Chapter 1
Introduction

1.1 Final EIS/EIR Organization

This chapter presents background and introductory information for the proposed Project, Berths 302-306 [APL] Container Terminal Project, located in the industrial area of the Fish Harbor region of Terminal Island, within the Port of Los Angeles (Port). Additionally, this chapter discusses general changes and modifications made to the Draft Environmental Impact Statement/ Environmental Impact Report (EIS/EIR), which are mostly editorial in nature. Chapter 2, "Responses to Comments," presents information regarding the distribution of and comments on the Draft EIS/EIR, and the responses to these comments. Chapter 3, "Modifications to the Draft EIS/EIR," presents the modifications to the Draft EIS/EIR.

This Final EIS/EIR has been prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) (42 United States Code [USC] 4341 et seq.), and in conformance with the Council for Environmental Quality (CEQ) Guidelines and the United States Army Corps of Engineers (USACE) NEPA Implementing Regulations. The document also fulfills the requirements of the California Environmental Quality Act (CEQA) (California Public Resources Code [PRC] 21000 et seq.), the State CEQA Guidelines (California Code of Regulations [CCR] 15000 et seq.). The USACE is the NEPA lead agency for this proposed Project, and the Los Angeles Harbor Department (LAHD) is the CEQA lead agency.

1.2 Project Background

This section describes the proposed Project. A description of alternatives to the proposed Project is provided in Section 2 of the Draft EIS/EIR. The proposed Project is the improvement and expansion of an existing container terminal that would facilitate the transfer of shipping containers between ocean-going vessels and ground transportation modes such as trucks and trains.

The proposed Project area (see Figure 1-1) encompasses approximately 347 acres at the Pier 300 area of Terminal Island, including the 291-acre existing APL Terminal area and a 56-acre expansion area.[1] Forty-one of the 56 acres of expansion area constitute the fill area described above, that resulted from the Channel Deepening Project.

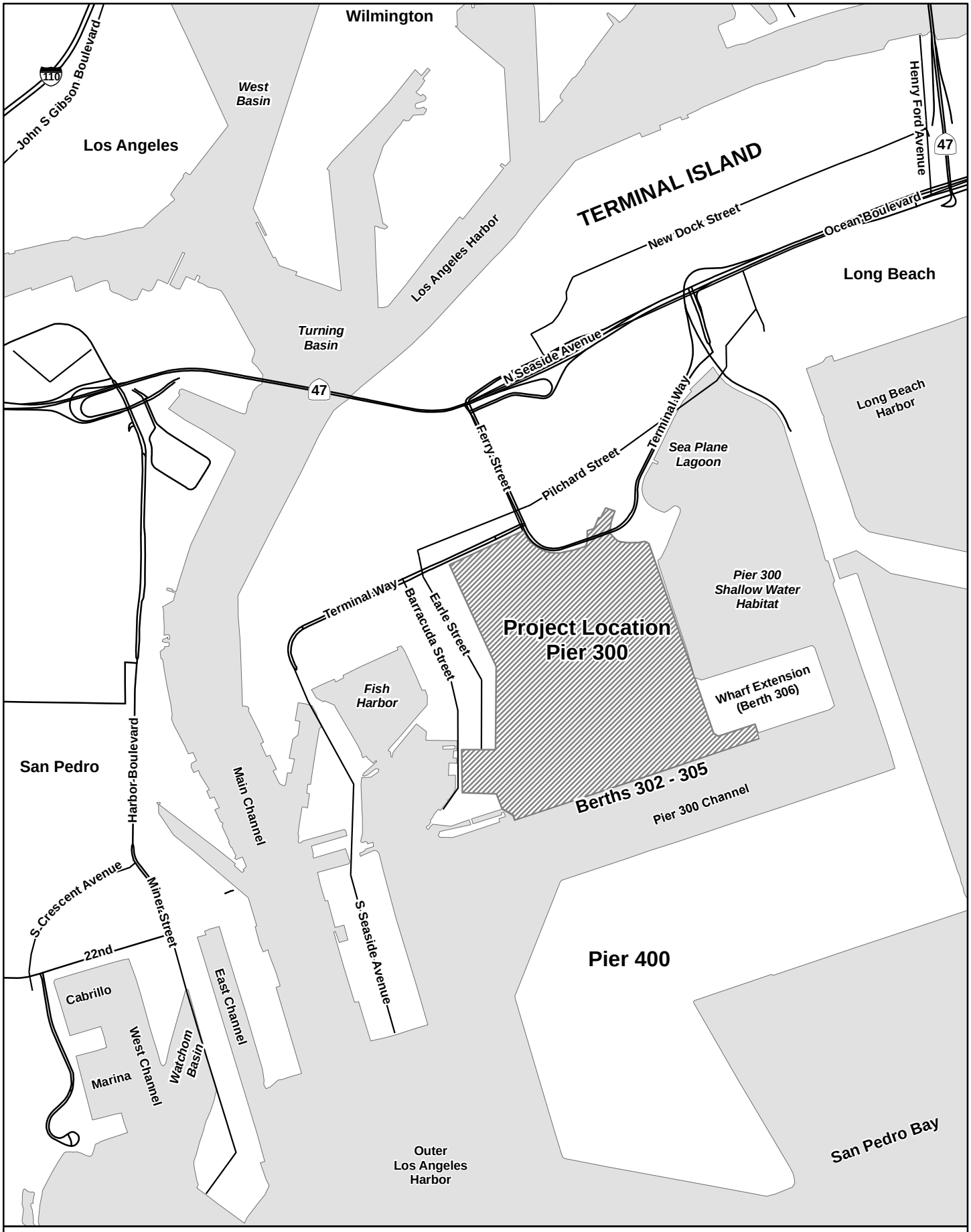
Physical improvements proposed at the existing APL Terminal include adding cranes, modifying the main gate (conversion of existing outbound lanes to inbound lanes and the relocation of out gates), converting a portion of the existing dry container storage unit area to a refrigerated container storage area with a permanent distributed electrical power source, replacement of the existing roadability inspection facility where container transport trucks are inspected after arriving containers are attached to the trailer, expanded power shop facilities to facilitate tractor maintenance and marine office space, and installation of necessary infrastructure improvements.

The proposed expansion of the terminal includes usage of 41 acres of new terminal container backlands on previously constructed (but currently unimproved and unused) landfill, nine acres at the former Los Angeles Export Terminal (LAXT) site, two acres of existing land northeast of the main gate, and four acres of new wharf area to create Berth 306. Improvements within the expansion areas would include: extension of the existing concrete wharf to the east by 1,250 linear feet (lf) with Alternative Maritime Power (AMP) facilities and new cranes, paving and infrastructure to support traditional/diesel-powered equipment operations, electric equipment operations, and potential automated operations within the new Berth 306 backlands; development of a new out-gate location; and additional parking area in Berth 301 backlands.

The proposed Project includes dredging at the new Berth 306, which is at various depths in the low fifties, to a depth of -55 feet (ft) mean lower-low water level (MLLW) plus two ft of overdredge. Depending upon the quality of the dredge sediments and site availability, dredged material would be beneficially reused and/or disposed of at an approved disposal site (such as the Confined Disposal Facility [CDF] at Berths 243-245 and/or Cabrillo shallow water habitat). If these sites are unavailable or impracticable, an ocean disposal site (LA-2) could be considered assuming the material was approved for such use by the Los Angeles Regional Dredged Material Management Team (DMMT).

Currently Eagle Marine Services, LTD (EMS) operates the existing 291 acre APL Terminal. The Terminal includes 261 acres covered by an existing lease (LAHD Permit No. 733) and an additional approximately 30 acres of adjacent backlands authorized for use under a month-to-month space assignment (Non-Exclusive Berth Assignment No. 01-31). The proposed Project would make available an additional 56 acres which would be operated by EMS under an amendment to the existing LAHD Permit No. 733. In addition, EMS would continue to utilize the 30 acres currently authorized for use under the month to month Non-Exclusive Berth Assignment No. 01-31. The term of the amended permit would remain unchanged (1998 to 2027), but the permit would be amended to include the additional 56 acres.

