recreational opportunities such as the waterfront promenade. However, given the relatively low number of users anticipated when compared with other recreational and commercial facilities located in the region and throughout Southern California, the potential of the proposed Project to significantly increase the threat of a terrorist action is negligible. Therefore, the proposed Project would not substantially increase the likelihood of a terrorist action over existing conditions at the Port. The likelihood of a terrorist action would remain a possibility for the proposed Project, just as it does under existing conditions at the Port, but the operation of the proposed Project would not substantially increase the potential threat of a terrorist action.

The proposed Project would comply with all existing applicable security and safety regulations, which are fully enforceable by LAHD and the USCG, thereby reducing the potential vulnerability of the proposed Project to a terrorist action.

The environmental consequences of a terrorist action, including threat to human health arising from the release, explosion, or spill of hazardous materials, may increase slightly when compared to the existing conditions due to the introduction of research vessels that will dock adjacent to the proposed project site. The proposed Project would reduce the vulnerability of an attack by implementing the security measures applied by LAHD, which would reduce the consequences of a release, spill, or explosion of hazardous materials. The proposed Project would not result in a substantial increase in the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action; therefore, impacts would be less than significant.

The contribution of the proposed Project would not be cumulatively considerable when combined with past, present, and reasonably foreseeable future projects related to increase in the likelihood of a spill, release, or explosion of hazardous materials due to a terrorist action.

4.2.7.5.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project would be less than cumulatively considerable with regard to the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action. No mitigation measures are required.

4.2.7.6 Cumulative Impact RISK-5: Substantially increase the likelihood of an accidental spill, release, or explosion of hazardous material(s) as a result of proposed project–related modifications—Less Than Cumulatively Considerable

Cumulative Impact RISK-5 represents the risk associated with the proposed Project when combined with past, present, and reasonably foreseeable future projects to substantially increase the likelihood of an accidental spill, release, or explosion of hazardous materials.

4.2.7.6.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Many of the past, present, and reasonably foreseeable future projects include typical Port land uses that may store large quantities of hazardous materials; the proposed Project would store relatively few hazardous materials in comparison. Between 2006 and 2009, there were 39 hazardous material spills directly associated with container terminals in the Ports of Los Angeles and Long Beach. This equates to approximately 10 spills per year for the entire Port Complex. During this period, the total throughput of the container terminals was 31,423,871 TEU. Therefore, the probability of a spill at a container terminal can be estimated at 1.24×10^{-6} per TEU. This spill probability conservatively represents the baseline hazardous material spill probability since it includes materials that would not be considered a risk to public safety but that would still be considered an environmental hazard. It should be noted that during this period, there were no reported impacts on the public (injuries, fatalities, or evacuations) (Los Angeles Harbor Department 2011).

Other present and reasonably foreseeable future projects in the Port would result in an increase in hazardous materials and petroleum products that could potentially spill during construction and operational activities. Such spills could result in soil contamination, groundwater contamination, marine water quality contamination, and health and safety impacts on onsite personnel and the public. However, past, present, and foreseeable future projects must comply with all existing hazardous material regulations in place through the local, state, and federal government. These regulations are in place to reduce the potential of accidental releases, spills, or explosions of hazardous materials and to minimize the environmental and public

health impacts should one occur. Although projects cannot completely eliminate the probability associated with an accidental release, explosion, or spill, the existing regulations reduce the overall probability and minimize the impacts during a release. Therefore, past, present, and foreseeable future projects are not cumulatively significant with regard to increasing the likelihood of an accidental spill, release, or explosion of hazardous materials.

4.2.7.6.2 Contribution of the Proposed Project

The construction and operation of the proposed Project would be subject to applicable federal, state, and local laws and regulations governing the spill prevention, storage, use, and transport of hazardous materials, as well as emergency response to hazardous material spills, thus minimizing the potential for adverse health and safety impacts. Furthermore, the operation of the proposed Project would include infrastructure improvements and enhancements to existing transit sheds within Berths 56–60 (including research, teaching, and meeting spaces, and a marine science business park/incubator space with offices and research laboratory space) and the area within Berths 70–71 (e.g., a wave tank and government offices), which would not introduce the significant use of hazardous materials available for release in Planning Area (PA) 2. The operation of the SCMI and related research facilities under the proposed Project would be subject to state and federal hazardous material laws. The operation of the newly planned structures associated with the proposed Project would also use similar hazardous materials during the normal course of business and would be required to comply with local, state, and federal regulations on the use, handling, and storage of these materials. Enforcement of these regulations would be performed by LACFD, Cal/OSHA, DTSC, and EPA. Therefore, the incremental contribution of the proposed Project to cumulative impacts associated with accidental spill, release, or explosion of hazardous materials from construction and operation projects would be less than significant and would not be cumulatively considerable.

4.2.7.6.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to accidental spill, release, or explosion of hazardous materials impacts would be less than cumulatively considerable. No mitigation measures are required.

4.2.7.7 Cumulative Impact RISK-6: Introduce the general public to hazard(s) defined by the EPA and the Port RMP associated with offsite facilities—Less than Cumulatively Considerable

Cumulative Impact Risk-6 represents the risk associated with the proposed Project when combined with past, present, and reasonably foreseeable future projects to expose the general public to hazards defined by the EPA and Port RMP associated with offsite facilities.

4.2.7.7.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past, present, and reasonably foreseeable future projects in the Port would result in an increase in hazardous materials that could expose the general public to hazards defined by the EPA and Port RMP associated with offsite facilities. These projects must comply with all existing hazardous material and facility regulations and safeguards in place through the local, state, and federal laws. Moreover, facilities that contain hazardous materials or operational hazards have restricted access to prevent general members of the public from exposure to hazards as defined by the EPA and Port RMP. Although projects cannot completely eliminate the possibility of exposing the general public to such hazards, the existing regulations and restricted access reduce the overall probability and minimize the impacts if exposure were to occur. Therefore, past, present, and reasonably foreseeable future projects would not result in cumulatively significant impacts with regard to exposure of the general public to hazards defined by the EPA and Port RMP.

4.2.7.7.2 Contribution of the Proposed Project

The construction and operation of the proposed Project would be subject to applicable federal, state, and local laws and regulations governing the storage, use, and transport of hazardous materials, as well as emergency response to hazardous material spills, thus minimizing the potential for adverse health and safety impacts. The proposed Project would not include the introduction of new industrial uses within PA 2 and replaces former industrial uses that have historically occurred on the proposed project site. Additionally, the introduction of research, teaching, and meeting spaces, and a marine science business park/incubator space with offices and research laboratory space, would result in the development of uses that would benefit the public and not pose acutely hazardous risks to the public. However, the research facilities would utilize chlorine, ozone, and other potentially hazardous materials to support operations, but in small quantities that would pose remote threats to human health and safety.

The proposed Project would introduce new uses in proximity to Mike's fueling station. As discussed in Section 3.7, "Hazards and Hazardous Materials," Mike's handles several different types of hazardous materials including clear diesel, lube oil, red dye diesel, and waste lube oil. Mike's fueling station currently meets all safety and environmental standards for the handling and storing of hazardous materials, and would not expand or increase its inventory of materials. Per Mitigation Measure MM RISK-1 of the San Pedro Waterfront Project EIS/EIR, products with a flashpoint below 140°F will not be permitted and Mike's fueling station will cease to handle hazardous materials with flashpoints below 140°F. Therefore, the proposed Project would not result in a substantial increase in the potential for a hazardous materials spill, release, or explosion at Mike's fueling station with incorporation of Mitigation Measure MM RISK-1 identified in the San Pedro Waterfront Project EIR/EIS.

4.2.7.7.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to exposing the general public to hazards defined by the EPA and Port RMP would be less than cumulatively considerable with

the implementation of Mitigation Measure MM RISK-1 (Removal of All Hazardous Materials with Flashpoints below 140°F from Mike's Fueling Station) as identified in Section 3.7, "Hazards and Hazardous Materials."

4.2.8 Land Use and Planning

4.2.8.1 Scope of Analysis

Because the proposed Project has the capacity to affect the environment within the Port and surrounding communities, the region of analysis for cumulative impacts includes the Port of Los Angeles and extends to adjacent areas, including the communities of San Pedro and Wilmington, which are assessed in terms of their compatibility with existing Port uses.

4.2.8.2 Cumulative Impact LU-1: Be inconsistent with the adopted land use/density designation in the Community Plan, redevelopment plan, or specific plan for the site—Less than Cumulatively Considerable

Cumulative Impact LU-1 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in development that would be inconsistent with land use/density designations in land use plans that govern buildout within the proposed project area.

4.2.8.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past and present actions within the proposed project vicinity have been subject to the land use/density designations stipulated in the PMP, the Port of Los Angeles Plan, other applicable community plans, and the zoning code. The PMP has been certified by the Coastal Commission, and all past development projects have been approved pursuant to the adopted PMP, ensuring compliance with the coastal zone management program. The City-approved Port of Los Angeles Plan is the City's governing document that regulates the continued development and operation of the Port. Over the years, the Port has grown and operated consistent with the PMP and the Port of Los Angeles Plan, ensuring consistency with land use/density designations to minimize impacts on surrounding areas. On occasion, the PMP and the Port of Los Angeles Plan have required amendments in order to accommodate specific projects, ensuring ongoing consistency with planning programs. Similarly, existing facilities within the proposed project vicinity and construction and operation associated with past and current projects have been modified as necessary to ensure proposed land use/density designations are consistent with the Port of Los Angeles Plan designations and the short-term plans; the same is expected of reasonably foreseeable future projects. Therefore, past, present, and reasonably foreseeable future projects would not result in cumulatively significant impacts related to land use designations and inconsistencies.

4.2.8.2.2 Contribution of the Proposed Project

The proposed Project is under the jurisdiction of the Port of Los Angeles Plan (which is the Port's equivalent to a Community Plan of the Los Angeles General Plan). The proposed Project is also under the jurisdiction of the PMP. The proposed Project is located within areas zoned [Q]M2 and [Q]M3 in the City of Los Angeles Zoning Ordinance. Both the Port of Los Angeles Plan and the PMP describe the Planning Area in which the proposed Project is located as PA 2 West Bank. The preferred long-range water and land uses for PA 2 include commercial, recreation, commercial fishing, and non-hazardous cargo operations and support activities. The PMP recommends that this planning area be devoted to commercial, recreational, restaurant and tourist-oriented facilities, commercial fishing, general cargo, and dry liquid bulk terminals. [Q]M2 and [Q]M3 allow for commercial fishing, recreation, industrial, institutional, commercial, and other uses. Operation of the proposed Project is consistent with the planned land uses pursuant to the Port of Los Angeles Plan, the PMP, and current zoning. Therefore, the proposed Project, along with past, present, and future projects, would not be cumulatively considerable with regard to inconsistencies with land use/density designations.

4.2.8.2.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to inconsistencies with land use/density designation would be less than cumulatively considerable. No mitigation measures are required.

4.2.8.3 Cumulative Impact LU-2: Be inconsistent with the General Plan or adopted environmental goals or policies contained in other applicable plans, which would result in an adverse physical effect on the environment—Less than Cumulatively Considerable

Cumulative Impact LU-2 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in development that would be inconsistent with environmental objectives and policies delineated in land use plans that govern the proposed project area.

4.2.8.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

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

been developed to ensure proposed developments are consistent with the Port of Los Angeles Plan and PMP objectives and policies. Construction and operation associated with present and future projects would be modified during the proposed project review process to ensure consistency with the Port of Los Angeles Plan and PMP objectives and policies. Therefore, past, present and foreseeable future projects have not resulted in cumulatively significant impacts with regard to inconsistencies with environmental objectives and policies of applicable plans.

4.2.8.3.2 Contribution of the Proposed Project

The proposed Project would be consistent with the adopted objectives and policies identified in the Port of Los Angeles Plan and other plans including the General Plan Framework Element, the Port of Los Angeles Plan (part of the City of Los Angeles General Plan), the Port of Los Angeles Master Plan, the Port of Los Angeles Strategic Plan, and the Los Angeles Green Building Policy. Also, the proposed Project is consistent with the California Tidelands Trust Act of 1911 because all property and improvements included in the proposed Project would be dedicated to marine research and marine-related business uses. Therefore, when considered with past, present and reasonably foreseeable future projects, the proposed Project would not result in cumulatively considerable impacts with regard to inconsistencies with environmental objectives and policies of applicable plans.

4.2.8.3.2 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project would be less than cumulatively considerable with regard to inconsistencies with environmental objectives and policies of applicable plans. No mitigation measures are required.

4.2.9 Noise

4.2.9.1 Scope of Analysis

The potential for cumulative noise impacts is generally limited to the local proposed project area. For the analysis of cumulative construction impacts, other proposed construction projects that could potentially overlap with the proposed Project were considered based on proximity and construction time frame. For the analysis of cumulative operations impacts, the traffic study provides traffic volumes south of I-110/SR-47, east of Gaffey Street, and west of Harbor Boulevard that include known future projects and anticipated growth. Therefore, for the purposes of the operational analysis, the proposed project area was analyzed for cumulative impacts as part of the proposed Project‘s noise analysis (see Section 3.9, “Noise”). This analysis assesses the potential of the proposed Project, along with related projects, to cause a substantial increase in noise as a result of project construction and traffic-related noise increases.

The significance criteria used for the cumulative analysis are generally the same as those used for the proposed Project in Section 3.9, “Noise”; however, some of the significance criteria have been consolidated to more concisely and clearly analyze cumulative impacts.

4.2.9.2 Cumulative Impact NOI-1: Construction lasts more than 1 day and exceeds existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use; construction activities lasting more than 10 days in a 3-month period exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use—Cumulatively Considerable and Unavoidable

Cumulative Impact NOI-1 represents the potential of proposed project construction activities when combined with past, present, and reasonably foreseeable future projects to cause a substantial increase in ambient noise levels at sensitive receptors within the cumulative geographic scope.

Cumulative noise impacts would potentially occur from the construction of other projects within the area. Noise from the construction of these projects would tend to be localized, thus potentially affecting the areas immediately surrounding each prospective project site. Of these projects, those within 1 mile could result in construction noise that exceeds significance thresholds depending upon the timing of construction. A substantial increase would occur if existing ambient exterior noise levels increased by 5 dBA (L_{eq}) or more at a noise sensitive use. Community noise levels are measured in decibels. For a project to make a cumulatively considerable contribution to the cumulative effect, noise from the proposed Project's construction activities must increase the cumulative noise level by at least 5 dBA L_{eq}.

4.2.9.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The list of related and cumulative projects (see Table 4-1) was reviewed to determine if construction activities associated with any of these projects could, in combination with the proposed Project, cause a cumulative construction noise impact. Construction projects within a 1-mile radius of the proposed Project were chosen to conservatively estimate cumulative construction noise impacts.