[1] Unless otherwise noted, all project areas, lengths and volumes are approximates.


Wilmington
West Basin
Los Angeles
John S Gibson Boulevard
110
TERMINAL ISLAND
Henry Ford Avenue
47
New Dock Street
Ocean Boulevard
Long Beach
Los Angeles Harbor
Turning Basin
N Seaside Avenue
47
Ferry Street
Pilchard Street
Terminal Way
Long Beach Harbor
Sea Plane Lagoon
Terminal Way
Barracuda Street
Earle Street
Pier 300 Shallow Water Habitat
Project Location
Pier 300
Fish Harbor
Wharf Extension (Berth 306)
San Pedro
Harbor Boulevard
Main Channel
Berths 302 - 305
Pier 300 Channel
S Crescent Avenue
Miner Street
S Seaside Avenue
22nd
Pier 400
Cabrillo
East Channel
West Channel
Marina
Watchom Basin
Outer Los Angeles Harbor
San Pedro Bay
N
Legend
Existing Terminal
1,000 0 1,000
Feet
CDM Smith
Port of Los Angeles
Berths 302 - 306 [APL]
Container Terminal Project
Project Site and Vicinity
Figure 1-1

1.3 Existing Conditions

1.3.1 Regional Context

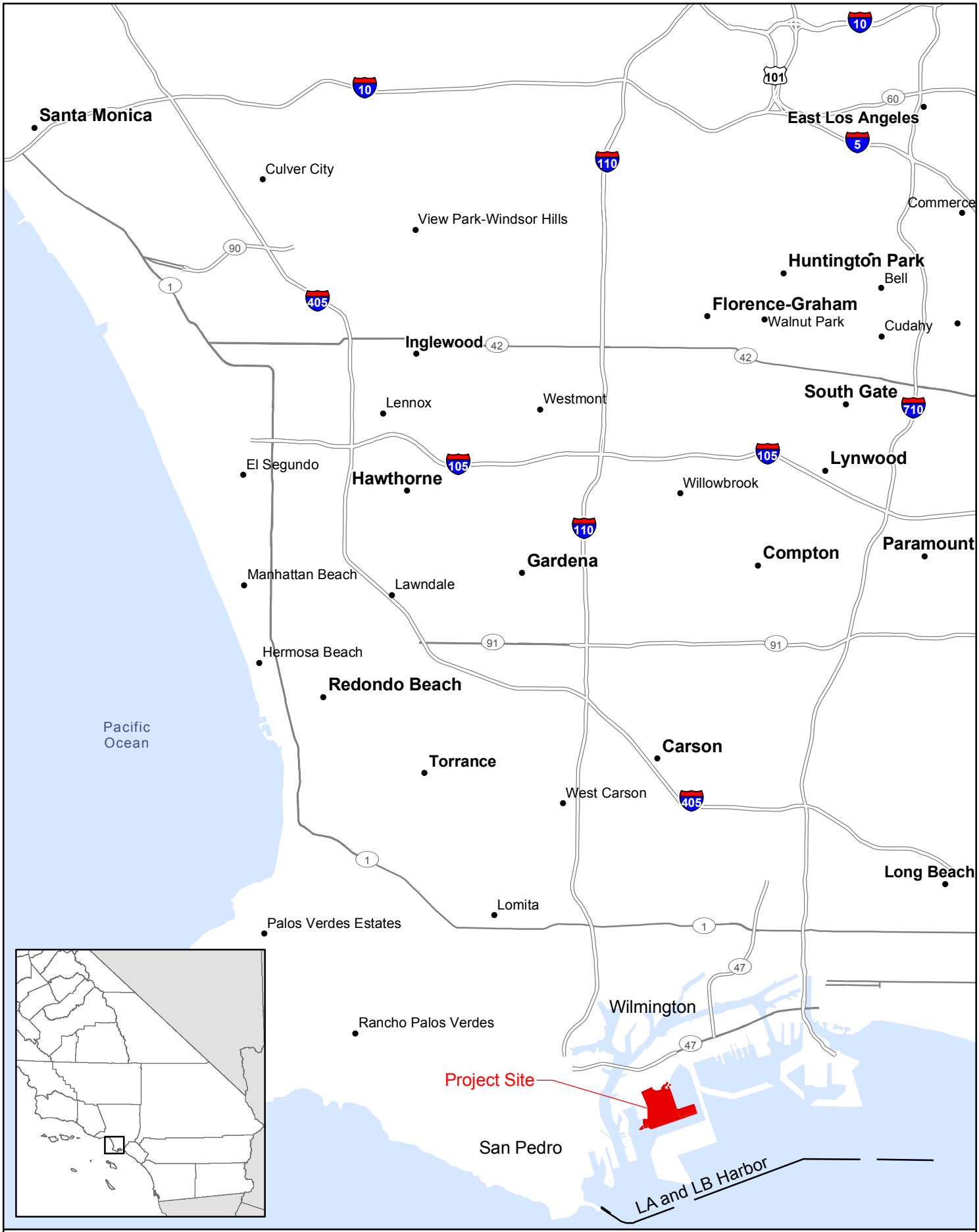
The Port Complex, located in the San Pedro Bay approximately 20 miles south of downtown Los Angeles, serves as one of the Nation's primary gateways for international trade (Figure 1-2). International trade is a key economic engine for the local region and the country. The Port Complex serves as a vital link in the goods movement chain delivering goods for our local market as well as those shipped by truck and rail throughout the country. The Port Complex serves as the country's primary gateway for Asian-based trading partners. Approximately half of the cargo coming through the Ports is delivered by truck to the regional market, which is an area roughly 500 to 700 miles from the Port (refer to Section 1.2.2.2.1.1 and Figure 1-5 in Chapter 1, Introduction, of the Draft EIS/EIR for additional information). The local freeways that directly serve the Port are the I-110, I-710, SR-47, and SR-103. Goods destined for national markets beyond this area are delivered primarily by rail. The Alameda Corridor is the primary rail line between the Port and downtown railyards. Other rail lines extend from the Downtown area north and east.

1.3.2 Project Setting

The Port consists of 28 miles of waterfront, approximately 300 commercial berths, and 7,500 acres of land and water. The Port is administered under the California Tidelands Trust Act of 1911 by the LAHD. The LAHD is chartered to develop and operate the Port to benefit maritime uses, and it functions as a property owner by leasing Port properties to more than 300 tenants. The Port contains 27 major cargo terminals, including facilities to handle automobiles, containers, dry bulk products, liquid bulk products, and cruise ships, as well as extensive transportation infrastructure for cargo movement by truck and rail. The Port accommodates commercial fishing, canneries, shipyards, and boat repair yards; provides slips for 6,000 pleasure craft, sport fishing boats, and charter vessels; and supports community and educational facilities such as a public swimming beach, the Boy/Girl Scout Camp, the Cabrillo Marine Aquarium, and the Maritime Museum.

1.3.3 Project Site and Surrounding Uses

The proposed Project site is located on Terminal Island, within an industrial area in the vicinity of Fish Harbor. The site is within the Port of Los Angeles Community Plan area of the City of Los Angeles, which is adjacent to the communities of San Pedro and Wilmington. Four bridges provide vehicular and rail access to Terminal Island from the mainland: the Vincent Thomas Bridge, the Schuyler Heim Bridge, the Gerald Desmond Bridge, and the Badger Avenue Railroad Lift Bridge. The existing APL Terminal is located on Pier 300. It occupies approximately 291 acres and includes: 4,000 ft of wharf with four labeled berths (Berths 302 through 305); an on-dock railyard that can accommodate up to 64 five-platform double-track railcars (equivalent to nearly three full trains); two dedicated lead rail tracks with flexible entrance/exit points off the main rail line within the Alameda Corridor; a transloading dock; a gate complex that includes an intermodal control tower; 10 inbound and 10 outbound lanes; automobile parking facilities; two marine buildings; 600 refrigerated container plugs; a washdown facility for refrigerated container units and trucks; and maintenance and repair facilities consisting of



CDM Smith

Port of Los Angeles
Berths 302 - 306 [APL]
Container Terminal Project
Regional Location Map
Figure 1-2

a chassis shop (approximately 30,000 square feet [sf]) and a Power Shop (approximately 22,000 sf). Existing equipment and facilities on the proposed Project site include: 12 A-frame 100'-gauge cranes along the south-facing wharves, along with mobile equipment used to handle containers. Current cargo-handling equipment consists of approximately 36 forklifts, 7 side picks, 19 top handlers, 8 Rubber Tire Gantry (RTG) cranes, 10 Rail Mounted Gantry (RMG) cranes, and 195 yard tractors. Figure 1-3 shows key features of the existing container terminal.

With respect to surrounding uses, the proposed Project site is generally bounded as follows:

- On the north by Terminal Way, Seaside Avenue, the Terminal Island Water Reclamation Plant, the vacant former LAXT facility, Mobil Oil Corp facilities, the U.S. Custom House, the Port Fire Station 40, the Terminal Island Container Transfer Facility and associated rail tracks, and a dry bulk terminal remote storage area;
- On the east by the Pier 300 Shallow Water Habitat, Navy Way, and Sea Plane Lagoon;
- On the west by Earle Street, the Los Angeles Yacht Club, Starkist Foods Inc., Pan Pacific Fisheries, Tri-Union Fish Company Fish Harbor, and the Main Channel; and
- On the south by the Pier 300 Channel and the Outer Los Angeles Harbor.

Slightly farther to the south is the 484-acre APM Terminals/Pier 400 area, which hosts six berths, backland operations, and on-dock rail operations. Heavy port industries also occur to the north, east, and west. Farther to the north and west are the communities of Wilmington, Harbor City, and San Pedro, respectively.

1.3.4 Historic Use of the Project Site

Most of the proposed Project site is part of landfill created by the placement of dredge material removed from the Los Angeles Harbor for the Los Angeles Harbor Deepening Project in 1981-1983. Since then, the container terminal site has been the subject of several improvement projects to consolidate landfill material.

Prior to development of the site as a commercial marine terminal, the general area was under the control of the U.S. Navy and used for the Naval Reserve Training Center. A Naval Air Station, known as Reeves Field, was also established on the site. Reeves Field was decommissioned in 1947. Following use by the Navy, the area was used to store dry bulk goods (including petroleum coke), and used to support institutional and industrial uses (Port of Los Angeles [POLA], 1979). Other uses included sludge-drying beds (22 acres) by the City of Los Angeles Department of Public Works' Bureau of Sanitation and use by the Los Angeles Police Department for police driver training. A large portion of the proposed Project site was created as the 190-acre fill area after the Port Master Plan was certified in 1980. Dredge material from the Harbor Deepening Project was used to create the 190-acre fill area that underlies the majority of the existing APL Terminal. The proposed Project site was subsequently developed as the APL Terminal, which opened in 1997.

N

CDM Smith

Legend

Existing Terminal

500 250 0 500

Feet

Port of Los Angeles
Berths 302 - 306 [APL]
Container Terminal Project
Project Site - Existing Conditions
Buildings
Figure 1-3

In 1998, the Port approved the Channel Deepening Project, which removed millions of cubic yards (cy) of sediment from the Los Angeles Main Channel, West Basin, East Channel, and East Basin, and disposed of it in various locations. In 2000, the Port approved additional disposal sites for sediments associated with the Channel Deepening Project. Approximately 1.6 million cy of the dredge materials was used to expand a number of areas in the Port, including the approximate 41 acre landfill expansion of Pier 300.

To the west of the APL Terminal are portions of the former LAXT facility. The former LAXT facility at the Port opened in 1997 for the purpose of loading petroleum coke and coal onto ships bound for power plants in Asia. Coal from the western United States was transported by rail to LAXT and stored in large hemispherical silos constructed at the north end of the Port. The coal would then be transported approximately 1.25 miles by a covered conveyor, generally parallel to Terminal Way and Earle Street, to a specialized conveyor crane that loaded the coal on to ships at Berth 301. LAXT operations within the backlands area at Berth 301 included a large metal silo that provided short-term storage of coal to be loaded on an arriving ship. This facility could also receive and store coal delivered by truck. The backlands area also included two warehouse/maintenance buildings, an administrative/operations office, a power substation, a surface water impoundment area, and an open area for equipment/container storage. Based on a change in the global market for coal (i.e., increased availability of coal from Australia and other places in Asia closer to where the coal was needed) and other business issues, LAXT operations at the Port ceased in Fiscal Year 2003. In late 2006, LAXT's permit to lease and operate at the Port was relinquished and the miscellaneous former LAXT structures and enclosed conveyer were removed from the area adjacent to the proposed Project site. However, various former LAXT paved areas and a settling pond remain on the approximately 7-acre upland area behind Berth 301, as does the power substation. As part of the proposed Project, the Berth 301 backlands would be used for parking and miscellaneous storage.

1.4 Project Purpose

The LAHD operates the Port under the legal mandates of the Port of Los Angeles Tidelands Trust (Los Angeles City Charter, Article VI, Section 601) and the California Coastal Act (PRC Division 20 Section 30700 *et seq*.), which identify the Port and its facilities as a primary economic and coastal resource of the State of California and an essential element of the national maritime industry for the promotion of commerce, navigation, fisheries, and Harbor operations. Activities should be water dependent and the LAHD must give highest priority to navigation, shipping, and necessary support and access facilities to accommodate the demands of foreign and domestic waterborne commerce. The LAHD is chartered to develop and operate the Port to benefit maritime uses, and it functions as a landlord by leasing Port properties to more than 300 tenants.

The proposed Project is needed to meet a portion of the Port's projected container throughput demand for the year 2035. In 2007, studies projected Port container throughput demand within the San Pedro Bay Ports Complex of Los Angeles and Long Beach (Port Complex) would be constrained at 43.2 million twenty-foot equivalent units (TEUs) by 2023; however, this projection was revised in 2009 to take into account a prolonged economic downturn, which negatively impacted global trade and resulted in dramatically reduced actual container throughput and future growth projections. As a result, current projections now estimate that, assuming planned capacity expansions and

handling efficiency improvements occur, the Port Complex throughput capacity constraints would be experienced in 2035 at 43.2 million TEUs, twelve years later than expected in the 2007 study. The revised projection assumes completion of planned physical and operational improvements to terminals within the Port Complex, including the proposed Project.

Providing the capacity needed to manage the projected level of cargo throughput is critical for the Port to fulfill its role of facilitating trade along the Pacific Rim, which is expected to grow with anticipated increases in population and foreign trade. The Port also is instrumental to the regional and national markets.[2]

Additionally, a purpose of the proposed Project is to optimize and expand the cargo handling capacity at the APL Terminal to accommodate the increased throughput demand expected at the Port, including at the APL Terminal, in the long-term, while also maintaining consistency with established Port policies pertaining to the environment. This objective would be accomplished through expansion and improvement of the existing Berths 302-305 marine terminal from the current 291 acres to approximately 347 acres, including extension of the existing wharf by 1,250 ft (creating Berth 306), to accommodate an annual throughput of approximately 3.2 million TEUs by 2027.