There are 12 projects (Table 4-1) within a 1-mile radius of the proposed Project: San Pedro Waterfront (#2), Cabrillo Way Marina, Phase II (#4), Plains All American Oil Marine Terminal (#10), Westway Demolition (#12), Pan-Pacific Fisheries Cannery Buildings Demolition Project (#18), San Pedro Waterfront Enhancements (#19), Southwest Marine Demolition (#25), Inner Cabrillo Beach Water Quality Improvement (#27), Cabrillo Beach Pump (#28), Al Larson Boat Shop Improvement (#29), San Pedro Plaza Park (#44), and a Mixed-Use Development at 281 W. 8th Street (#47). Potential projects for which construction time frames could overlap include San Pedro Plaza Park (#44), Al Larson Boat Shop Improvement (#29), and Plains All American Oil Marine Terminal (#10). If construction schedules for these projects overlap the proposed Project, periodically elevated noise levels due to combined construction noise could occur. While detailed assessment of combined construction noise that could result from projects referenced above cannot be conducted because of the inherent

uncertainties in construction equipment makeup, it is likely that construction activities and associated noise levels would be similar in character to those expected from the proposed Project.

Other projects that could potentially effect noise levels with respect to construction would include Cabrillo Beach Pump (#28), Southwest Marine Demolition (#25), and Pan-Pacific Fisheries Cannery Buildings Demolition (#18), all located within 1 mile of the project site. The current status of these projects makes it difficult to analyze potential construction-related noise impacts. However, it is likely that if these projects were to begin construction in the same timeframe as the proposed Project, they would increase noise levels at sensitive receptors in the vicinity of the proposed project sites. Therefore, the construction of past, present, and reasonably foreseeable future projects would have cumulatively significant noise impacts on sensitive receptors (residential land uses).

4.2.9.2.2 Contribution of the Proposed Project

Construction of the proposed Project independent of any other project would cause a significant noise impact on sensitive receptors in the vicinity, as documented in Section 3.9, "Noise." Noise from the construction of the proposed Project would result in up to a 14 dB increase over the ambient worst-case construction scenario. Noise from the other construction projects in the proposed project vicinity could increase noise levels in the area. Taking into consideration the location and scope of other projects (particularly the nearest such project, the San Pedro Waterfront Enhancements) noise from construction would exceed the 5 dBA significance threshold. Therefore, the contribution of the proposed Project and other proposed projects in the surrounding area would be cumulatively considerable under Impact NOI-1 when combined with past, present, and reasonably foreseeable future projects.

4.2.9.2.3 Mitigation Measures and Residual Cumulative Impacts

Implementation of Mitigation Measures MM NOI-1 through MM NOI-4 in Section 3.9, "Noise," would reduce noise impacts from construction. However, impacts would remain significant; therefore, the incremental contribution of the proposed Project to existing ambient exterior noise levels would be cumulatively considerable.

4.2.9.3 Cumulative Impact NOI-2: Construction activities exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9 p.m. and 7 a.m. Monday through Friday, before 8 a.m. or after 6 p.m. on Saturday, or at any time on Sunday—No Cumulative Impact

Cumulative Impact NOI-2 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to cause a substantial increase in construction noise at night or on Sundays.

4.2.9.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Because the proposed Project would not involve construction between the hours of 9 p.m. and 7 a.m. or on Sundays, it is not necessary to document the effects of past, present, and reasonably foreseeable future projects.

4.2.9.3.2 Contribution of the Proposed Project

No construction activities are planned to occur between the hours of 9:00 p.m. and 7:00 a.m., Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday. There would be no construction-related noise impacts during prohibited hours as described above; consequently, no noise impacts from construction activities would occur and construction noise impacts would not be cumulatively considerable.

4.2.9.3.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of construction noise from the proposed Project to ambient noise levels at noise-sensitive land uses would be less than cumulatively considerable. No mitigation measures are required.

4.2.9.4 Cumulative Impact NOI-3: Expose persons to, or generate, excessive groundborne vibration or groundborne noise levels—Less than Cumulatively Considerable

Cumulative Impact NOI-3 represents the potential for the proposed Project when combined with past, present, and reasonably foreseeable future projects to cause a substantial temporary increase in groundborne noise vibration levels at sensitive receptors within the geographic scope of the proposed project. The geographic scope for groundborne noise vibration includes the immediate area surrounding the proposed project site (within 0.1 mile).

4.2.9.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Due to the nature of groundborne vibration and noise, construction projects would have to occur at the same time and very close to each other to be considered cumulatively considerable. Vibration is calculated based on the Peak Particle Velocity (PPV) at a reference distance multiplied by 25 feet (the reference distance) divided by the actual distance to determine PPV for construction equipment. As distance increases, a generally steep rate of drop off of PPV occurs; therefore, for groundborne vibration to be cumulatively considerable, projects would have to be very close to each other (within a matter of feet). No known past, present or reasonably foreseeable future projects would occur this close together and impacts would not be cumulatively significant.

4.2.9.4.2 Contribution of the Proposed Project

Because construction activities associated with the identified cumulative projects in Table 4-1 would not occur close enough together and at the same time, vibration from the proposed Project would not be cumulatively considerable.

4.2.9.4.3 Mitigation Measures and Residual Cumulative Impacts

The incremental contribution of the proposed Project to groundborne vibration would be less than cumulatively considerable. No mitigation measures are required.

4.2.9.5 Cumulative Impact NOI-4: Operations result in ambient noise level measured at the property line of affected uses increasing by 3 dBA in CNEL to or within the "normally unacceptable" or "clearly unacceptable category," or increasing in any way by 5 dBA or more—Less than Cumulatively Considerable

Cumulative Impact NOI-4 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to cause a substantial permanent increase in ambient noise levels at sensitive receptors within the geographic scope of the proposed Project. The geographic scope includes the proposed project area, as well as sensitive receptors along roadways that carry vehicle trips to and from the proposed project site that are evaluated within the traffic study.

4.2.9.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Onsite operations at the Port and roadway traffic on the roadway network along major roadways in the proposed project area including local streets in the San Pedro community are the dominant sources of community noise and noise sensitive receptors within the geographic scope of the proposed Project. Virtually all of the cumulative projects in Table 4-1, with the exception of, for instance, some of the Port-wide operational plans and programs, would contribute to existing noise sources (such as traffic, terminal operations, and neighborhood sources including parks and schools). Therefore, past, present, and reasonably foreseeable future projects would result in cumulatively significant impacts related to operational noise at the Port.

4.2.9.5.2 Contribution of the Proposed Project

Noise impacts at the residences surrounding the proposed Project would be caused primarily by motor vehicle traffic on the local roadways, including Gaffey Street, Harbor Boulevard, 7th Street, 22nd Street, and others in the area. The traffic analysis presented in the Section 3.9, "Noise," examined existing traffic conditions to the existing plus project (Phase 1 and Phase 2) contributions. The proposed Project was

found to result in a less-than-significant increase in traffic noise volumes for surrounding sensitive receptors. Future traffic volumes would include traffic volumes from projects that are planned for implementation within the time frame studied in the traffic study. Traffic volumes were analyzed for design years 2016, 2024, and 2042 with and without the proposed Project. Table 4-2 shows future year noise levels (with and without project) at modeled receivers analyzed in Section 3.9, "Noise," and the proposed Project's contribution.

The proposed Project would only incrementally (1 dB or less) increase noise levels at receivers within the proposed project area. Therefore, because the proposed Project would not cause an increase of 3 dBA in CNEL to or within the "normally unacceptable" or "clearly unacceptable category," or increase in any way by 5 dBA or more, noise impacts would be less than cumulatively considerable.

Table 4-2. Future Traffic Noise Conditions With and Without the Proposed Project

Receptor	*Noise Standard (dBA CNEL)*	*Future Year 2016 no Project (dBA CNEL)*	*Future Year 2016 with Project (dBA CNEL)*	*Difference (dBA)*	*Future Year 2024 no Project (dBA CNEL)*	*Future Year 2024 with Project (dBA CNEL)*	*Difference (dBA)*	*Future Year 2042 no Project (dBA CNEL)*	*Future Year 2042 with Project (dBA CNEL)*	*Difference (dBA)*
ST-1	65	45	45	0	46	47	1	47	47	0
ST-2	65	51	51	0	52	53	1	53	53	0
ST-3	65	52	53	1	54	54	0	53	54	1
ST-4	65	65	65	0	65	66	1	65	66	1
ST-5	65	64	64	0	64	64	0	65	65	0
ST-6	65	59	59	0	63	64	1	63	64	1

4.2.9.5.3 Mitigation Measures and Residual Cumulative Impacts

No mitigation is required. Impacts would be less than cumulatively considerable.

4.2.10 Public Services and Recreation

4.2.10.1 Scope of Analysis

Cumulative impacts on public services can result from the combined demand of the proposed Project along with past, present, and future related projects on any of the public services for which the proposed Project may have impacts (i.e., police and fire protection, and parks and recreation). The geographic scope depends on the service area of each public service and the jurisdiction within which increased demand could reduce their availability. Since the proposed Project has the capacity to affect the environment within the Port and surrounding communities, the region of analysis for cumulative impacts includes the Port and extends to adjacent areas, including the community of San Pedro, and they are assessed in terms of their compatibility with existing Port industrial uses. For the Port Police, this area is localized to the Ports of Los Angeles and Long Beach and neighboring harbor area communities, such as San Pedro. The service area of the LAPD and LAFD encompasses the City of Los Angeles; however, the police and fire stations identified as serving the proposed Project serve only the Port and harbor area. The geographic scope for parks and recreation would be limited to the neighboring San Pedro communities. Direct impacts from the proposed Project would be localized to the Port area, and indirect impacts could extend further within the City. The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.10, "Public Services and Recreation."

4.2.10.2 Cumulative Impact PS-1: Substantially reduce public services such as law enforcement, emergency services, and park services during construction—Less Than Cumulatively Considerable

Cumulative Impact PS-1 represents the potential for the proposed Project construction activities, when combined with past, present, and reasonably foreseeable future projects, to affect law enforcement and emergency services such that public service agencies would not be able to maintain an adequate level of service during construction. Additionally, this impact assesses whether park and recreational services would be adversely affected.

4.2.10.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past projects would not disrupt law enforcement or emergency response times during construction because these projects have been completed and are operational. Construction of present and reasonably foreseeable future projects may lead to traffic disruption through lane closures, road closures, etc. These disruptions would

potentially impact the emergency response times of the law enforcement and emergency services providers. Present and future cumulative projects within the Port would be required, as would the proposed Project, pursuant to the WATCH Manual, to coordinate with law enforcement agencies and emergency services during construction of all roadway improvements to establish emergency vehicular access, ensuring continuous law enforcement access to surrounding areas. The WATCH Manual would include temporary traffic controls such as alternate response routes and maintenance of emergency vehicular access through tapers, diversions, and detours, hand signaling controls, barricades, lighting devices, and sign placement to ensure minimum response times during construction of the related projects. Similarly, impacts on park and recreational services from construction of past, present, and future projects would not restrict access to or use of recreational facilities in and around the Port and surrounding communities. Therefore, impacts of past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts on law enforcement, emergency, and park services during construction.

4.2.10.2.2 Contribution of the Proposed Project

Construction of the proposed Project would not substantially affect response times for LAFD, LAPD, or the Port Police. LAHD would be required pursuant to the WATCH Manual to coordinate with the law enforcement agencies (LAPD and Port Police) and emergency response providers (LAFD) during construction of all improvements, ensuring continuous law enforcement and emergency access to surrounding areas. The WATCH Manual would include temporary traffic controls such as alternate response routes and maintenance of emergency vehicular access through tapers, diversions and detours, hand signaling controls, barricades, lighting devices, and sign placement to ensure minimum response times during utility construction. Proposed project construction and demolition activities would be subject to emergency response systems implemented by the Port Police and LAFD.

During construction and/or demolition activities, LAFD would require that adequate vehicular access to the proposed project area be provided and maintained. This would be ensured and enforced via the construction traffic control plan prepared in compliance with the WATCH Manual as required for the proposed Project. Additionally, LAFD would be responsible for waterside first response in the event of an emergency, deploying their fireboats if needed. The Port Police would also support LAFD in the event of a waterside emergency. For further discussion of the construction traffic control plan, refer to Section 3.11, “Transportation and Circulation—Ground and Marine.”

Any disruptions to emergency access that result from construction of the proposed Project would be temporary and accounted for in the traffic control plan. Access to existing or proposed park and recreational space, such as the public plaza at Berth 57or the waterfront promenade, once Phase I is operational would not be affected for extended periods by Phase II construction activities, nor would construction interfere with park services or increase demand on park services.

4.2.10.2.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to impacts on law enforcement, emergency services, and park and recreational services would be less than cumulatively considerable. No mitigation measures are required.

4.2.10.3 Cumulative Impact PS-2: Burden existing LAPD or Port Police staff levels and facilities such that the LAPD or Port Police would not be able to maintain an adequate level of service without constructing additional facilities that could cause significant environmental effects—Less Than Cumulatively Considerable

Cumulative Impact PS-2 represents the potential of the proposed Project along with other cumulative projects to increase the demand for additional law enforcement officers and/or facilities such that the USCG, LAPD, or Port Police would not be able to maintain an adequate level of service without additional facilities.

4.2.10.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The LAPD is not the primary police service provider in the Port area and primarily provides support to the Port Police under special circumstance (as described in Section 3.11.2.1.1); therefore, cumulative Port development would directly affect only the Port Police. Construction and operation of past projects has created an existing demand for police protection that is adequately accommodated by the Port Police with support from LAPD. Port Police do not base staff levels on the amount of proposed commercial development or on the anticipated population growth of a given area because of the unique nature of their mission in a primarily industrial port complex with multiple pieces of critical infrastructure. Their staff numbers are based on current Homeland Security data and levels of security at other ports of corresponding size and activity. (Grant pers. comm. 2011.)

Many of the present and reasonably foreseeable future cumulative projects described in Table 4-1 involve the relocation, and in some cases expansion of facilities, which could result in increased demand for public services. Several of the projects would increase the demand for local police by increasing the amount of Port land used for operations; for example, the Marine Terminal, West Basin (#1), Evergreen Container Terminal Improvements (#5), Middle Harbor Terminal Redevelopment (#90), Pasha Marine Terminal Improvements (#15), APL Container Terminal (#30), and Yang Ming Container Terminal Improvements (#24) would generate increased on-land terminal operations. Pursuant to the WATCH Manual, these projects would be required to coordinate with the law enforcement agencies during construction of all roadway improvements to establish emergency vehicular access, ensuring continuous law enforcement access to surrounding areas. Additionally, these projects would be required to implement MTSA mandated security features, including terminal security

personnel, gated entrances, perimeter fencing, terminal and backlands lighting, and camera systems, that would reduce the demand for law enforcement personnel. As stated above, the Port Police would continue to increase staffing and facility upgrades in conjunction with Homeland Security data and levels of security at other ports of corresponding size and activity.