The expansion and optimization of Pier 300 has been contemplated and analyzed in evaluations prepared for the Port, including Port Plan, Port Master Plan (as amended), and the *Channel Deepening Supplemental EIS/EIR.*

1.4.1 CEQA Objectives

The LAHD's overall goal for the proposed Project is threefold: (1) provide a portion of the facilities needed to accommodate the projected long-term growth in the volume of containerized cargo through the Port and at the APL Terminal; (2) implement the Port's green growth strategy, which includes growing core operations while greening to mitigate the environmental impacts of that growth on the local communities and the Los Angeles region; and (3) carry out the Port Strategic Plan to maximize the efficiency and capacity of terminals while raising environmental standards through application of all feasible mitigation measures. The Port's green growth strategy relies on utilizing pollution control measures included in the Clean Air Action Plan (CAAP), sustainable lease agreements, and other sustainability measures.

To meet the overall Project purposes, the following objectives need to be accomplished:

- Optimize the use of existing land at Berths 302-305, the proposed Berth 306 backlands, and associated waterways in a manner that is consistent with the LAHD's public trust obligations;

[2] It should be noted that the previously cited forecast and capacity studies are Port-wide studies and do not consider the market conditions of individual shipping companies and terminal operators. There are competitive differences between container terminals within the Ports, and each terminal's market share will reflect these differences at any given point in time.

- Improve the container terminal at Berths 302-306 to more efficiently work larger ships and to ensure the terminal's ability to accommodate increased numbers and sizes of container ships;
- Increase accommodations for container ship berthing, and provide sufficient backland area and associated improvements for optimized container terminal operations, at Berths 302-306;
- Incorporate modern backland design efficiencies into improvements to the existing vacant landfill area at Berth 306; and
- Improve the access into and out of the terminal and internal terminal circulation, at Berths 302-306 to reduce the time for gate turns and to increase terminal efficiency.

1.4.2 NEPA Purpose and Need

As discussed above and in Chapter 1 of the Draft EIS/EIR, implementation of the proposed Project is needed to provide the terminal capacity to accommodate the long-term future cargo demand projected for the Port. The proposed Project would meet a public need for economic growth in trade and import/export of goods, as well as a need for efficiency in cargo handling at the Port.

The overall purpose of the proposed Project is to optimize the cargo handling efficiency and capacity at the APL Terminal to accommodate projected long-term increases in volume of containerized goods shipped through the Port. As the proposed Project is water dependent, optimizing the terminal's efficiency would improve marine shipping and maritime trade. The overall project purpose serves as the foundation of the USACE Section 10 and Section 103 analyses. Under Section 10, the USACE will conduct public interest review (per 33 CFR 320.4).

In general, the scope of federal review for evaluating the potential impacts of a proposed project is focused on those aspects of the project that the affected federal agency has jurisdiction over. The USACE has jurisdiction over activities affecting navigable waters and other waters of the U.S., as well as any ocean transport and disposal activities involving dredged material. As such, the primary focus of USACE's review of the proposed Project is on those activities that directly or indirectly affect the aquatic environment, such as dredging and any associated in-water reuse or ocean transport and disposal activities, and construction of new wharf/pier facilities. The scope of USACE review does, however, include other related aspects, including some activities in upland (non-water) areas, such as staging and storage of materials along the shoreline required to complete in-water and over-water activities, and operations. Following is a summary of how the USACE's scope of federal review is typically defined, and Figure 1-4 illustrates the scope for this Project.

1.4.3 Federal Scope of Analysis

Under federal law, "the [USACE] district engineer should establish the scope of the NEPA document to address the impacts of the specific activity requiring the Department of the Army (DA) permit and those portions of the entire project over which the district engineer has sufficient control and responsibility to warrant Federal review" (33 C.F.R Part 325 Appendix B). The four factors considered in determining "sufficient control and responsibility" include:

1) Whether or not the regulated activity comprises merely a link in a corridor-type project
2) Whether there are aspects of the upland facility in the immediate vicinity of the regulated activity that affect the location and configuration of the regulated activity
3) The extent to which the entire project will be within USACE jurisdiction
4) The extent of cumulative federal control and responsibility

Therefore, determining the federal scope of analysis for the proposed Project involves evaluating all four factors. The "impacts of the specific activity requiring the DA permit" are the direct impacts (i.e., those regulated impacts occurring in, over, and/or under waters of the U.S.); while indirect impacts are those impacts occurring in the upland portions of the project area over which there is sufficient federal control and responsibility to warrant inclusion in the federal scope of analysis.

With respect to the first factor, the proposed Project is a container terminal expansion project, which consists of wharves, associated cranes, backlands/container yard, and entry/exit infrastructure. Thus, it is not "merely a link" in a corridor-type project, such as a highway or a utility line crossing.

Considering the second factor, as an existing container terminal in the Port of Los Angeles, there is a physical link between the upland container yard/backlands and the adjacent wharves and associated cranes in and over waters of the U.S. that service APL's approved third-party ships, which move containers into and out of the port. While this consideration might suggest expanding the scope of analysis to include the upland container yard/backlands, the existing APL Terminal is a fully functioning, approximately 300-acre container terminal that has been operating at this location for many years, and, as such, many of the upland impacts that would occur at the site under the proposed Project represent continuations of impacts that are already occurring and would occur regardless of whether the USACE regulated activities are implemented, as well as growth in operations at the existing terminal up to the point at which the terminal reaches its capacity. The exception is the improvement of the 41-acre landfill adjacent to the southeast corner of the existing terminal which was created by the Channel Deepening Project in 2005. While this area could be used for temporary storage of containers without federal action, the proposed Project includes developing it as a permanent backland feature, as well as developing the adjacent new Berth 306.

Because the existing APL Terminal is a fully functional, operating terminal with previous and ongoing air, traffic, biological resource, water resource, and other impacts occurring over the majority of the terminal site, it is unlike the new shipping terminal example provided in 33 CFR 325 Appendix B Section 7(b)(3) ("…a shipping terminal normally requires dredging, wharves, bulkheads, berthing areas and disposal of dredged material in order to function. Permits for such activities are normally considered sufficient Federal control and responsibility to warrant extending the scope of analysis to include the upland portions of the facility").

In evaluating the third factor, the extent of waters of the U.S. that would be affected by the proposed Project it was concluded that the proposed Project would affect a relatively

small portion (approximately 5 acres to create Berth 306, including construction dredging) of the approximately 350-acre project area.

For the fourth factor, other than the requirement to obtain a USACE permit, there is no other federal involvement on this site, such as use, transfer, or sale of federal property; federal funding including cost sharing, guarantee, or financial assistance; or the involvement of federally listed historic resources, threatened or endangered species, designated critical habitat, or other federally recognized natural resource areas, which would suggest that broadening the federal scope of analysis is warranted. Other federal agencies exert no control over the environmental effects of land development on the upland portions of the proposed Project area. Furthermore, the federal and non-federal portions of the proposed project could exist independently of each other. State and local regulations primarily control the design of the proposed project, and this project is being subject to extensive state environmental review. In short, the environmental consequences of the larger project are not essentially products of the federal action. Rather, they are primarily the product of non-federal interests and designs.