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

Law enforcement services have developed over time in concert with surrounding development needs; therefore, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts related to the demand for law enforcement. As such, impacts of past, present, and reasonably foreseeable future projects related to service levels of USGS, LAPD, or Port Police are not cumulatively significant.

4.2.10.3.2 Contribution of the Proposed Project

The proposed Project would result in the addition of workers and visitors to the site; however, it is not expected that the activities that would occur on the site would require an increase in police presence compared to existing conditions. The police continuously patrol land and water and are constantly expanding and updating resources. Therefore, the proposed project area can be adequately served. Moreover, the Port Police currently work cooperatively with various agencies to provide adequate protection when additional police are needed to respond to a situation.

USCG's ability to respond would not be affected by the proposed Project because there would be new vessel berthing facilities along Berths 58–60 and at Berths 70–71, providing USCG the ability to dock at the proposed project site if such an action were to be required. Moreover, vessels planned to be berthed at the City Dock No. 1 facility would be required to comply with all USCG regulations, including vessel inspections as appropriate. Further, USCG would respond to any vessels requiring assistance. Because the proposed Project does not change the baseline demands of how many law enforcement personnel are needed within the Port area, and is it within the current USCG coverage area, USCG would not need to increase their personnel or equipment numbers (Ludwig pers. comm. 2011).

Therefore, the contribution of the proposed Project to demand for additional law enforcement officers and/or facilities would not result in cumulatively considerable impacts when combined with past, present, and reasonably foreseeable future projects.

4.2.10.3.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project would be less than cumulatively considerable to impacts on the demand for additional law enforcement officers and/or facilities. No mitigation measures are required.

4.2.10.4 Cumulative Impact PS-3: Require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service—Less Than Cumulatively Considerable

Cumulative Impact PS-3 represents the potential of the proposed Project or alternatives along with other cumulative projects to require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service.

4.2.10.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction and operation of past projects has created an existing demand for fire protection that can be accommodated by the LAFD because emergency response times to the Port area are considered adequate. As discussed in Section 3.10, "Public Services," the citywide average response time is approximately 6 to 8 minutes (LAHD 2009). Many of the present and reasonably foreseeable future cumulative projects described in Table 4-1 involve the relocation and in some cases expansion of existing facilities within the Port and vicinity; therefore, an increased demand on fire protection could result from their development. Several of the projects would increase the demand for local fire protection by increasing the amount of Port land used for operations. However, all projects are designed and constructed to meet all applicable state and local codes and ordinances to ensure adequate fire protection and would be subject to LAFD review and approval. These codes and ordinances would include measures such as requiring fire protection infrastructure (i.e., fire hydrants and sprinklers) and ensuring that the LAFD is given the opportunity to review and approve any changes in site access. Additionally, present and future cumulative projects would be required, similar to the proposed Project, and pursuant to the WATCH Manual to coordinate with the law enforcement agencies during construction of all roadway improvements to establish emergency vehicular access, ensuring continuous law enforcement access to surrounding areas. Furthermore, fire stations in the area are generally distributed to facilitate quick emergency response throughout the proposed project area. Consequently, past, present, and reasonable foreseeable future projects would not result in significant cumulative impacts on fire protection services.

4.2.10.4.2 Contribution of the Proposed Project

The proposed Project would not substantially increase the demand for fire protection services. The proposed Project would be designed and constructed to meet all applicable state and local codes and ordinances to ensure adequate fire protection, which would be subject to LAFD review and approval. In addition, emergency response times would not increase because existing fire lanes and hydrants would not be removed. Any site access alterations would be reviewed and approved by the LAFD. During proposed project operations, pursuant to the WATCH Manual, LAHD would coordinate with LAFD during construction of all roadway improvements to establish emergency vehicular access, ensuring continuous law enforcement access to surrounding areas. Because fire protection services would be

incorporated into the proposed project site and emergency response times would not increase, the proposed Project would have no adverse effect on fire protection services and would not make a cumulatively considerable contribution to a significant cumulative impact on fire protection services.

4.2.10.4.3 Mitigation Measures and Residual Cumulative Impacts

No mitigation measures are required because the contribution of the proposed Project to impacts on fire protection services would be less than cumulatively considerable.

4.2.10.5 Cumulative Impact PS-4: Increase the demand for recreation and park services and facilities resulting in the physical deterioration of these facilities—Less than Cumulatively Considerable

Cumulative Impact PS-4 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to require the addition of recreation and park facilities to maintain service levels.

4.2.10.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Some of the projects listed in Table 4-1 are growth-inducing, and their cumulative effect will likely result in an intensification of existing recreational resources usage in the proposed project vicinity. However, these residential projects would be evaluated under a separate environmental process and would be required to comply with existing local and state regulations mandating recreational facilities that would specifically support these new projects. The present and reasonably foreseeable future projects in the vicinity of the proposed Project also include some projects that would provide new open space and recreation resources for the public, including: San Pedro Waterfront (#2), San Pedro Waterfront Enhancements (#19), Wilmington Waterfront (#21), and Banning Museum and Banning Park (#59). The addition of these projects in conjunction with the proposed Project would result in a substantial increase in recreational opportunities and would benefit existing recreational resources in the proposed project vicinity by reducing the existing impact on those recreational resources. As such, impacts of past, present, and reasonably foreseeable future projects would not result in cumulatively significant impacts on recreation and parks services.

4.2.10.5.2 Contribution of the Proposed Project

The proposed Project includes development of recreational facilities and open spaces such as a waterfront café, a continuous waterfront pedestrian promenade, and a public plaza. These new recreational amenities would relieve the burden on existing recreation facilities and open spaces. LAHD would be responsible for ongoing maintenance and operations of the open spaces and recreational facilities for the proposed Project. The operations would include active maintenance, security, marketing and event master planning, and administration.

LAHD would adequately provide resources for the maintenance and operation of the proposed Project. The proposed Project would have no adverse effects on parks and recreation, and the cumulative impact of the proposed Project would be less than significant. Therefore, the contribution of the proposed Project to deterioration of recreation and park services would not be cumulatively considerable when combined with past, present, and reasonably foreseeable future projects.

4.2.10.5.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to deterioration of recreation and park services would be less than cumulatively considerable. No mitigation measures are required.

4.2.11 Transportation and Circulation—Ground and Marine

4.2.11.1 Scope of Analysis

The transportation environmental setting for the cumulative surface transportation analysis includes those streets and intersections that would be used by both automobile and truck traffic to gain access to and from the City Dock No. 1 site. Table 3.11-3 in Section 3.11, "Transportation and Circulation—Ground and Marine," presents the 19 intersections identified for analysis in consultation with LADOT based on location in relation to the proposed Project and the potential for project-related traffic to travel through them. These intersections would also be used by construction traffic (e.g., equipment and commuting workers).

The analysis of roadway and intersection impacts presented in this cumulative analysis reflects future 2016 and 2024 conditions projected with and without the proposed Project. This includes traffic from other regional development that is expected to occur regardless of whether or not the proposed Project is implemented.

The proposed Project would allow a greater number of research vessels to call at the Port. Like all commercial vessels, these ships would follow designated traffic channels (also used by other vessels) when approaching and leaving the Los Angeles Harbor. Similarly, in-water construction activities associated with the proposed Project would occur within the Port's existing channel limits (i.e., channel and berthing areas). Because the proposed Project has the capacity to affect vessel transportation within these channels or the berths the vessels are accessing, the geographic scope for cumulative marine transportation impacts includes the vessel traffic channels that ships use to access berths within the Los Angeles Harbor, Main Channel, and precautionary areas.

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.11.

4.2.11.2 Cumulative Impact TC-1: Result in a short-term, temporary increase in construction-related truck and

auto traffic, decreases in roadway capacity, and disruption of vehicular and non-motorized travel—Less Than Cumulatively Considerable With Mitigation

Cumulative Impact TC-1 represents the potential of the proposed Project in combination with other cumulative projects to result in impacts on roadways and intersections from a short-term temporary increase in construction truck and automobile traffic (associated with construction worker commutes), transport and staging of construction equipment, transport of construction materials to construction sites, and hauling excavated and demolished materials away from construction sites.

4.2.11.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Potential cumulative construction effects from past, present, and reasonably foreseeable future projects on roadway operations include the following:

- Temporary increases in traffic associated with construction worker commutes, delivery of construction materials, hauling of demolished and/or excavated materials, and general deliveries would increase travel demand on roadways.
- Temporary roadway lane closures or narrowings in areas directly abutting construction activities would reduce capacity of roadways.
- Temporary roadway closures associated with the construction of transportation infrastructure would reduce the capacity of the roadway system and/or require detours that increase travel times.
- During project construction, parking demand would increase from construction workers and from construction equipment that is not in use.
- Temporary sidewalk, lane, or road closures could occur adjacent to project elements that are under construction, which could interfere with bicycle or pedestrian circulation.
- Heavy and slow-moving construction vehicles would mix with general-purpose vehicular and non-motorized traffic in the area.

Construction of cumulative projects would result in a temporary increase in traffic volumes and a decrease in roadway capacity due to temporary lane closures. The following impacts could result from cumulative projects:

- Reduced roadway capacity and an increase in construction-related congestion could result in temporary localized increases in traffic congestion.
- Construction activities could disrupt existing transit service in the proposed project vicinity. Impacts may include temporary route detours, reduced or no service to certain destinations, or service delays.
- Construction activities would increase parking demand in the proposed project vicinity and could result in parking demand exceeding the available supply.

- Construction activities would disrupt pedestrian and bicycle travel. Impacts include temporary sidewalk or roadway closures that would create gaps in pedestrian or bicycle routes and interfere with safe travel.
- Construction activities would increase the mix of heavy construction vehicles with general purpose traffic. Impacts include an increase in safety hazards due to a higher proportion of heavy trucks.

Without mitigation, the impact of cumulative construction-generated traffic on transportation operations and safety is considered cumulatively significant.

4.2.11.2.2 Contribution of the Proposed Project

Construction-related traffic due to the proposed Project would add to overall traffic congestion in the area, with most proposed project construction occurring between 2012 and 2024.

Potential cumulative construction effects include the following:

- A temporary increase in traffic associated with construction worker commutes, delivery of construction materials, hauling of demolished and/or excavated materials, and general deliveries would increase travel demand on roadways.
- Temporary roadway lane closures (i.e., Signal Street) or narrowings in areas directly abutting construction activities (i.e., the eastbound lane of 22nd Street) would reduce capacity of roadways.
- During proposed project construction, parking demand would increase from construction workers and construction equipment that is not in use.
- Temporary sidewalk and lane closures (i.e., 22nd Street) could occur adjacent to proposed project elements that are under construction, which would interfere with bicycle or pedestrian circulation within the proposed project vicinity.
- Heavy and slow-moving construction vehicles would mix with general-purpose vehicular and nonmotorized traffic in the area.

The exact trip generation expected from construction would be determined as part of the detailed construction phasing plans that are prepared for the proposed Project. At that time, traffic and/or road closures or narrowing that are expected from other concurrent construction activities would be taken into account, as a Traffic Control Plan (i.e., WATCH Manual) is developed to mitigate the construction-related contribution of the proposed Project to the overall surface transportation operations. The proposed Project would result in similar construction impacts identified for past, present, and reasonably foreseeable future projects. When combined with cumulative projects, the cumulative effects of short-term temporary increases in construction truck and automobile traffic would be cumulatively considerable prior to incorporation of mitigation measures.

4.2.11.2.3 Mitigation Measures and Residual Cumulative Impacts

Implementation of Mitigation Measure MM TC-1 (Develop and implement a Traffic Control Plan throughout proposed project construction) would reduce the contribution of the proposed Project to cumulative construction traffic impacts to less-than-significant levels. This measure, described in detail in Section 3.11.4.3.1, would address potential impacts during construction by maintaining adequate access to adjacent roadways, maintaining access to transit and to pedestrian and bicycle facilities where safe to do so, providing parking for construction-related vehicles, and providing construction traffic control to minimize effects on roadway operations. With this measure in place, residual cumulative impacts on construction traffic would be less than cumulatively considerable.

4.2.11.3 Cumulative Impact TC-2a: Increase traffic volumes and degrade LOS at intersections within the proposed project vicinity—Less Than Cumulatively Considerable

Cumulative Impact TC-2a represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in significant increases in traffic volumes or degradation of LOS at intersections within the proposed project vicinity.

4.2.11.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Regional background (ambient) traffic growth was estimated using data from a computerized traffic analysis tool known as the Port Area Travel Demand Model, which includes traffic growth for the Port and the local area. Background traffic growth occurs as a result of regional growth in employment, population, schools, and other activities. Related projects are covered by the growth forecasts of the Port Travel Demand Model. Local projects not included in the SCAG Regional Travel Demand Forecasting Model were separately accounted for in the Port Travel Demand Model, such as detailed Ports of Long Beach and Los Angeles projected container and non-container terminal growth.

Increases in traffic volumes on the surrounding roadways, due to cumulative new development, would in turn degrade intersection operations. Cumulative base traffic forecasts include the effects of specific cumulative development projects expected to be built in the vicinity of the proposed project site by the years 2016, 2024, and 2042, plus ambient growth rates. The list of related projects was based on data from LADOT and from the Community Redevelopment Agency of the City of Los Angeles, as well as a review of other recent traffic studies conducted for projects in the vicinity. The following projects (as listed in Table 4-1) were included in the related project traffic generation and assignment:

- **CRAFTED in San Pedro (#9) –** CRAFTED would be located in Warehouses #9 and #10 in San Pedro, near Miner Street and 22nd Street, approximately 1.5 miles

from the proposed project site. This project would consist of adaptive reuse of the existing warehouses to create a permanent craft marketplace. The building programming would be composed of juried vendor stalls selling handmade wares. The building would also feature concession areas and a demonstration area. CRAFTED would be open throughout the week, with peak activity occurring on weekends.

- **USS Iowa Battleship (#33) –**The USS Iowa would be located at Berth 87, near the intersection of Harbor Boulevard and 1st Street, approximately 1.5 miles from the proposed project site. This project consists of a 33,800-square-foot visitor center, including a museum and education center aboard the USS Iowa battleship. There would also be concession areas, ticketing, and gift-shop facilities on the proposed project site.
- **San Pedro Waterfront (#2) –** The San Pedro waterfront transformation is a long-range specific plan for the San Pedro side of the Los Angeles waterfront. It includes redevelopment of Ports O'Call, the primary retail outlet along the waterfront, additional promenades and boat harbors, and several recreational elements. The project is expected to increase utilization of the Waterfront area with adaptive reuse of underutilized buildings and new development opportunities along the waterfront.