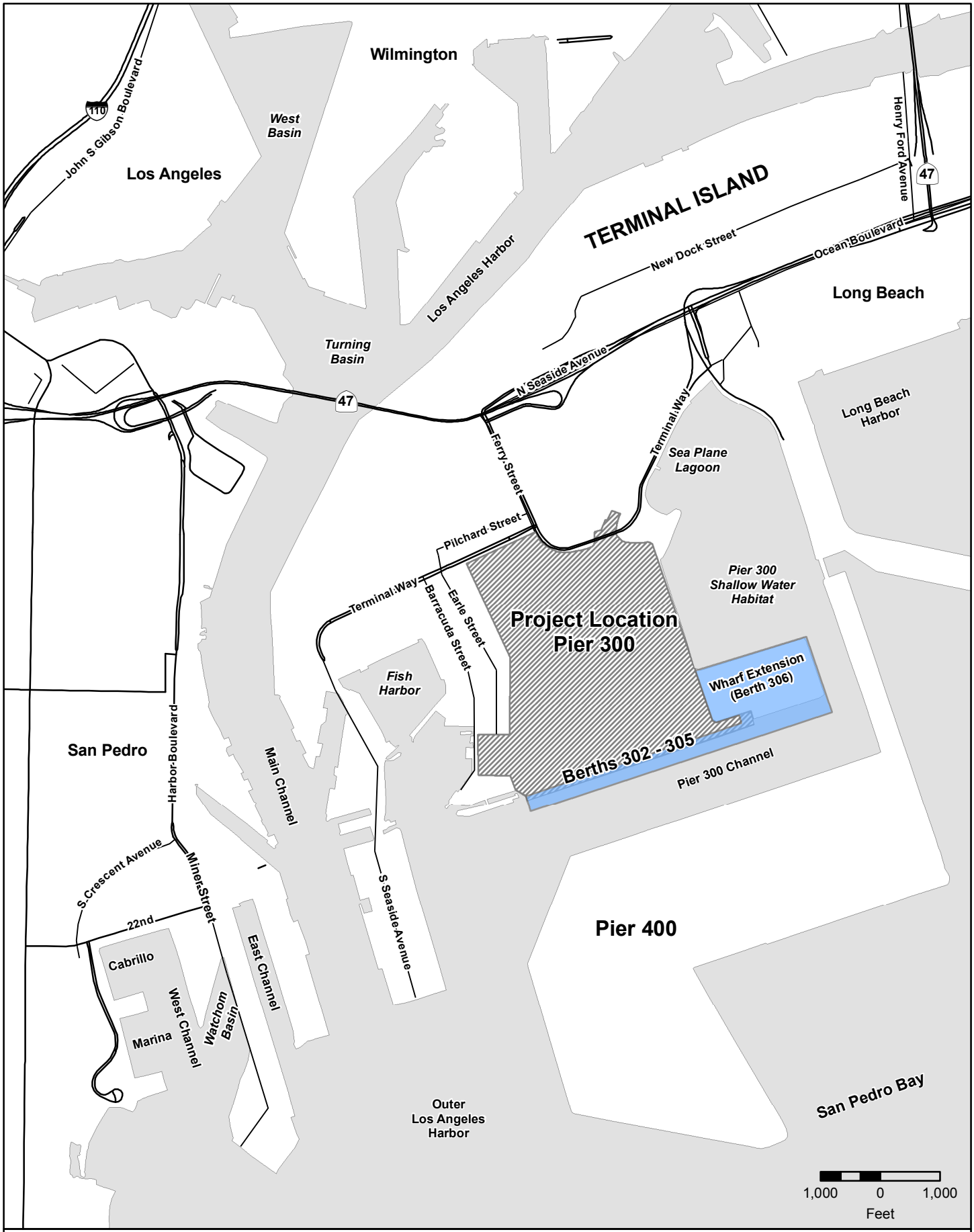
Considering all four factors, the USACE has determined that the federal direct and indirect scope of analysis should consist of: 1) work (including construction dredging) and placement of structures in or over waters of the U.S., 2) impacts to the adjacent upland area expected to be used temporarily for staging and storage of equipment and materials to complete the in-water and over-water activities (i.e., an approximately 100-foot-wide strip of upland area adjacent to the shoreline), and 3) development and use of the 41-acre landfill constructed as part of the Channel Deepening Project for container terminal operations (shown in Figure 1-4). The federal analysis would also include any ocean transport and disposal of the dredged material to designated ocean disposal site(s), as well as any beneficial reuse of dredged material in waters of the U.S.

The USACE has no authority or responsibility to regulate activities, such as upland operations, that are presently occurring or could occur absent a USACE permit. These activities and resulting conditions, therefore, comprise the NEPA Baseline, which is discussed above.

1.5 Proposed Project

This section describes the proposed redevelopment and expansion of the APL Terminal, the anticipated construction phasing, and the anticipated terminal operations once the improvements are completed.

Figure 1-3 presents a map of the existing conditions at the proposed Project site, while Figure 1-5 locates the site improvements of the proposed Project at full build-out and optimal capacity (2027).



N

USACE Scope of Federal Review*

- 41 Acres
- New Wharf/Berth 306
- Installation and Operation of 12 New Cranes (Berths 302 to 306)
- 100 Feet from Waters Edge

*Cumulative impact analysis associated with 41 acre backland development and new crane operations extends beyond the delineated direct and indirect impact areas under Federal jurisdiction/review for some issues, such as air quality and traffic.

CDM Smith

Port of Los Angeles
Berths 302 - 306 [APL]
Container Terminal Project
USACE Scope of Federal Review

Figure 1-4


New Dock Street
N. Seaside Avenue
47
Eldridge Street
Terminal Way
Ferry Street
Pilchard Street
Terminal Way
Terminal Way
Modify Entrance
Develop New Out Gate
Relocate Out Gate
Pier 300 Shallow Water Habitat
Cannery Street
Demo/New Roadability Facility
Modify Earle Street Gate
Develop Former LAXT Right-of-Way
New Reefer Area
Bass Street
Develop Existing Land as Backland
Landside Transfer Area (Automation)
Barracuda Street
Earle Street
Wharf Extension (Berth 306)
12 New Cranes Along Wharf
Expand / Modify Power Shop
New Booth and Utilities
Pier 300 Channel
Develop As Backland former LAXT (behind Berth 301)
Pier 400
N
CDM Smith
Legend
New 41 acres
New 2 acres
New 4 acres
New 2 acres
New 7 acres
Existing Terminal
500 250 0 500
Feet
Port of Los Angeles
Berths 302 - 306 [APL]
Container Terminal Project
Proposed Project
Figure 1-5

1.5.1 Project Elements

1.5.1.1 Overview

The proposed Project encompasses approximately 347 acres and includes improvements to the existing 291-acre APL Terminal and an expanded area of 56 acres. This section presents a summary of the improvements that would occur within each area, followed by a more detailed description.

Improvements to the existing terminal would:

- Modify the outbound gates associated with the main gate;
- Modify the terminal entrance lanes;
- Modify the Earle Street gate;
- Install up to 4 new cranes at Berths 302-305;
- Convert a portion of the existing dry container storage unit area to a refrigerated container unit (reefer) storage area equipped with plug-in electric power;
- Demolish and re-construct the Roadability facility;
- Expand the Power Shop facilities by constructing and operating a separate two-story Power Shop Annex building (just north of the existing Power Shop), which would include tractor maintenance bays (first floor) and Marine Offices (second floor); and
- Install utility infrastructure at various areas in the existing backlands (including the removal and installation of new light poles, utilities for a new "Meet and Greet" booth on backlands behind Berth 301, etc.).