Per information received from the Port, a future improvement along Harbor Boulevard (expected by year 2016) to the intersection of Harbor Boulevard and 7th Street will include a junction with Sampson Way. By year 2024, as part of the San Pedro Waterfront Project, Harbor Boulevard will be re-striped, and the median will be removed/reconstructed as needed to provide three northbound through lanes and three southbound through lanes between the reconstructed Sampson Way and Harbor Boulevard intersection and the Westbound On-Ramp and Front Street intersection. This will result in the removal of parking and the bike lane on the northbound side of Harbor Boulevard. However, the existing and planned promenade on the east side of Harbor Boulevard will provide the replacement bike lane. The parking and 5-foot bike lane on the southbound side south of O' Farrell Street will be preserved (this is predicated upon 10-foot interior lanes, with the exception of the outer southbound through lane, adjacent to the bike lane, which would be maintained at 11 feet wide). North of O'Farrell Street, the parking and parking lane on the southbound side would need to be removed to accommodate the northbound dual left-turn lane. The innermost northbound through lane at the eastbound off-ramp intersection would become a forced left-turn lane at the SR-47 Westbound On-Ramp. This improvement is projected to be needed by the year 2024. LAHD will monitor operational conditions on an ongoing basis to confirm the need and timing for these improvements.

Additionally, the current improvement plan would equip all remaining intersections with ATSAC and install the state-of-the-art ATCS as an additional feature of the ATSAC system. In the analysis of future operating conditions, a capacity increase of 10% (0.10 V/C adjustment) was applied to reflect the benefit of ATSAC/ATCS control at all signalized study intersections. These improvements would result in capacity changes at the specified locations throughout the study area.

Future base traffic projections were analyzed to establish future base operating conditions without the proposed project for three future years (2016, 2024, and

2042). As shown in Tables 4-3, 4-4, and 4-5, below, 14 of the 16 signalized intersections operate at LOS D or better during both peak hours. The following intersections are projected to operate at LOS E or worse during one or more analyzed peak hours in 2016, 2024, and 2042, and impacts are considered to be cumulatively significant:

- Gaffey Street/Summerland Avenue (weekday PM only)
- Gaffey Street/1st Street (weekday AM/PM and weekend midday peak hours)

4.2.11.3.2 Contribution of the Proposed Project

The proposed Project would increase traffic volumes and degrade LOS at intersections within the proposed project vicinity. As shown in Tables 4-3, 4-4, and 4-5, intersection operations during 2016, 2024, and 2042 would continue to operate at LOS D or better with traffic contributions from the proposed Project, except for the following, which would operate at LOS E or worse during one or more analyzed peak hours:

- Gaffey Street/Summerland Avenue (weekday PM only)
- Gaffey Street/1st Street (weekday AM/PM and weekend midday peak hours)

However, because the increase in the V/C ratio compared to baseline conditions for the years 2016, 2024, and 2042 would not increase beyond the significance thresholds discussed in Section 3.11, "Transportation and Circulation—Ground and Marine," no cumulative impacts on intersection operations would occur and the proposed Project's contribution to degradation of LOS would be less than cumulatively considerable.

Table 4-3. Intersection LOS – 2016 Cumulative Plus Project Phase I Conditions

Intersection	*Peak Hour*	*2016 Baseline*		*2016 Baseline + Project (Phase I)*			
		V/C	*LOS*	*V/C*	*LOS*	*Change*	*Impact*
Gaffey Street/ Summerland Avenue	AM	0.738	C	0.739	C	0.001	NO
	PM	0.927	E	0.928	E	0.001	NO
	WK	0.668	B	0.668	B	0.000	NO
Gaffey Street/ I-110 Ramps	AM	0.409	A	0.410	A	0.001	NO
	PM	0.544	A	0.545	A	0.001	NO
	WK	0.469	A	0.471	A	0.002	NO
Gaffey Street/ 1st Street	AM	0.882	D	0.882	D	0.000	NO
	PM	0.898	D	0.899	D	0.001	NO
	WK	0.849	D	0.849	D	0.000	NO
Gaffey Street/ 5th Street	AM	0.717	C	0.718	C	0.001	NO
	PM	0.684	B	0.686	B	0.002	NO
	WK	0.744	C	0.744	C	0.000	NO
Gaffey Street/	AM	0.733	C	0.734	C	0.001	NO

Intersection	*Peak Hour*	*2016 Baseline*		*2016 Baseline + Project (Phase I)*			
		V/C	*LOS*	*V/C*	*LOS*	*Change*	*Impact*
7th Street	PM	0.654	B	0.655	B	0.001	NO
	WK	0.662	B	0.663	B	0.001	NO
Gaffey Street/ 9th Street	AM	0.841	D	0.841	D	0.000	NO
	PM	0.775	C	0.777	C	0.002	NO
	WK	0.809	D	0.809	D	0.000	NO
Gaffey Street/ 22nd Street	AM	0.365	A	0.373	A	0.008	NO
	PM	0.400	A	0.409	A	0.009	NO
	WK	0.562	A	0.568	A	0.006	NO
Gaffey Street/ 25th Street	AM	0.424	A	0.428	A	0.004	NO
	PM	0.413	A	0.414	A	0.001	NO
	WK	0.611	B	0.612	B	0.001	NO
Via Cabrillo Marina/ 22nd Street	AM	0.135	A	0.141	A	0.006	NO
	PM	0.084	A	0.086	A	0.002	NO
	WK	0.156	A	0.159	A	0.003	NO
Harbor Boulevard/ Swinford Street/ SR-47 Eastbound Ramps	AM	0.418	A	0.431	A	0.013	NO
	PM	0.405	A	0.423	A	0.018	NO
	WK	0.554	A	0.558	A	0.004	NO
Harbor Boulevard/ O'Farrell Street	AM	0.372	A	0.376	A	0.004	NO
	PM	0.441	A	0.447	A	0.006	NO
	WK	0.411	A	0.419	A	0.008	NO
Harbor Boulevard/ 1st Street	AM	0.421	A	0.426	A	0.005	NO
	PM	0.498	A	0.503	A	0.005	NO
	WK	0.424	A	0.431	A	0.007	NO
Harbor Boulevard/ 5th Street	AM	0.306	A	0.311	A	0.005	NO
	PM	0.566	A	0.571	A	0.005	NO
	WK	0.374	A	0.382	A	0.008	NO
Harbor Boulevard/ 6th Street	AM	0.232	A	0.237	A	0.005	NO
	PM	0.404	A	0.409	A	0.005	NO
	WK	0.333	A	0.341	A	0.008	NO
Harbor Boulevard/ 7th Street	AM	0.176	A	0.177	A	0.001	NO
	PM	0.243	A	0.247	A	0.004	NO
	WK	0.197	A	0.205	A	0.008	NO
Harbor Boulevard/ Sampson Way	AM	0.179	A	0.191	A	0.012	NO
	PM	0.348	A	0.355	A	0.007	NO
	WK	0.277	A	0.365	A	0.088	NO
Miner Street/ 22nd Street	AM	0.191	A	0.224	A	0.033	NO
	PM	0.214	A	0.230	A	0.016	NO
	WK	0.163	A	0.168	A	0.005	NO

Table 4-4. Intersection LOS – 2024 Cumulative Plus Project Buildout Conditions

Intersection	*Peak Hour*	*2024 Baseline*		*2024 Baseline + Project Buildout*			
		V/C	*LOS*	*V/C*	*LOS*	*Change*	*Impact*
Gaffey Street/ Summerland Avenue	AM	0.774	C	0.776	C	0.002	NO
	PM	1.005	F	1.006	F	0.001	NO
	WK	0.732	C	0.732	C	0.000	NO
Gaffey Street/ I-110 Ramps	AM	0.443	A	0.447	A	0.004	NO
	PM	0.601	B	0.603	B	0.002	NO
	WK	0.501	A	0.502	A	0.001	NO
Gaffey Street/ 1st Street	AM	0.921	E	0.923	E	0.002	NO
	PM	0.918	E	0.920	E	0.002	NO
	WK	0.879	D	0.880	D	0.001	NO
Gaffey Street/ 5th Street	AM	0.728	C	0.729	C	0.001	NO
	PM	0.689	B	0.696	B	0.007	NO
	WK	0.753	C	0.754	C	0.001	NO
Gaffey Street/ 7th Street	AM	0.749	C	0.750	C	0.001	NO
	PM	0.702	C	0.710	C	0.008	NO
	WK	0.710	C	0.711	C	0.001	NO
Gaffey Street/ 9th Street	AM	0.853	D	0.855	D	0.002	NO
	PM	0.805	D	0.811	D	0.006	NO
	WK	0.853	D	0.855	D	0.002	NO
Gaffey Street/ 22nd Street	AM	0.445	A	0.475	A	0.030	NO
	PM	0.548	A	0.466	A	0.035	NO
	WK	0.666	B	0.696	B	0.003	NO
Gaffey Street/ 25th Street	AM	0.450	A	0.464	A	0.014	NO
	PM	0.461	A	0.466	A	0.005	NO
	WK	0.694	B	0.696	B	0.002	NO
Via Cabrillo Marina/ 22nd Street	AM	0.242	A	0.266	A	0.024	NO
	PM	0.186	A	0.191	A	0.005	NO
	WK	0.304	A	0.309	A	0.005	NO
Harbor Boulevard/ Swinford Street/ SR-47 Eastbound Ramps	AM	0.424	A	0.466	A	0.042	NO
	PM	0.473	A	0.517	A	0.044	NO
	WK	0.696	B	0.705	C	0.009	NO
Harbor Boulevard/ O'Farrell Street	AM	0.323	A	0.333	A	0.010	NO
	PM	0.403	A	0.412	A	0.009	NO
	WK	0.469	A	0.480	A	0.011	NO
Harbor Boulevard/	AM	0.372	A	0.382	A	0.010	NO

Intersection	*Peak Hour*	*2024 Baseline*		*2024 Baseline + Project Buildout*			
		V/C	*LOS*	*V/C*	*LOS*	*Change*	*Impact*
1st Street	PM	0.440	A	0.450	A	0.010	NO
	WK	0.502	A	0.515	A	0.013	NO
Harbor Boulevard/ 5th Street	AM	0.315	A	0.344	A	0.029	NO
	PM	0.548	A	0.558	A	0.010	NO
	WK	0.480	A	0.493	A	0.013	NO
Harbor Boulevard/ 6th Street	AM	0.245	A	0.260	A	0.015	NO
	PM	0.331	A	0.341	A	0.010	NO
	WK	0.390	A	0.403	A	0.013	NO
Harbor Boulevard/ 7th Street	AM	0.297	A	0.345	A	0.048	NO
	PM	0.423	A	0.447	A	0.024	NO
	WK	0.494	A	0.524	A	0.030	NO
Harbor Boulevard/ Sampson Way	AM	0.415	A	0.498	A	0.083	NO
	PM	0.489	A	0.507	A	0.018	NO
	WK	0.575	A	0.597	A	0.022	NO
Miner Street/ 22nd Street	AM	0.528	A	0.556	A	0.028	NO
	PM	0.423	A	0.488	A	0.065	NO
	WK	0.677	B	0.685	B	0.008	NO

Table 4-5. Intersection LOS – 2042 Cumulative Plus Project Buildout Conditions

Intersection	*Peak Hour*	*2042 Baseline*		*2042 Baseline + Project Buildout*			
		V/C	*LOS*	*V/C*	*LOS*	*Change*	*Impact*
Gaffey Street/ Summerland Avenue	AM	0.800	C	0.803	D	0.003	NO
	PM	1.064	F	1.064	F	0.000	NO
	WK	0.786	C	0.787	C	0.001	NO
Gaffey Street/ I-110 Ramps	AM	0.491	A	0.495	A	0.004	NO
	PM	0.628	B	0.631	B	0.003	NO
	WK	0.547	A	0.548	A	0.001	NO
Gaffey Street/ 1st Street	AM	1.061	F	1.063	F	0.002	NO
	PM	0.929	E	0.930	E	0.001	NO
	WK	0.931	E	0.932	E	0.001	NO
Gaffey Street/ 5th Street	AM	0.734	C	0.736	C	0.002	NO
	PM	0.715	C	0.722	C	0.007	NO
	WK	0.794	C	0.795	C	0.001	NO
Gaffey Street/ 7th Street	AM	0.766	C	0.768	C	0.002	NO
	PM	0.725	C	0.733	C	0.008	NO
	WK	0.737	C	0.738	C	0.001	NO
Gaffey Street/	AM	0.879	D	0.881	D	0.002	NO

Intersection	*Peak Hour*	*2042 Baseline*		*2042 Baseline + Project Buildout*			
		V/C	*LOS*	*V/C*	*LOS*	*Change*	*Impact*
9th Street	PM	0.829	D	0.835	D	0.006	NO
	WK	0.891	D	0.893	D	0.002	NO
Gaffey Street/ 22nd Street	AM	0.471	A	0.500	A	0.029	NO
	PM	0.589	A	0.623	B	0.034	NO
	WK	0.687	B	0.691	B	0.004	NO
Gaffey Street/ 25th Street	AM	0.480	A	0.494	A	0.014	NO
	PM	0.494	A	0.498	A	0.004	NO
	WK	0.743	C	0.746	C	0.003	NO
Via Cabrillo Marina/ 22nd Street	AM	0.259	A	0.282	A	0.023	NO
	PM	0.188	A	0.192	A	0.004	NO
	WK	0.310	A	0.315	A	0.005	NO
Harbor Boulevard/ Swinford Street/ SR-47 Eastbound Ramps	AM	0.604	B	0.651	B	0.047	NO
	PM	0.541	A	0.584	A	0.043	NO
	WK	0.751	C	0.760	C	0.009	NO
Harbor Boulevard/ O'Farrell Street	AM	0.346	A	0.356	A	0.010	NO
	PM	0.431	A	0.460	A	0.029	NO
	WK	0.499	A	0.511	A	0.012	NO
Harbor Boulevard/ 1st Street	AM	0.534	A	0.573	A	0.039	NO
	PM	0.544	A	0.554	A	0.010	NO
	WK	0.657	B	0.670	B	0.013	NO
Harbor Boulevard/ 5th Street	AM	0.356	A	0.388	A	0.032	NO
	PM	0.571	A	0.581	A	0.010	NO
	WK	0.518	A	0.531	A	0.013	NO
Harbor Boulevard/ 6th Street	AM	0.373	A	0.405	A	0.032	NO
	PM	0.499	A	0.509	A	0.010	NO
	WK	0.699	B	0.712	C	0.013	NO
Harbor Boulevard/ 7th Street	AM	0.378	A	0.432	A	0.054	NO
	PM	0.533	A	0.555	A	0.022	NO
	WK	0.802	D	0.819	D	0.017	NO
Harbor Boulevard/ Sampson Way	AM	0.526	A	0.609	B	0.083	NO
	PM	0.647	B	0.665	B	0.018	NO
	WK	0.871	D	0.885	D	0.014	NO
Miner Street/2 2nd Street	AM	0.557	A	0.613	B	0.0546	NO
	PM	0.457	A	0.523	A	0.066	NO
	WK	0.723	C	0.732	C	0.009	NO

1

4.2.11.3.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to traffic increases at intersections and degradation of LOS would be less than cumulatively considerable. No mitigation measures are required.