Proposed expansion-area components would:

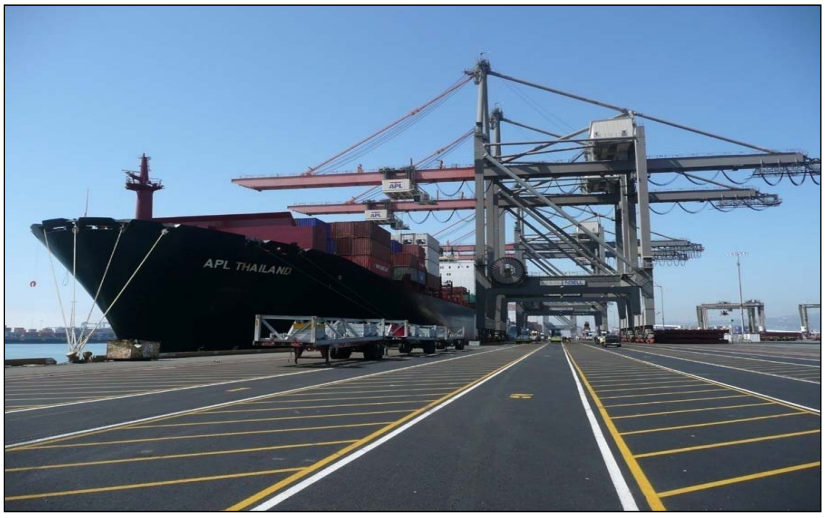
- Construct approximately 1,250 lf (4 acres) of concrete wharf to create Berth 306;
- Install up to 8 new cranes on the new wharf at Berth 306;
- Install AMP along the new wharf at Berth 306;
- Dredging at Berth 306; the dredge material (approximately 20,000 cy) will be beneficially reused (as fill), or disposed of at an approved CDF site. If these options are unavailable or impracticable, an existing ocean disposal site could be considered (i.e., LA-2);
- Improve approximately 41 acres of already constructed but unimproved fill as container terminal backland with infrastructure that could support traditional operations, electric equipment operations, as well as potentially automated operations on the Berth 306 backlands (a majority of the new infrastructure would be located adjacent to existing stations or substations near the reefer area of the existing backlands);
- Redevelop approximately 2 acres of the former LAXT conveyor right of way and approximately 7 acres of former LAXT backland behind Berth 301 into container terminal backland; and
- Develop approximately 2 acres of existing land northeast of the current main gate for a new out gate location.

Operation of the Berth 306 Backlands. The existing APL Terminal operates using "traditional" methods. Once containers have been off-loaded from a ship or received through the gates on trucks and trains, the containers are stored and moved around the backlands area of the terminal using mostly diesel-powered cargo-handling equipment. It is foreseeable that a technology change could result in replacement of some of the traditional backland operations at the APL Terminal through the use of an automated container handling system on the 41-acre backland area adjacent to proposed Berth 306. If installed, such a system would involve the use of semi-automatic dual hoist electric shore side gantry cranes, Automated Guided Vehicles (AGVs), electric automated stacking cranes (ASCs), and semi-automated electric Landside Transfer Cranes (LTCs). Because it is not certain as to whether or when use of an automated system would commence, for the purposes of environmental review, the EIS/EIR assumes that either (1) the terminal would continue to operate using traditional operation throughout the lease term; or (2) the operation of the 41-acre backland would transition from a traditional operation (i.e., transport of containers by mostly diesel-powered equipment) to an automated operation with mostly electric equipment during the lease term. More discussion of the potential design of the proposed Berth 306 backlands can be found below in Section 1.5.2.7 Terminal Operations.

1.5.1.2 Shoreline Improvements

Wharf Area Expansion Improvement

The proposed Project would include construction of approximately 1,250 lf of new wharf area, encompassing approximately 4 acres that would extend eastward from the existing Berths 302-305 wharf. Photograph 1 shows a typical berth on the existing wharf at the APL Terminal.



Photograph 1: View of existing wharf, cranes, and berthed vessel

Photograph 2 shows the shoreline area along Berth 306 where the new wharf would be constructed. No new rock dike or fill would be required, as this area was previously constructed as part of the Channel Deepening Project, which created the 41-acre undeveloped fill area along Berths 305 and 306. New wharf construction would, however, require the placement of approximately 515 new 24-inch-diameter concrete piles to support the new wharf. These piles would be placed by barge-mounted pile

drivers that would be brought to the site by tugboat and temporarily supported by a wharf boat. Construction would also involve the operation of concrete trucks, and heavy-duty over-the-road trucks for the delivery of structural materials, cranes, and other fabrication equipment.

When completed, the concrete wharfs of Pier 300 (Berths 302-306) would total approximately 5,250 ft. The existing wharf was designed to accommodate the largest ships in the current transpacific fleet, which can each carry up to 10,000 TEUs. The new wharf extension would be similarly designed. The existing wharf currently has four (4) berths based on the existing average vessel size. Once the new wharf along Berth 306 is completed (approximately 2014), the number of berths serving the terminal would increase to approximately 4.5. However, as fleet changes occur and larger vessels are used over time, the number of useable berth space along the Berths 302 to 306 wharf would decrease to 3.5 berths by 2027.

The crane models, currently operating at the existing wharf are not able to span the width of vessels capable of carrying more than 10,000 TEUs. The new wharf extension and cranes would have the capacity to accommodate larger ships. The largest vessel that is expected to operate as part of the transpacific fleet through year 2027 is the 10,000 to 10,999 TEU vessel. This analysis assumes the operation of a range of TEU vessels that includes the 10,000 to 10,999 TEU vessels.

Photograph 2: Area of new wharf along Berth 306

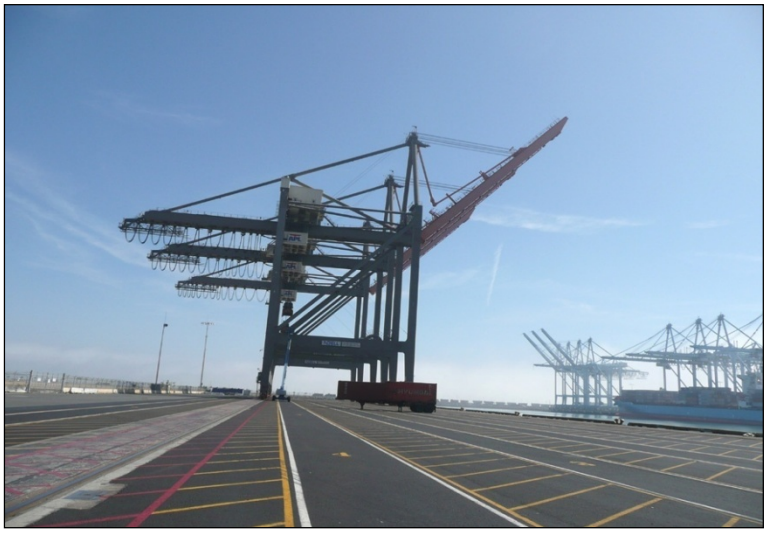
AMP infrastructure would be installed along the new wharf at Berth 306. AMP is the technique of utilizing shoreside electrical power from the power grid to operate the container ships when they are berthed at an appropriately equipped wharf. AMP connection voltage would be 6.6 kilovolts (kV), 3-phase, 60 Hertz (Hz). The proposed Project would assist visiting fleets (in this case, APL and third party shipping lines) to

comply with the California Air Resources Board (CARB) adopted schedule for implementing AMP power.[3]

In addition to electricity, the standard ship services at wharf include other utilities, such as telephone and water hook-up facilities at each berth.

New Shore-Side Gantry Cranes

Under the proposed Project, up to 12 new A-frame cranes (also known as shore side gantry cranes) would be installed on the wharves at Berths 302 to 306 (four new cranes would be added to the 12 existing cranes on the existing wharf along Berths 302-305, and eight new cranes would be installed at the new Berth 306 wharf). With the existing 12 cranes and the installation of the proposed 12 new cranes at Project completion, the APL Terminal would have a total of 24 cranes. A-frame cranes at the existing terminal have fixed towers that are approximately 245 ft high. When stowed (at a 45-degree angle), the articulated booms on these cranes normally extend to a height of about 280 ft and, for maintenance, are capable of being extended up to 360 ft in the vertical position. Photograph 1 shows existing A-frame cranes at the APL Terminal and Photograph 3 shows a crane in the stowed position.



Photograph 3: A-Frame crane in the stowed position.