4.2.11.4 Cumulative Impact TC-2b: Significantly increase traffic volumes or degrade operations on CMP facilities within the proposed project vicinity beyond adopted thresholds—Less than Cumulatively Considerable

Cumulative Impact TC-2b represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in significant increases in traffic volumes or degradation of LOS on CMP facilities within the proposed project vicinity.

4.2.11.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Because the proposed Project would not result in a significant increase in traffic and degradation on CMP facilities, it is not necessary to document the effects of past, present, and reasonably foreseeable future projects.

4.2.11.4.2 Contribution of the Proposed Project

The proposed Project would increase traffic volumes and degrade LOS along CMP facilities within the proposed project vicinity, including Gaffey Street/9th Street, Western Avenue/9th Street, and along the I-110, south of C Street. However, cumulative increases in traffic would not degrade LOS to a level that exceeds adopted standards. Thus, the cumulative impacts of the proposed Project on CMP facilities are less than cumulatively considerable.

4.2.11.4.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to impacts on CMP facilities would be less than cumulatively considerable. No mitigation measures are required.

4.2.11.5 Cumulative Impact TC-3: Cause increases in demand for transit service beyond the supply of such services—Less than Cumulatively Considerable

Cumulative Impact TC-3 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in significant increases in transit demand within the proposed project vicinity.

4.2.11.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Section 3.11.2.1.4 describes existing transit service in the proposed project area, which is served by bus transit lines operated by Metro, LADOT, and MAX.

None of the cumulative projects would adversely impact transit service. However, a number of cumulative projects have the potential to increase demand for transit, including, but not limited to, Cabrillo Way Marina Phase II (#4), Port of Los Angeles Charter School and Port Police Headquarters (#7), San Pedro Waterfront Enhancements (#19), Pacific Corridors Redevelopment Project (#39), Pacific Trade Center (#50), and Mixed-Use Development at 281 W. 8th Street (#47) as shown in Table 4-1 and Figure 4-1. The cumulative effect from these projects has not resulted in cumulatively significant impacts on transit service.

4.2.11.5.2 Contribution of the Proposed Project

The proposed Project would increase transit demand within the proposed project vicinity, as a result of the commercial, recreational, cultural, and business-oriented proposed project elements.

As discussed in the Section 3.11 "Transportation and Circulation—Ground and Marine," there are four bus lines that provide service in the vicinity of the proposed project site. Cumulative increases in transit demand would likely be accommodated with existing transit service. Additionally, if cumulative demand on regional bus routes approaches or exceeds capacity by the long-range planning years of 2016, 2024, or 2042, the transit providers have the option of adding routes or increasing the frequency of existing service as a matter of standard operating procedure. Thus, the cumulative impacts of the proposed Project on transit are less than cumulatively considerable.

4.2.11.5.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to impacts on transit would be less than cumulatively considerable. No mitigation measures are required.

4.2.11.6 Cumulative Impact TC-4: Result in a violation of the City's adopted parking policies and parking demand would not exceed supply—Less than Cumulatively Considerable

Cumulative Impact TC-4 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in significant increases in parking demand in the proposed project vicinity that would exceed supply.

4.2.11.6.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Completion of future cumulative development projects identified in Table 4-1 would increase future parking demand. Local development regulations govern the level of parking supply required for each new development. For the proposed Project, the required parking supply reflects the level needed for the development that would occur, over the cumulative parking supply that would be required to accommodate other regional development. Because parking supply for cumulative development is controlled by development regulations, the impact on parking demand from past, present, and reasonably foreseeable future projects is less than cumulatively significant.

4.2.11.6.2 Contribution of the Proposed Project

The proposed Project would increase parking demand within the proposed project vicinity. Under the requirements of the City of Los Angeles Zoning Code, 613 additional parking spaces would be required over parking required by other cumulative development. The proposed Project would include a total of 619 parking spaces, which exceeds this requirement by six spaces. Thus, cumulative impacts on parking would be less than cumulatively considerable.

4.2.11.6.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to impacts on parking would be less than cumulatively considerable. No mitigation measures are required.

4.2.11.7 Cumulative Impact TC-5: Include design elements that would result in conditions that would increase the risk of accidents, either for vehicular or non-motorized traffic—Less than Cumulatively Considerable

Cumulative Impact TC-5 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in significant conflict with vehicles and pedestrians at cross streets.

4.2.11.7.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Past, present, and reasonably foreseeable future projects must conform to local development standards, and thus are not expected to include elements that result in poor sight distance, sharp curves, or other factors that would increase safety hazards for vehicular or non-motorized travelers. Thus, their cumulative impacts on increased risk of accidents for vehicular or non-motorized traffic are less than cumulatively significant.

4.2.11.7.2 Contribution of the Proposed Project

The proposed Project does not include elements that result in poor sight distance, sharp curves, or other factors that would increase safety hazards for vehicular or non-motorized travelers. Thus, the cumulative impacts of the proposed Project on increased risk of accidents for vehicular or non-motorized traffic are less than cumulatively considerable.

4.2.11.7.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to increased risk of accidents for vehicular or non-motorized traffic would be less than cumulatively considerable. No mitigation measures are required.

4.2.11.8 Cumulative Impact VT-1a: Interfere with operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, East Basin area, or precautionary areas during construction—Less than Cumulatively Considerable

Cumulative Impact VT-1a represents the potential of construction of the proposed Project when combined with past, present, and reasonably foreseeable future projects to increase vessel traffic congestion or reduce the existing level of safety for vessels navigating the harbor, Main Channel, and/or precautionary areas.

As reported in Section 3.11, "Transportation and Circulation—Ground and Marine," vessel traffic levels are highly regulated by the USCG COTP and the Marine Exchange of Southern California via the VTS to ensure the total number of vessels transiting the Port does not exceed the design capacity of the federal channel limits. Mariners are required to report their position to the COTP and the VTS prior to transiting through the Port; the VTS monitors the positions of all inbound/outbound vessels within the precautionary area and the approach corridor traffic lanes. In the event that scheduling conflicts occur and/or vessel occupancy within the Port is operating at capacity, vessels are required to anchor at the anchorages outside the breakwater until mariners receive COTP authorization to initiate transit into the Port.

4.2.11.8.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

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

safe vessel navigation, and they are regulated by various agencies and organizations to ensure navigational safety.

Present and reasonably foreseeable Port projects, including the proposed Project, could result in marine vessel safety impacts if they introduce construction equipment to the harbor, Main Channel, and/or precautionary areas; and/or interfere with USCG-designated vessel traffic lanes. In-water construction activities are associated with many of the Port projects listed in Table 4-1; including the Pier 400 Container Terminal and Transportation Corridor (#10), Marine Terminal, West Basin (#1), Channel Deepening (#3), Cabrillo Way Marina (#4),Evergreen Container Terminal Improvements (#5), SSA Outer Harbor Fruit Facility Relocation (#8), Westway Decommissioning, (#12), China Shipping Development (#14), Pasha Marine Terminal Improvements (#15), San Pedro Waterfront Enhancements (#19), APL Container Terminal Improvements (#30), YTI Container Terminal Improvements (#23), and Yang Ming Container Terminal Improvements (#24). Construction activities would introduce construction equipment into the Main Channel. The Port utilizes standard safety precautions in piloting these vessels through harbor waters and standard measures including compliance with LAHD standards for construction and dredging safety.

Proposed improvements associated with other projects would improve the overall conditions in the Los Angeles Harbor by creating berth depths sized to accommodate the modern, deeper-draft class of vessels. The deeper draft berths would improve the efficiencies of shipping and Port operations by reducing the relative number of vessels and vessel trips required to accommodate projected container throughput at the Port.

Therefore, the past, present, and foreseeable future projects are not cumulatively significant related to navigation hazards from construction activities.

4.2.11.8.2 Contribution of the Proposed Project

The construction phase of the proposed Project would involve the use of construction vessels and equipment to conduct wharf, dock, and promenade construction activities within the East Channel, Main Channel, and precautionary areas. These types of activities are routinely conducted in the Los Angeles Harbor, and contractors performing in-water or over-water construction activities are subject to applicable rules and regulations stipulated in all LAHD contracts and USACE permits. LAHD would utilize standard safety precautions in piloting these vessels through Los Angeles Harbor waters, and standard measures including compliance with LAHD standards for construction safety and USACE permit requirements would also apply. Thus, the short-term presence of supply barges/support boats in the Los Angeles Harbor would not reduce the existing level of safety for vessel navigation in the harbor. Furthermore, construction of the proposed Project would not result in cumulatively considerable impacts on navigation and marine transportation during construction.

4.2.11.8.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to increased vessel traffic congestion or a reduction in the existing level of safety for vessels navigating the harbor, Main Channel, and/or precautionary areas during construction would be less than cumulatively considerable. No mitigation measures are required.

4.2.11.9 Cumulative Impact VT-1b: Interfere with the operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, or precautionary areas during operations—Less than Cumulatively Considerable

Cumulative Impact VT-1b represents the potential for operation of the proposed Project when combined with past, present, and reasonably foreseeable future projects to increase vessel traffic congestion or reduce the existing level of safety for vessels navigating the harbor, Main Channel, and/or precautionary areas.

As reported in Section 3.11, "Transportation and Circulation—Ground and Marine," vessel traffic levels are highly regulated by the USCG COTP and the Marine Exchange of Southern California via the VTS to ensure that the total number of vessels transiting the Port does not exceed the design capacity of the federal channel limits. Mariners are required to report their position to the COTP and the VTS prior to transiting through the Port; the VTS monitors the positions of all inbound/outbound vessels within the precautionary area and the approach corridor traffic lanes. In the event that scheduling conflicts occur and/or vessel occupancy within the Port is operating at capacity, vessels are required to anchor at the anchorages outside the breakwater until mariners receive COTP authorization to initiate transit into the Port.

4.2.11.9.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

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

Present and reasonably foreseeable Port projects, including the proposed Project, could result in marine vessel safety impacts if they interfere with USCG-designated vessel traffic lanes. Vessel operational activities are associated with many of the Port projects listed in Table 4-1, including the Pier 400 Container Terminal and

Transportation Corridor (#10), Marine Terminal, West Basin (#1), Channel Deepening (#3), Cabrillo Way Marina (#4), Evergreen Container Terminal Improvements (#5), SSA Outer Harbor Fruit Facility Relocation (#8), (#12), China Shipping Development (#14), Pasha Marine Terminal Improvements (#15), San Pedro Waterfront (#19), APL Container Terminal Improvements (#30), YTI Container Terminal Improvements (#23), and Yang Ming Container Terminal Improvements (#24). Operational activities would increase large commercial vessels in the harbor. The Port utilizes standard safety precautions in piloting these vessels through harbor waters and standard measures including compliance with LAHD standards for construction and dredging safety.

Proposed improvements associated with other projects would improve the overall conditions in the Los Angeles Harbor by creating berth depths sized to accommodate the modern, deeper-draft class of vessels. The deeper draft berths would improve the efficiencies of shipping and Port operations by reducing the relative number of vessels and vessel trips required to accommodate projected container throughput at the Port.

Therefore, the past, present, and foreseeable future projects would not result in cumulatively significant operational impacts related to navigation hazards.

4.2.11.9.2 Contribution of the Proposed Project

During operations, the proposed Project is expected to attract increased levels of research vessel traffic to the harbor, specifically surrounding the City Dock No. 1 site at Berths 57–60 and Berths 70–71. The cumulative increase in vessels, in combination with increased recreational and cargo volume (i.e., containers and TEUs) from other reasonably foreseeable future Port projects would result in additional vessel traffic within the harbor. The increased vessel volumes would in turn increase the risk of in-water vessel traffic hazards. However, the rate of vessel accidents (i.e., collisions with other vessels, collisions with stationary objects or structures, and groundings) in the harbor is relatively low (0.0038% probability, see Section 3.11.2.2.1 for additional information) compared to vessel traffic volumes within the harbor.

Standard practices and procedures ensure safe transit of vessels operating within, as well as to and from, the proposed project area. Given the continued use of standard practices and implementation of COTP uniform procedures, the projected cumulative increase in vessel calls would not significantly decrease the margin of safety for marine vessels within the cumulative area impacted by the proposed Project. Therefore, operations of the proposed Project, considered together with other present and reasonably foreseeable future projects, would result in less-than-cumulatively considerable impacts.

4.2.11.9.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project to increased vessel traffic congestion or a reduction in the existing level of safety for vessels navigating the harbor, Main Channel, and/or precautionary areas during operations would be less than cumulatively considerable. No mitigation measures are required.

4.2.12 Utilities

4.2.12.1 Scope of Analysis

Cumulative impacts on utilities can result from the combined demand of the proposed Project with past, present, and future related projects on any of the utilities for which the proposed Project may have impacts (i.e., water supply, landfill and wastewater treatment capacities, and energy). For the purposes of the cumulative effect analysis of utilities, the timeframe of current or reasonably anticipated projects extends from 2012 to 2042.

The geographic scope of the cumulative effect analysis of utilities depends on the service area of the individual utility provider. Because the proposed Project has the capacity to affect the environment within the Port and surrounding communities, the geographic scope for cumulative impacts includes the Port of Los Angeles and extends to adjacent areas, including the communities of San Pedro and Wilmington. Direct impacts of the proposed Project would be localized to the Port area, and indirect impacts could extend further within the communities of San Pedro and Wilmington. The service areas of the Bureau of Sanitation (wastewater), Sanitation Districts of Los Angeles County (solid waste and wastewater treatment), and LADWP (water and electricity) encompass the City of Los Angeles. The Gas Company (natural gas) serves most of central and Southern California. However, the geographic region for cumulative utilities impacts is the Port and Los Angeles Harbor area because the infrastructure immediately serving the proposed Project is located within this service area. Service subareas of utility providers are sufficiently separated such that increased service demands from the proposed Project would not threaten provision of service in other areas (i.e., central and Southern California in the case of the Gas Company).

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.12, "Utilities."

4.2.12.2 Cumulative Impact UT-1: Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board—Less than Cumulatively Considerable

Cumulative Impact UT-1 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to generate substantial wastewater demands that would exceed the treatment requirements of the applicable Regional Water Quality Control Board.

4.2.12.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Operation of past projects has created a demand for wastewater treatment infrastructure that is currently accommodated by existing treatment facilities. It is expected that all past, present, and reasonably foreseeable future projects would be designed to be fully compliant with wastewater treatment requirements of the Los Angeles RWQCB. Wastewater from the related projects would not result in an

exceedance of wastewater treatment requirements of the Los Angeles RWQCB. Therefore, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts on wastewater treatment requirements.