The 12 new cranes would function in a similar manner to the existing cranes but have a longer outreach and higher lift capabilities than the existing cranes in order to

[3] As provided for under Title 17, California Code of Regulations section 93118.3, a fleet's vessels — including container vessels, passenger vessels, and refrigerated container (reefer) vessels — must shut down their auxiliary engines (not including 3 or 5 permissible hours of total operation, as specified in the regulation) as follows: (a) In 2014, at least 50 percent of a fleet's visit to the port must meet these operational time limits, and the fleet must reduce its fleet's onboard auxiliary-diesel engine power generation at a given berth by 50 percent from its baseline power generation; (b) in 2017, at least 70 percent of a fleet's visit to the port must meet the aforementioned operational time limits, and the fleet must reduce its fleet's onboard auxiliary-diesel engine power generation at a given berth by 70 percent from its baseline power generation; and (c) in 2020, at least 80 percent of a fleet's visit to the port must meet the aforementioned operational time limits, and the fleet must reduce its onboard auxiliary-diesel engine power generation at a given berth by 80 percent from its baseline power generation.

accommodate larger ships. When stowed, the height of the new cranes is estimated to extend to approximately 340 ft, and while operating, the A-frame structure of the cranes is estimated to stand at approximately 260 ft.

The new cranes would be outfitted with semi-automatic dual trolley equipment so that they could support an automated backland behind the new Berth 306 if such a system is used (see Section 1.5.1.5 below for a detailed description of the proposed automated system).

1.5.1.3 Dredging

The portion of the channel adjacent to the new wharf at Berth 306 would be dredged to restore a depth of -55 ft MLLW plus an additional two ft of overdredge. New ships in the world container vessel fleet and pending ship orders indicate that container vessels with a draft of -52 ft are being planned, which would require a channel as deep as -55 ft MLLW plus an additional two ft of overdredge during construction dredging (tolerance). The area along Berth 306 is at various depths within the low fifties and currently less than 55 ft deep. Approximately 20,000 cy of marine sediments would be removed alongside Berth 306 to achieve the desired design depth (POLA, 2009).

1.5.1.4 Berths 302 – 305 Backlands Redevelopment

Redevelopment of the backlands at the existing APL Terminal involves existing buildings, backlands, and gates. Figure 1-5 shows the general location of the buildings and gate structures.

Buildings. The proposed Project would include demolition and reconstruction of the Roadability Facility, including approximately 4,160 sf of new building space and approximately 10,000 sf for two new canopies (see Photograph 4). In addition, the proposed Project would expand the Power Shop facilities to add tractor maintenance bays and Marine Offices, including approximately 10,158 sf for the maintenance bays, and approximately 10,150 sf of second floor space for offices (see Photograph 5). The redevelopment of the Marine Office facility would meet Leadership in Energy and Environmental Design (LEED) standards and are expected to achieve, at minimum, LEED silver certification, consistent with the LAHD Green Building Policy.

Backlands. The proposed Project would convert a portion of dry container storage unit area to a refrigerated container storage unit (reefer) area with use of electric power (Photograph 6 shows refrigerated storage containers - reefers). Terminal lighting and fire hydrants would be installed within the improved backland areas. The additional backland improvements would require construction activities such as grading, drainage, paving, striping, lighting, fencing, and the addition of utility facilities and equipment.

Gates. The proposed Project includes the construction of a new Meet and Greet booth (approximately 400 sf) on backlands behind Berth 301, modifications to the Earle Street Gate, and modifications to the northeast entrance (Photograph 7 shows the existing in-gate and out-gate at the APL). Development in the northeast entrance area would include construction of a new out-gate on two acres of undeveloped land northeast of the current main gate, coupled with reconfiguration of the old out-gate.

Photograph 4: Roadability canopy

Photograph 5: Powershop

Photograph 6: Refrigerated containers

Photograph 7: Existing in-gate and out-gate

In addition, within the existing backlands behind Berths 302-305, the proposed Project includes the installation of a new Los Angeles Department of Water and Power (LADWP) industrial station (adjacent to the existing industrial station and new AMP substation, which is located near the existing Roadability Canopy/Genset Building), as well as various substations to support either traditional or electric-powered automated operations on the 41 acres of backlands adjacent to proposed Berth 306. If the new Berth 306 backlands are used to support an automated operation in the future, an area approximately 12 acres in size within the existing backland area adjacent to the new backlands would need to be converted to a Landside Transfer Area (a delineated area where drivers and trucks wait for containers held within the Berth 306 backlands).

1.5.1.5 Development of Berth 306 41-acre Backlands

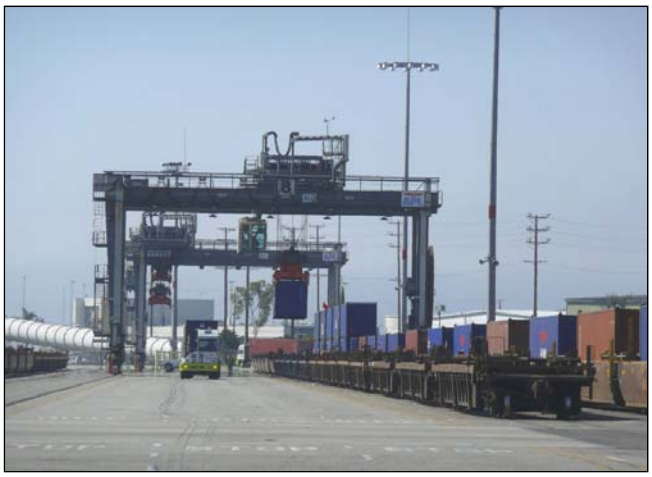
Development of the Berth 306 backlands on the 41-acres of undeveloped fill adjacent to the existing terminal would include grading; paving and striping; as well as installation of smaller substations and underground electrical lines; water lines; light poles (Photograph 8 shows an example of terminal light poles); conduits to support electrical, data and phone connections; sewers; gas lines; and drainage infrastructure. This infrastructure would be adequate to support either traditional or electric-powered automated operations (or some combination of the two).

Photograph 8:
Example of light poles

In addition, other infrastructure elements would be built as part of the initial Project construction that would support either a traditional or an automated 41-acre backland at a later date, such as approximately 7,100 lf of rail sets that would support RMGs or the electric Automated Stacking Cranes (ASCs), and any additional corresponding electrical distribution system.[4] The rail sets would be oriented parallel to the berth (refer to Figure 1-6 and Figure 1-7 for the preliminary conceptual design associated with the automated container operations and Photograph 9 shows an existing RMG at the on-dock railyard; the new ASCs, if installed, would likely be larger, with a cantilever on one side and sized to span a stack that is six containers high and 12 containers wide.