4.2.12.2.2 Contribution of the Proposed Project

The proposed Project would be designed to be fully compliant with existing wastewater treatment requirements of the Los Angeles RWQCB. The proposed Project would be connected to the sanitary sewer system where wastewater would be processed and sanitized at the TITP. One of the options of the proposed Project involves discharge of seawater from the research facilities to the sanitary sewer that would ultimately be conveyed to and treated at TITP. All water would be treated in accordance with RWQCB standards at the site prior to discharge to the sewer system. As discussed in Section 3.12 "Utilities," the TITP has sufficient capacity to process wastewater conveyed from the proposed project site. Therefore, because the TITP operates in compliance with the RWQCB's requirements and has sufficient capacity to accommodate the proposed Project's wastewater generation, wastewater discharged into the sewer system would not exceed the requirements of the Los Angeles RWQCB and would not result in cumulatively considerable impacts.

Furthermore, during operation, if a 100% flow-through seawater system or a hybrid version of such a system is implemented, direct discharge to the harbor would occur. Any discharge to the ocean would be tested and monitored to ensure the discharge is complaint with RWQCB regulations and does not cause the water body to exceed the permitted TMDLs. Therefore, discharge into the harbor would not exceed the Los Angeles RWQCB's requirement, and the proposed Project's contribution would not be cumulatively considerable.

4.2.12.2.3 Mitigation Measures and Residual Cumulative Impacts

Because operations of the proposed Project would have less than cumulatively considerable impacts on wastewater treatment requirements of the Los Angeles RWQCB, no mitigation measures would be required.

4.2.12.3 Cumulative Impact UT-2: Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects—Less than Cumulatively Considerable

Cumulative Impact UT-2 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to require substantial demand for water or wastewater treatment facilities and therefore require the construction of new or expansion of existing facilities to meet that demand.

4.2.12.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction and operation of past projects has created a demand for water and wastewater infrastructure that is currently accommodated by existing treatment facilities. The LADWP Water Services Organization implements a Capital Improvement Program (CIP) on a 10-year planning basis that focuses on installing or replacing existing components of the water system to ensure the provision of a reliable and high-quality water supply to all the citizens of Los Angeles (LADWP 2010a). The focus of the CIP is to develop a 10-year capital budget to program funds for capital improvements to the water system. The CIP is updated periodically to serve as a continuous planning and budgeting tool. Because LADWP will continue to update the CIP and provide water services for its customers, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts on water treatment facilities.

The TITP is currently operating at 57% of its capacity of 30 million gallons per day; therefore, it is able to adequately accommodate current wastewater generation that is a result of existing and past projects. Wastewater in the TITP service area is conveyed to TITP through the conveyance system that is designed and sized to accommodate TITP capacity. Wastewater flows are substantially below the plant's capacity and capacity of the conveyance system. The City projects that by 2020, wastewater flows in the TITP service area will grow to 19.9 mgd (LADPW 2004); therefore, approximately 10 mgd in daily capacity at TITP would remain unused and available for future years (beyond 2020). Wastewater from the related projects would not significantly affect existing or future capacity at TITP due to the substantial remaining capacity at TITP beyond 2020, which, based on the wastewater flow growth rate projected between 2006 and 2020, is estimated to adequately handle 2037 wastewater flow demands (LAHD 2011). Similarly, conveyance system capacity would accommodate wastewater flows from the related projects. Consequently, past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts on wastewater treatment facilities.

4.2.12.3.2 Contribution of the Proposed Project

The proposed Project's increased water and wastewater demands would not exceed the capacity of existing facilities. The proposed Project would result in a water demand of approximately 45,197 gpd. Preliminary consultation with LADWP indicates that, based on the projected water demand, the proposed Project can be served by existing facilities.

Under the worst case scenario, the proposed Project would generate approximately 65,615 gpd of wastewater, with potentially all being discharged to the sanitary sewer and on to TITP. Adequate capacity remains at TITP to treat wastewater discharged from the proposed Project. As discussed in Section 3.13, "Utilities," the TITP currently has 43% capacity, and the addition of the proposed Project's wastewater generation would amount to 0.05% of this available capacity. Thus, the increased wastewater generated by the proposed Project would be easily accommodated. The 22nd and Signal Street Pump Station may require upgrades to accommodate local sewer flows from the proposed project site, which would be determined during final

project design. However, the upgrade would be a minor switch out of the pump, which is located within the public-right-of-way and accessible via an underground vault. Therefore, the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative impact related to water or wastewater treatment facilities.

4.2.12.3.3 Mitigation Measures and Residual Cumulative Impacts

The proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact related to water and wastewater treatment facilities. No mitigation is required.

4.2.12.4 Cumulative Impact UT-3: Have sufficient water supplies available to serve the project from existing entitlements and resources, and would not require new or expanded entitlements—Less than Cumulatively Considerable

Cumulative Impact UT-3 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to require substantial demand for water supplies and therefore require the substantial expansion of entitlements and resources to meet that demand.

4.2.12.4.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction and operation of past projects has resulted in existing demands for water. These demands are currently accommodated by existing facilities. In order to properly plan for water supply, the LADWP determines water demands using factors such as demographics, weather, economy, and trends in development. The LADWP, in Chapter 6 of the UWMP, determined an existing water demand within the LADWP service area that can be accommodated by the planned water supply of the same amount (LADWP 2010b). The UWMP projects overall water supply reliability within the DWP service area through 2035; the LADWP forecast specifically includes anticipated demand from projects that are included in the Port's Community Plan or the PMP, including all past, present and reasonably foreseeable future Port-related projects (LADWP 2010b). The LADWP expects it will be able to meet the demand through 2035 with a combination of existing supplies, planned supplies, and MWD purchases (existing and planned).

The California Urban Water Management Planning Act requires water suppliers to develop water management plans every 5 years. Because of this, LADWP would continue to project future water demands and supply through new UWMPs every 5 years. The planning horizon for the current UWMP would include the proposed project horizon of 2024. Therefore, because the LADWP will continue to plan and provide water supply for its customers based on the water supply planning process including preparation of the UWMP every 5 years, past, present, and reasonably

foreseeable future projects would not result in a significant cumulative impact on the provision of water.

Many of the projects identified in Table 4-1 involve new or expanded land uses and/or cargo throughput that may result in additional utility demands. These projects include the Marine Terminal, West Basin (#1), San Pedro Waterfront (#2), Cabrillo Way Marina (#4), Evergreen Container Terminal Improvements (#5), Plains All American Oil Marine Terminal (#10), China Shipping Development (#14), Pasha Marine Terminal Improvements (#15), SCIG (#17), YTI Container Terminal Improvements (#23), Yang Ming Container Terminal Improvements (#24), and Pier 500 Container Terminal Development (#32). The number of related projects would increase the demands for water. However, based on the above, past, present, and reasonably foreseeable future projects would not result in a significant cumulative impact on the provision of water.

4.2.12.4.2 Contribution of the Proposed Project

The proposed Project would result in increased water demands that would not require new or expanded entitlements. As discussed in Section 3.12, "Utilities," operation of the proposed Project would result in a water demand increase over baseline conditions of approximately 40,899 gpd (see Table 3.12-6). This would represent less than 0.01% of the existing water demand and the projected water demand estimated in the UWMP for 2025 (LADWP 2010a) with passive water conservation. Given that the UWMP projects adequate supplies are available to meet projected demands in the City through 2035, and that the proposed Project would require a relatively small increase in water supply to the proposed project site, it is expected that water would be available for the proposed Project. Therefore, the proposed Project would not impact future water supply such that new or expanded entitlements would be required, and the proposed Project's contribution to cumulative water demand would be less than cumulatively considerable.

4.2.12.4.3 Mitigation Measures and Residual Cumulative Impacts

The proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact related to water supply. No mitigation is required.

4.2.12.5 Cumulative Impact UT-4: Result in a determination by the wastewater provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments—Less than Cumulatively Considerable

Cumulative Impact UT-4 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to result in a determination by the wastewater provider that it has inadequate capacity to serve projected demands in addition to the provider's existing commitments.

4.2.12.5.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction and operation of past projects has created a demand for wastewater infrastructure that is currently accommodated by existing utility lines. The TITP is currently operating at 57% of its capacity of 30 million gallons per day; therefore, it is able to adequately accommodate current wastewater generation that is a result of past projects. Wastewater in the TITP service area is conveyed to TITP through the conveyance system that is designed and sized to accommodate TITP capacity. Wastewater flows are substantially below the plant's capacity and capacity of the conveyance system. The City projects that by 2020, wastewater flows in the TITP service area will grow to 19.9 mgd (LACSD, Bureau of Sanitation 2004); therefore, approximately 10 mgd in daily capacity at TITP would remain unused and available for future years (beyond 2020). Wastewater from the cumulative projects would not significantly affect existing or future capacity at TITP due to the substantial remaining capacity at TITP beyond 2020.The wastewater flow growth rate projected between 2006 and 2020, is estimated to adequately handle 2037 wastewater flow demands. Similarly, conveyance system capacity would accommodate wastewater flows from the related projects. Therefore, the past, present, and reasonably foreseeable future projects would not result in significant cumulative impacts on wastewater treatment capacity.

Many of the projects identified in Table 4-1 involve relocation of existing facilities within the Port and vicinity, and generally do not require any expansion of facilities. Therefore, it is expected that wastewater generation would remain similar to current levels. However, several of the projects involve new or expanded land uses or throughput operations that may result in additional demands on utilities and service systems. These projects include Marine Terminal, West Basin (#1), San Pedro Waterfront (#2), Cabrillo Way Marina (#4), Evergreen Container Terminal Improvements (#5), Plains All American Oil Marine Terminal (#10), China Shipping Development (#14), Pasha Marine Terminal Improvements (#15), SCIG (#17), YTI Container Terminal Improvements (#23), Yang Ming Container Terminal Improvements (#24), and Pier 500 Container Terminal Development (#32). The related projects would likely require construction and/or expansion of wastewater utility systems on their respective sites, and may have to connect with nearby supply utility lines (usually in streets and other public rights-of-way). Because the wastewater utility lines may reach capacity in the future, past, present, and reasonably foreseeable future projects would result in a cumulatively significant impact on wastewater conveyance capacity.

4.2.12.5.2 Contribution of the Proposed Project

The proposed Project would result in increased wastewater generation that would not exceed the capacity of existing facilities. Proposed project activities would generate up to approximately 65,615 gpd of wastewater, an increase of approximately 61,743 gpd from the baseline percentage going toward the TITP daily capacity. Because the TITP currently has 43% capacity and the addition of the proposed Project's wastewater generation would amount to 0.05% of this available capacity; the increased wastewater generated by the proposed Project would be easily accommodated. The amount of increased wastewater generated by proposed project

construction and operations would not significantly affect existing or future capacity at TITP due to the limited proposed project operational flows and the adequate remaining capacity at TITP beyond 2020 (to 2037), as described above. Moreover, conveyance capacity for wastewater within the proposed project site would likely be sufficient with the existing infrastructure. However, in the event a pump upgrade is required, a simple switch out would be needed within the existing vault located in the public right-of-way and within the proposed project site. Therefore, impacts on the TITP wastewater treatment facility and local conveyance system would be less than significant, and the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative impact related to wastewater capacity.

4.2.12.5.3 Mitigation Measures and Residual Cumulative Impacts

The proposed Project would not result in a cumulatively considerable contribution to a significant cumulative impact related to wastewater capacity. No mitigation is required.

4.2.12.6 Cumulative Impact UT-5: Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs—Less than Cumulatively Considerable

Cumulative Impact UT-5 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to generate substantial solid waste that would exceed the capacity of existing facilities.

4.2.12.6.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction and operation of past projects has resulted in generation of solid waste which is currently accommodated by existing facilities. The landfill that serves the Port area is the Sunshine Canyon City/County Landfill. Sunshine Canyon has a daily throughput capacity of 12,100 tons allotted for City use and is expected to accommodate demands until 2037 (CalRecycle 2011a). In addition there are several other landfills identified in Section 3.12, "Utilities" for secondary uses. However, the City of Los Angeles, as well as Southern California in general, is currently faced with reduced landfill space due to increases in population. To comply with AB 939, recycling studies for the City of Los Angeles have been conducted, and currently there is a citywide diversion rate of 65% with a goal of 70% by 2013 and a zero waste goal (90% or greater diversion) by 2025 (Pereira pers. comm. 2011).

Additionally, the City of Industry certified and approved a conditional use permit for a Puente Hills Intermodal Facility in June of 2008. This is a waste-by-rail project, intended to accommodate the solid waste removal needs for Los Angeles County. The proposed facility would eventually have the capacity to handle up to two trains per day, transporting a total of 8,000 tons of municipal solid waste per day. It is currently under construction and is expected to commence operations in 2012 (LACSD 2011a). With the remaining capacity of Sunshine Canyon City/County

Landfill, along with the proposed intermodal system and anticipated recycle diversion rates for the area, solid waste removal and disposal would be adequately provided for past, current, and future projects; and cumulative impacts would be less than significant.

Many of the projects identified in Table 4-1 are Port redevelopment projects within the proposed project vicinity, and generally do not require any expansion of facilities. However, several of the projects involve new or expanded land uses or throughput operations that may result in additional generation of solid waste. These projects include Marine Terminal, West Basin (#1), San Pedro Waterfront Project (#2), Cabrillo Way Marina (#4), Evergreen Container Terminal Improvements (#5), Plains All American Oil Marine Terminal (#10), China Shipping Development (#14), Pasha Marine Terminal Improvements (#15), SCIG (#17), YTI Container Terminal Improvements (#23), Yang Ming Container Terminal Improvements (#24), and Pier 500 Container Terminal Development (#32). While the number of related projects would increase the generation of solid waste, existing and planned capacity would be able to accommodate the increased demand. Therefore, based on the above, past, present, and reasonably foreseeable future projects would not result in a significant cumulative impact on landfill capacity.

4.2.12.6.2 Contribution of the Proposed Project

Construction and demolition activities would generate significant quantities of debris that would require disposal in a landfill. Construction and demolition materials would include asphalt, concrete, building materials, and solids. In the event that unidentified hazardous materials are encountered during proposed improvements and/or proposed project construction, recycling options and hazardous disposal would be explored. The proposed Project would generate approximately 10.33 tons of solid waste per day, which is an increase of 5.42 tons per day. Currently, the City of Los Angeles has a recycle diversion rate of 65%, with a goal of 70% by 2013 and a zero waste goal (90% or greater diversion) by 2025(Pereira pers. comm. 2011). With the current recycle diversion rate of 65%, the amount of solid waste that would go to the landfill represents 0.03% of the permitted daily throughput of 12,100 tons. If the goal of 70% diversion is achieved by 2013, that amount would remain at 0.03%. Finally, if the goal of zero waste (90% or greater diversion) is achieved by 2030, the amount of solid waste sent to Sunshine Canyon City/County Landfill would be less than 0.01% in 2037. The Sunshine Canyon City/County Landfill would be able to accommodate the negligible increase in solid waste generated by proposed project operations. Therefore, the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative impact related to solid waste.

4.2.12.6.3 Mitigation Measures and Residual Cumulative Impacts

The proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact related to solid waste generation. No mitigation is required.

4.2.12.7 Cumulative Impact UT-6: Require new, offsite energy supply and distribution infrastructure, or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs—Less than Cumulatively Considerable with Mitigation

Cumulative Impact UT-6 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to generate increases in energy demands such that the construction of new energy supply facilities and distribution infrastructure would be required.

4.2.12.7.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Construction and operation of past and present projects has resulted in demands for energy and natural gas. These demands are currently accommodated by existing facilities as provided by the LADWP and the Gas Company. Many of the projects identified in Table 4-1 involve new or expanded land uses and/or cargo throughput that may result in additional demands on electricity and natural gas. These projects include Marine Terminal, West Basin (#1), San Pedro Waterfront (#2), Cabrillo Way Marina (#4), Evergreen Container Terminal Improvements (#5), Plains All American Oil Marine Terminal (#10), China Shipping Development (#14), Pasha Marine Terminal Improvements (#15), SCIG (#17), YTI Container Terminal Improvements (#23), Yang Ming Container Terminal Improvements (#24), and Pier 500 Container Terminal Development (#32).

LADWP has a total generating capacity of approximately 7,125 MW per day to serve a peak Los Angeles demand of about 6,142 MW (LADWP 2010c). Under the Los Angeles City Charter (Sections 220 and 673), LADWP has the power and duty to construct, operate, maintain, extend, manage, and control water and electric works and property for the benefit of the City and its inhabitants. LADWP's IRP anticipates load growth and plans new generating capacity or demand side management programs to meet load requirements for future customers. The LADWP prepared IRPs in 2000, 2007, and most recently in 2010 to provide a framework to assure that future energy needs of LADWP customers are reliably met at the least cost and are consistent with the City commitment to environmental excellence (LADWP 2010c). In 2002, SB 1078 implemented a Renewable Portfolio Standard, which established a goal that 20% of the energy sold to customers be generated by renewable resources by 2017. The IRP provides objectives and recommendations to reliably supply LADWP customers with power and to meet the 20% renewable energy goal by 2017.

As of the 2010 IRP, LADWP prepared a Load Forecast that predicts that LADWP customers' electricity consumption will increase at an average rate of 1.3% per year over the next 20 years with less growth over the next few years due to the current economic recession. For 2027, LADWP predicts that peak demand will reach 7,445 megawatts.

Through implementation of strategies identified in the IRP, electricity resources and reserves at LADWP will adequately provide electricity for the Port. LADWP is required by the Charter to provide a reliable supply of electricity for its customers, and because LADWP is moving toward increasing renewable energy supplies in its resource portfolio, the electricity demand of the past, present, and reasonably foreseeable future projects would not result in the need to construct a new unplanned offsite power station or facility. As a result, past, present, and reasonably foreseeable future related projects would not result in a significant cumulative impact related to the provision of energy.

Natural gas service to the proposed project site would be supplied by the Gas Company. As a public utility, the Gas Company is under the jurisdiction of the state PUC and can be affected by actions of federal regulatory agencies. Although regulatory actions may affect the regional and local supply and pricing of natural gas, substantial changes in this utility supply are not anticipated based on current supply and demand projections (California Gas and Electric Utilities 2010). Therefore, past, present, and reasonably foreseeable future projects would not result in a cumulatively significant impact related to natural gas service.

4.2.12.7.2 Contribution of the Proposed Project

Energy expenditures during construction would be short term in duration, occurring periodically during each of the proposed project construction phases. Operational electricity demand at the proposed project site would be mainly related to office use, research and development, and classes, with the majority of the demand stemming from running the proposed Berths 57–60 seawater system. As discussed in Section 3.12, "Utilities," the proposed Project would consume 40,247 kWh per day, with the Berths 57–60 seawater system constituting approximately 62% of the total demand. This is an increase of 38,742 kWh per day (see Table 3.12-9).

However, the increase in electricity demands associated with the proposed Project would not exceed existing supplies or result in the need for major new facilities. The proposed Project would incorporate energy conservation measures in compliance with California Building Code CCR Title 24 that requires building energy efficient standards for new construction (including requirements for new buildings, additions, alterations, and, in non-residential buildings, repairs). In addition to complying with the California Building Code, LAHD has committed to design any new building over 7,500 square feet with a minimum LEED Silver certification. As such, energy efficiency standards would be incorporated on various buildings to decrease energy demands. The LADWP has ample generation capacity to meet the needs of its customers, including the proposed Project, and will continue to do so with proper planning and development of facilities in accordance with the City Charter. Because LADWP is required by the Charter to provide a reliable supply of electricity for its customers and because LADWP is moving toward increasing renewable energy supplies in its resource portfolio, the electricity demand of the proposed Project by itself would not result in the need to construct a new offsite power station or facility.

Additionally, the proposed Project would generate demands for natural gas associated with space and water heating. Natural gas demand at the proposed project site would be primarily oriented to water heating. The proposed Project would have a natural

gas demand of 338,725 kBtu per day, which is approximately a 337,956 kBtu per day increase over the existing condition. The 2010 California Gas Report predicts the total capacity for natural gas to be 3,875 MMcf/day through 2030 with the projected annual gas supply taken to be approximately 2,733 MMcf/day in 2015 and 2,661 MMcf/day in 2030. Therefore, the California Gas Report predicts the total capacity for natural gas to be greater than the demand predicted through 2030. As discussed in Section 3.12, "Utilities," compared to the California Gas Report estimates, the proposed Project would have a natural gas demand of approximately 33.9 MMcf/day (see Table 3.12-10), which equates to approximately 1.2% of the supply taken in 2015, 1.3 % of the supply taken in 2030, and approximately 0.9% of the total capacity through 2030. The increase in natural gas demands associated with the proposed Project would not exceed existing supplies or result in the need for major new facilities. Therefore, the proposed Project would not result in a cumulatively considerable contribution to a significant cumulative impact related to electricity and natural gas demand.

4.2.12.7.3 Mitigation Measures and Residual Cumulative Impacts

The proposed Project would not make a cumulatively considerable contribution to a significant cumulative impact related to electricity and natural gas demand. No mitigation is required and impacts would be less than cumulatively considerable.

4.2.13 Water Quality, Sediments, and Oceanography

4.2.13.1 Scope of Analysis

The geographic scope for cumulative impacts on water quality, sediments, and oceanography varies depending on the impact. The geographic scope with respect to water and sediment quality and changes to the surface area of a water body would be confined to the outer LA/LB Harbor and lands draining to that water body, because this water body represents receiving waters for construction and operation of the cumulative projects. The geographic scope for surface water hydrology and flooding is the proposed Project's backlands and immediately adjacent lands along the San Pedro waterfront, because that represents the drainage area that would be influenced by the proposed Project. The geographic scope for surface water movement includes a broader area consisting of the LA/LB Harbor because the federal breakwater shelters the two harbors as a unit and water circulates within the Harbor Complex.

The scope of past, present, and future projects that contribute to the cumulative effects analysis on water quality, sediments, and oceanography spans historic Port activities dating back to the early 1900s through to future projects and conditions in 2035. The CEQA Baseline for determining the significance of potential impacts is 2010, and this year has been used to distinguish between past projects and present activities.

The significance criteria used for the cumulative analysis are the same as those used for the proposed Project in Section 3.13, "Water Quality, Sediments, and Oceanography."

4.2.13.2 Cumulative Impact WQ-1: Substantially reduce or increase the amount of surface water in a water body—Less than Cumulatively Considerable

Cumulative Impact WQ-2 represents the potential for the proposed Project when combined with past, present, and reasonably foreseeable future projects to substantially reduce or increase the amount of surface water in a water body.

4.2.13.2.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

The LA/LB Harbor environment has been highly modified by past dredging, filling, and shoreline development in support of maritime operations. Over time wharves have been built, harbors dredged, and channels deepened; and to the extent these structures are still present and sediments have not filled back into the dredged areas, changes to surface area and volume persist to the present day.

Cumulative past, present, and future projects identified in Table 4-1 which would have a negligible potential to increase or decrease the surface area or volume of the LA/LB Harbor include Cabrillo Way Marina, Phase II (#4), Evergreen Container Terminal Improvements (#5), Yang Ming Container Terminal Improvements (#24), Inner Cabrillo Beach Water Quality Improvement Program (#33), Middle Harbor Terminal Redevelopment (#27), Piers G & J Terminal Redevelopment (#91), and Pier A East (#92). These projects have a negligible impact potential because they represent redevelopment projects that do not propose to alter the surface area or volume of the LA/LB Harbor.

Cumulative past, present, and future projects identified in Table 4-1 that could have a minor increase or decrease in the surface area or volume of the LA/LB Harbor include: Marine Terminal, West Basin (#1), San Pedro Waterfront (#2), China Shipping Development (#14), APL Container Terminal (#30), Chemoil Marine Terminal (#96), Schuyler Heim Bridge Replacement (#105), and I-710 (Long Beach Freeway) Major Corridor Study (#106). These projects have a minor impact potential because although they do propose placing material into or removing material from the harbor, they propose only localized and small changes in harbor surface area or volume. Some of these projects propose to increase, and others to decrease, harbor surface area or volume. Thus the net potential change in harbor surface area or volume, resulting from implementation of all the listed projects, is approximately zero.

Cumulative past, present, and future projects that could considerably increase or decrease the surface area or volume of the LA/LB Harbor include Pier 400 Container Terminal, Pier 500 Container Terminal Development (#32), and the Gerald Desmond Bridge Replacement (#95). Many of these projects (see Table 4-1) would place fill in the harbor, totaling over 700 acres, of which about 600 acres are completed or under construction. Other cumulative projects with a dredging component, such as Channel Deepening (#3), have removed watershed-derived sediments that accumulated within navigational channels and new project areas. The largest such project, Channel

Deepening, has removed up to 8 million cubic yards of sediment and thereby increased the volume of water in the harbor.

These cumulative projects have caused a cumulatively significant reduction in the surface area of the inner LA/LB Harbor, as well as a decrease in the volume of water in the harbor.

4.2.13.2.2 Contribution of the Proposed Project

Construction of the proposed Project would result in a minimal change in the surface area and volume of the inner LA/LB Harbor. The proposed Project does not include any substantial filling of water area or removal of land area. The placement of new concrete piles (127 72-inch diameter piles with 20 feet of spacing) would not result in a measurable change in the surface area of the East Channel because they would replace existing piles. This relatively minor change would not have a measurable effect on the East Channel or the volume of water in the harbor, or adversely affect beneficial uses.

Operation of the proposed Project would withdraw seawater from the harbor for use in research, holding, and aquaculture facilities, and discharge the spent water either back to the harbor or into the sanitary sewer system. The withdrawal of seawater from the harbor to support operational activities could be as high as 2 million gallons per day, although a similar amount of water could be discharged through the onsite discharge pipe, depending upon the type of system selected for the proposed Project. If a 100% recirculation system option is selected for the proposed facility, the water exchange rate would be reduced to about 27,400 gallons per day. The discharge of this recirculated water would occur at the nearby TITP. Therefore, no measurable changes in water volume or water elevation would occur in the East Channel or the harbor from Project operations. Thus, there is no mechanism by which operation of the proposed Project could affect the amount of surface water in Los Angeles Harbor.

As such, the contribution of the proposed Project to a cumulatively significant impact related to an increase in surface area in a water body would be less than cumulatively considerable.

4.2.13.2.3 Mitigation Measures and Residual Cumulative Impacts

The contribution of the proposed Project related to an increase in surface area in a water body would be less than cumulatively considerable. No mitigation measures are required.

4.2.13.3 Cumulative Impact WQ-2: Result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or Water

Quality Control Plan for the receiving water body—Less than Cumulatively Considerable

Cumulative Impact WQ-2 represents the potential of the proposed Project when combined with past, present, and reasonably foreseeable future projects to create pollution, cause nuisances, or violate applicable standards as defined in Section 13050 of the California Water Code (see definitions below) or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or Water Quality Control Plan for the receiving water body.

4.2.13.3.1 Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Water and sediment quality within the geographic scope are affected by activities within the harbor, inputs from the watershed including aerial deposition of particulate pollutants, and effects from historical (legacy) inputs to the harbor. As discussed in Section 3.13, "Water Quality, Sediments, and Oceanography," portions of the LA/LB Harbor are identified on the current 303(d) list as impaired for a variety of chemical and bacteriological stressors and effects on biological communities. For those stressors causing water quality impairments, TMDLs will be developed that will specify load allocations from the individual input sources, such that the cumulative loadings to the harbor would be below levels expected to adversely affect water quality and beneficial uses of the water body. Bacteria TMDLs have been completed for Inner Cabrillo Beach and the Los Angeles Harbor Main Channel. In addition, a framework has been developed and analysis is underway to develop Toxic and Metal TMDLs for waterbodies within the LA/LB Harbor (Anchor et al. 2005). In the absence of restricted load allocations, the impairments would be expected to persist. Present and reasonably foreseeable future projects with in-water construction components, such as dredging and pier upgrades, would result in temporary and localized effects on water quality that would be individually comparable to those associated with the proposed Project. Such changes to water quality associated with in-water construction for the other related projects would be temporary in nature, with a duration less than or equal to the time during which in-water work was performed. Therefore, cumulative impacts would occur only if both the timeframe and geographic influences of concurrent projects overlapped. Of the cumulative projects listed in Table 4.1, none are proposing in-water work within Slip 5, the area that would be affected by in-water work for the proposed Project. Thus, there is no potential for overlapping construction impacts between the proposed Project and other projects identified in Table 4-1.

The Dominguez watershed is characterized primarily by urban and industrial land uses with a high proportion of paved surface. Therefore, soil loadings to the harbor are not excessive and waters are not impaired by sedimentation or turbidity. Cumulative projects involving demolition or construction are expected to disturb soils and make them subject to erosion by wind or runoff, with potentials for subsequent transport into, and accumulation in, the harbor. Soils exposed by construction activities would be subject to erosion, transport off site, and deposition in the harbor. The sedimentation and turbidity effects associated with each of these projects would be temporary in nature and thus would be cumulative only if the

projects were to overlap in both the spatial and temporal extent of their impacts on water quality. Given the size of the affected area and the number of projects, it is likely that several projects would overlap in temporal extent, but these projects are distributed over a large area. In addition, these projects would be subject to sediment and erosion control requirements and would be required to prevent and control sediment in runoff. None of the projects identified in Table 4-1 is known to have been individually shown to have a significant impact attributable to sedimentation. Thus, the cumulative impacts of concurrent backland construction projects would not result in significant cumulative impacts on turbidity and sedimentation.

Many projects, once operational, would result in wastewater and/or stormwater discharges that could contain a variety of constituents such as dissolved metals and organic compounds. However, given that wastewater and stormwater discharges would be regulated by NPDES permits, impacts from these discharges would be minimized to a level consistent with existing regulation and approved TMDLs for the constituents of concern. The permits would specify constituent limits and/or mass emission rates that are intended to protect water quality and beneficial uses of receiving waters.

Cumulative projects associated with the development of Port facilities are expected to contribute to a greater number of ship visits to the Ports of Los Angeles and Long Beach. Increases in vessel traffic would be expected to result in higher mass loadings of contaminants such as copper that are released from vessel hull anti-fouling paints. Portions of the LA/LB Harbor are impaired with respect to copper; thus increased loadings associated with increases in vessel traffic relative to baseline conditions would likely exacerbate water and sediment quality conditions for copper. In addition, with the increase in vessel traffic, the risk of accidental or illegal discharges could reasonably be expected to increase in proportion to the increased ship traffic. Waste loadings to the harbor would also be expected to increase. The significance of this increased loading related to these discharges would depend on the volumes and composition of the releases and the timing and effectiveness of spill response actions. The combined water quality effect of these projected increases in vessel traffic is a cumulatively significant impact which would result in a substantial increase in contaminant loading in the Ports of Los Angeles and Long Beach.

4.2.13.3.2 Contribution of the Proposed Project

In-water construction activities, primarily piling placement, would disturb bottom sediments. Disturbances of bottom sediments would alter some water quality parameters such as DO, nutrients, chemical contamination, and turbidity. These changes would be of short duration and localized to the mixing zone associated with the construction activity. As discussed in Section 3.13, “Water Quality, Sediments, and Oceanography,” changes to water quality from in-water construction are not expected to exceed applicable standards outside of any approved mixing zone. Because the effects are not expected to overlap in time and space with those from other projects, the impacts of such disturbances would not be cumulatively considerable relative to the CEQA baseline. Once the construction phase of the proposed Project was completed, operations would not be expected to cause further disturbances to bottom sediments or contribute to cumulative impacts.

The proposed Project would not result in any direct discharge of wastewater to the harbor, except for the potential discharge of spent seawater from the research facility. However, such discharges would be regulated by NPDES permits, such that impacts would be minimized to a level consistent with existing regulation and approved TMDLs for the constituents of concern. The permits would specify constituent limits and/or mass emission rates that are intended to protect water quality and beneficial uses of receiving waters. If a 100% recirculation system is used instead of a flow-through system, the discharge would be routed to the TITP, which would also be subject to NPDES permit and TMDL regulations. Therefore, the proposed Project's direct contribution to pollution loading to the harbor would be less than cumulatively considerable.

Stormwater runoff from the onshore portions of the proposed project area would flow into the harbor, along with runoff from adjacent areas of the large, primarily urbanized, watershed. Stormwater runoff from backland areas within the proposed project site would be governed by a stormwater permit, similar to those required for the other cumulative projects, that specifies constituent limits and/or mass emission rates that are intended to protect water quality and beneficial uses of receiving waters. Relative to the CEQA baseline, the proposed project operations would contribute similar or lower volumes of runoff and no substantial differences in the chemical composition of the runoff because the land uses would be similar or less industrial. Although the inputs from the proposed Project would be negligible compared with those from the entire watershed, the runoff could contain contaminants (e.g., metals) that have been identified as stressors for portions of the LA/LB Harbor.

BMPs to prevent or minimize contaminant loadings to the harbor from stormwater runoff from past, present, and future projects, including the proposed Project, are required by the SUSMP, which is incorporated into the Los Angeles County Urban Runoff and Stormwater NPDES Permit issued by the RWQCB. SUSMP requirements must be incorporated into the proposed project plan and approved prior to issuance of building and grading permits. Specifically, the SUSMP requires that each project incorporate BMPs specifically designed to minimize stormwater pollutant discharges. While adopted BMPs will vary by project, all BMPs must meet specific design standards to mitigate stormwater runoff and control peak flow discharges. The SUSMP also requires implementation of a monitoring and reporting program to ensure compliance with the constituent limitations in the permit. Thus, water quality impacts from stormwater runoff would be less than cumulatively considerable.

The proposed Project would not alter the levels of vessel traffic visiting the Ports of Los Angeles and Long Beach, and thus would not contribute to higher mass loadings of contaminants such as copper that are released from vessel hull anti-fouling paints, and would not contribute to accidental spills and illegal vessel discharges within the harbor. Thus the proposed Project's contribution to contaminant loading due to anti-fouling paints, accidental spills, and vessel discharges would be less than cumulatively considerable.

4.2.13.3.3 Mitigation Measures and Residual Cumulative Impacts

BMPs and compliance monitoring would reduce the residual cumulative impacts from stormwater runoff to less than cumulatively considerable.

4.2.14 Summary of Impact Determinations

Table 4-6 summarizes the cumulative impact determinations of the proposed Project. Identified potential impacts may be based on federal, state, and City of Los Angeles significance criteria, LAHD criteria, and the conclusions of the technical reports.

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

Table 4-6. Summary Matrix of Potential Cumulative Impacts and Mitigation Measures Associated with the Proposed Project

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
AESTHETICS			
AES-1: Result in an adverse effect on a scenic vista from a designated scenic resource due to obstruction of views	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
AES-2: Substantially damage scenic resources (including, but not limited to, trees, rock outcroppings, and historic buildings) within a state scenic highway	No Cumulative Impact	No mitigation is required.	No Cumulative Impact
AES-3: Substantially degrade the existing visual character or quality of the site or its surroundings	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
AES-4: Result in an adverse effect due to shading on the existing visual character or quality of the site or its surroundings	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
AES-5: Create a new source of substantial light or glare that would adversely affect day or nighttime views of the area	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
AIR QUALITY			
AQ-1: Result in construction-related emissions that exceed an SCAQMD threshold of significance	Cumulatively Considerable	Implement Mitigation Measures **MM AQ-1** through **MM AQ-7**	Cumulatively Considerable and Unavoidable

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
AQ-2: Result in offsite ambient air pollutant concentrations during construction that exceed a threshold of significance	Cumulatively Considerable	Implement Mitigation Measures **MM AQ-1** through **MM AQ-7**	Cumulatively Considerable and Unavoidable
AQ-3: Result in operational emissions that exceed a SCAQMD threshold of significance	Cumulatively Considerable	Implement Mitigation Measures **MM AQ-4** and **MM AQ-7**	Cumulatively Considerable and Unavoidable
AQ-4: Result in offsite ambient air pollutant concentrations during operation that exceed a threshold of significance	Less than Cumulatively Considerable	Mitigation is not required	Less than Cumulatively Considerable
AQ-5: Generate on-road traffic that would contribute to an exceedance of the 1- or 8-hour CO standards	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
AQ-6: Create an objectionable odor at the nearest sensitive receptor	Less than Cumulatively Considerable	Mitigation is not required	Less than Cumulatively Considerable
AQ-7: Expose receptors to significant levels of TACs	Cumulatively Considerable	Implement Mitigation Measures **MM AQ-1** through **MM AQ-7**	Cumulatively Considerable and Unavoidable
AQ-8: Conflict with or obstruct implementation of an applicable air quality plan	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
GHG-1: Produce GHG emissions that exceed CEQA thresholds	Cumulatively Considerable and Unavoidable	Implement Mitigation Measure **MM GHG-1**	Cumulatively Considerable and Unavoidable
GHG-2: Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
BIOLOGICAL RESOURCES			
BIO-1: Cause the loss of individuals, or the reduction of existing habitat, of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a species of special concern, or the loss of federally listed critical habitat	Cumulatively Considerable	Implement **MM BIO-1** through **MM BIO-3**	Less than Cumulatively Considerable
BIO-2: Result in a substantial reduction or alteration of a state-, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
BIO-3: Result in interference with wildlife movement/migration corridors that may diminish the chances for long-term survival of a species	No Cumulative Impact	No mitigation is required.	No Cumulative Impact
BIO-4: Result in a substantial disruption of local biological communities	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
BIO-5: Result in a permanent loss of marine habitat	No Cumulative Impact	No mitigation is required.	No Cumulative Impact
CULTURAL RESOURCES			
CR-1, CR-2, CR-3: Result in adverse effects on known and unknown prehistoric or historical archaeological resources including buried human remains	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
CR-4: Result in the permanent loss of, or loss of access to, a paleontological resource of regional or statewide significance	Less than Cumulatively Considerable	No mitigation is required	Less than Cumulatively Considerable
CR-5: Result in a substantial adverse change in the significance of a historical resource, involving demolition, relocation, conversion, rehabilitation, alteration, or other construction that reduces the integrity or significance of important resources on the site or in the vicinity	Cumulatively Considerable	Implement Mitigation Measure **MM CR-1**	Cumulatively Considerable and Unavoidable
GEOLOGY			
GEO-1: Result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from fault rupture, seismic ground shaking, liquefaction, or other seismically induced ground failure	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
GEO-2: Result in substantial damage to structures or infrastructure, or expose people to substantial risk involving tsunamis or seiches	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
GEO-3: Result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from land	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
subsidence/settlement			
GEO-4: Result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from expansive soils	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
GEO-5: Result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from landslides or mudslides	No Cumulative Impact	No mitigation is required.	No Cumulative Impact
GEO-6: Result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury from unstable soil conditions from excavation, grading, or fill	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
GEO-7: Destroy, permanently cover, or materially and adversely modify one or more distinct and prominent geologic or topographic features. Such features may include, but not be limited to, hilltops, ridges, hillslopes, canyons, ravines, rock outcrops, water bodies, streambeds, and wetlands	No Cumulative Impact	No mitigation is required.	No Cumulative Impact
GROUNDWATER AND SOILS			
GW-1: Result in short-term exposure to construction/operations personnel and/or long-term exposure to future site occupants	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
GW-2: Result in changes in the rate or direction of movement of existing contaminants, expansion of the area affected by contaminants, or increased level of groundwater contamination, which would increase risk of harm to humans	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
GW-3: Result in a change to potable water levels	No Cumulative Impact	No mitigation is required.	No Cumulative Impact
GW-4: Result in a violation of regulatory water quality standards at an existing production well, as defined in CCR, Title 22, Division 4, Chapter 15 and in the Safe	No Cumulative Impact	No mitigation is required.	No Cumulative Impact

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
Drinking Water Act			
HAZARDS AND HAZARDOUS MATERIALs			
RISK-1: Comply with applicable federal, state, regional, and local security and safety regulations, and LAHD policies guiding Port development	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
RISK-2: Substantially interfere with an existing emergency response or evacuation plan or require a new emergency or evacuation plan, thereby increasing the risk of injury or death	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
RISK-3: Result in a substantial increase in public health and safety concerns as a result of the accidental release, spill, or explosion of hazardous materials due to a tsunami	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
RISK-4: Substantially increase the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
RISK-5: Substantially increase the likelihood of an accidental spill, release, or explosion of hazardous material(s) as a result of proposed project–related modifications	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
RISK-6: Introduce the general public to hazard(s) defined by the EPA and the Port RMP associated with offsite facilities	Cumulatively Considerable	Implement Mitigation Measure **MM RISK-1**	Less than Cumulatively Considerable
LAND USE AND PLANNING			
LU-1: Be inconsistent with the adopted land use/density designation in the Community Plan, redevelopment plan, or specific plan for the site	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
LU-2: Be inconsistent with the General Plan or adopted environmental goals or policies contained in other applicable plans, which would result in an adverse physical effect on the environment	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
NOISE			
NOI-1: Construction lasts more than 1 day and exceeds existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use; construction activities lasting more than 10 days in a 3-month period exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use	Cumulatively Considerable	Implement Mitigation Measures **MM NOI-1** through **MM NOI-4**	Cumulatively Considerable and Unavoidable
NOI-2: Construction activities exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9 p.m. and 7 a.m. Monday through Friday, before 8 a.m. or after 6 p.m. on Saturday, or at any time on Sunday	No Cumulative Impact	No mitigation is required.	No Cumulative Impact
NOI-3: Expose persons to, or generate, excessive groundborne vibration or groundborne noise levels	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
NOI-4: Operations result in ambient noise level measured at the property line of affected uses increasing by 3 dBA in CNEL to or within the "normally unacceptable" or "clearly unacceptable category," or increasing in any way by 5 dBA or more	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
PUBLIC SERVICES			
PS-1: Substantially reduce public services such as law enforcement, emergency services, and park services during construction	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
PS-2: Burden existing LAPD or Port Police staff levels and facilities such that the LAPD or Port Police would not be able to maintain an adequate level of service without constructing additional facilities that could cause significant environmental effects	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
PS-3: Require the addition of a new fire station or the expansion,	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
consolidation, or relocation of an existing facility to maintain service			Considerable
PS-4: Increase the demand for recreation and park services and facilities resulting in the physical deterioration of these facilities	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
TRANSPORTATION AND CIRCULATION—GROUND AND MARINE			
TC-1: Result in a short-term, temporary increase in construction-related truck and auto traffic, decreases in roadway capacity, and disruption of vehicular and non-motorized travel	Cumulatively Considerable	Implement Mitigation Measure **MM TC-1**	Less than Cumulatively Considerable
TC-2a: I Increase traffic volumes and degrade LOS at intersections within the proposed project vicinity	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
TC-2b: Significantly increase traffic volumes or degrade operations on CMP facilities within the proposed project vicinity beyond adopted thresholds	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
TC-3: Cause increases in demand for transit service beyond the supply of such services	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
TC-4: Result in a violation of the City's adopted parking policies and parking demand would not exceed supply	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
TC-5: Include design elements that would result in conditions that would increase the risk of accidents, either for vehicular or non-motorized traffic	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
VT-1a: Interfere with operation of designated vessel traffic lanes and/or impair the level of safety for vessels navigating the Main Channel, West Basin area, East Basin area, or precautionary areas during construction	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
VT-1b: Interfere with the operation of designated vessel traffic lanes and/or impair the level of safety for vessels	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
navigating the Main Channel, West Basin area, or precautionary areas during operations			
UTILITIES			
UT-1: Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
UT-2: Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
UT-3: Have sufficient water supplies available to serve the project from existing entitlements and resources, and would not require new or expanded entitlements	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
UT-4: Result in a determination by the wastewater provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
UT-5: Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
UT-6: Require new, offsite energy supply and distribution infrastructure, or capacity-enhancing alterations to existing facilities that are not anticipated by adopted plans or programs	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
WATER QUALITY, SEDIMENTS, AND OCEANOGRAPHY			
WQ-1: Substantially reduce or increase the amount of surface water in a water body	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable
WQ-2: Result in discharges that create pollution, contamination, or nuisance as defined in Section 13050 of the CWC or that cause regulatory standards to be violated, as defined in the	Less than Cumulatively Considerable	No mitigation is required.	Less than Cumulatively Considerable

Cumulative Impacts	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
applicable NPDES stormwater permit or Water Quality Control Plan for the receiving water body			

1

2