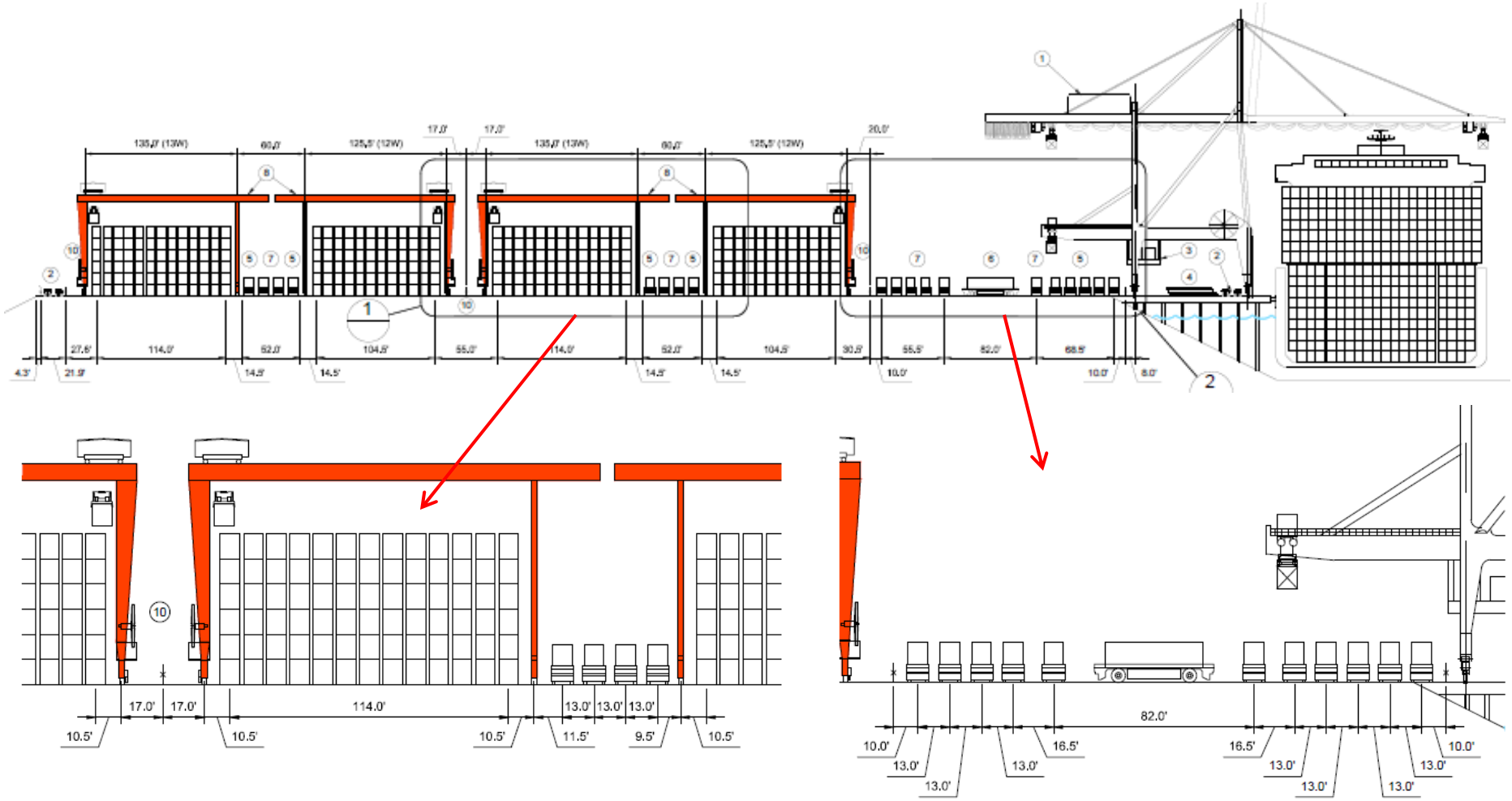
[4] Although additional electrical distribution would be required to operate an automated 41-acre backland, the additional power infrastructure needed to support automated operations is proposed as part of initial Project construction.

Construction for the rails and installation of the ASCs would involve excavation, installing concrete beams that would later support steel rails, paving, and installing conduits for electrical power and data connectivity.



Photograph 9: Rail-mounted gantry crane at the existing on-dock railyard

If EMS determines that automated operations are feasible and cost effective for the Berth 306 backlands, additional infrastructure specific to the automated operation would need to be installed. Future installation of the automated equipment would be less complex than installation of the supporting infrastructure that has been included in the initial construction plans for the backland area. This additional work would include some asphalt grinding to flatten the finished grade and to expose the concrete beams, installation of steel rails, and installation of reefer racks (foundations with plug-in electric power) along the edge of the 41-acre area (these racks would allow refrigerated container units to be stored). Improvements to delineate and support operation of the Landside Transfer Area would also be installed adjacent to the Berth 306 backlands, including some excavation and installation of concrete rail beams to support the LTCs, pavement striping, waiting booths for drivers, and concrete curbing.



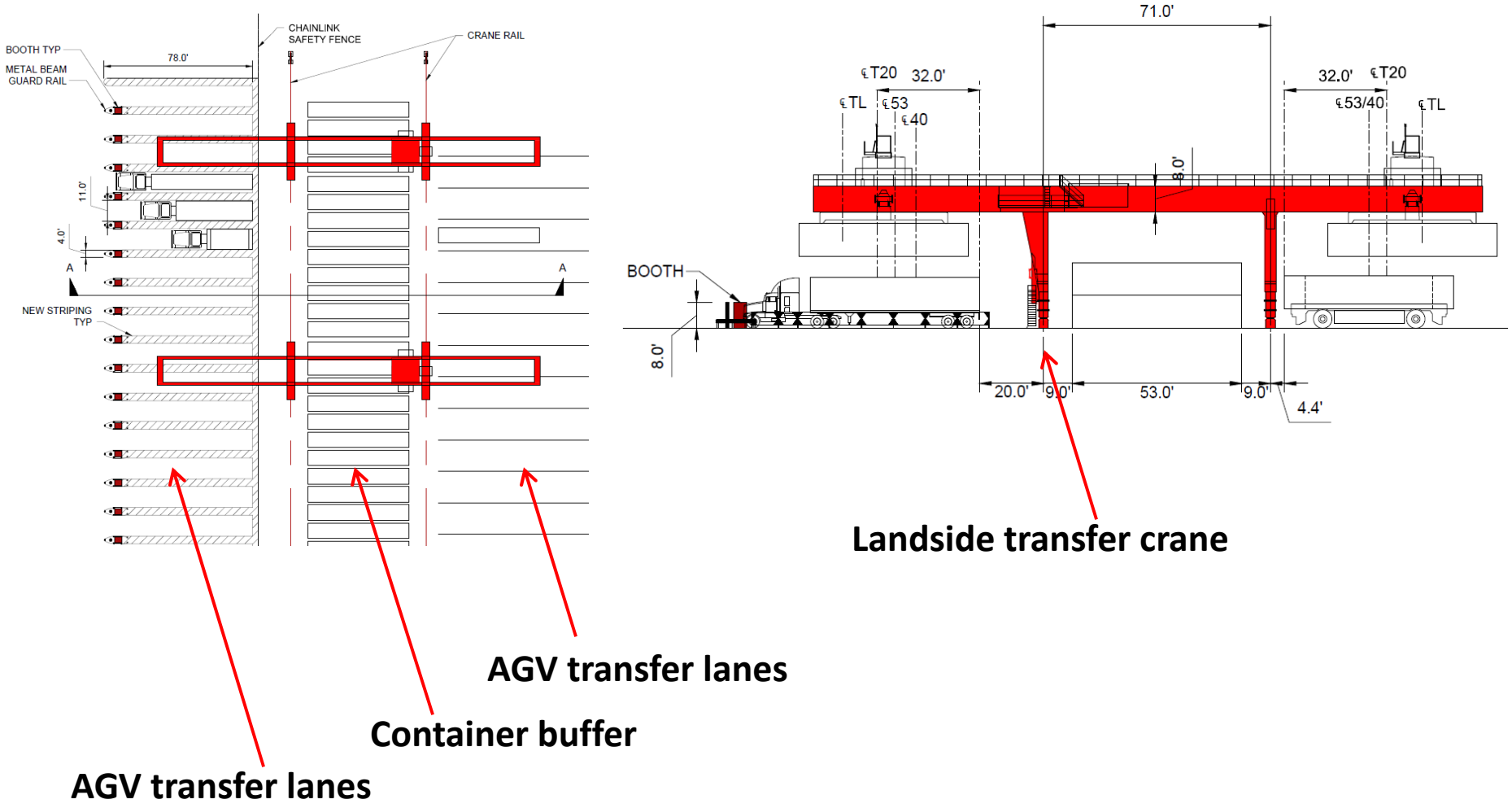
Source: APL/Moffat & Nickel, 2011

Note: These elements and their size and arragement are for disccusion purposes only

CDM Smith

Automated 41-Acre Backland

Port of Los Angeles
Berths 302 - 306 [APL]
Container Terminal Project
Proposed Layout - Sections
Figure 1-6



Source: APL/Moffat & Nicket, 2011

Note: These elements and their size and arragement are for disccusion purposes only

1.5.2 Project Construction

Construction of the proposed Project is anticipated to commence in 2012 and extend for approximately two years. The proposed Project would be constructed in two phases. Phase I consists of dredging, constructing the Berth 306 wharf extension, installing AMP at Berth 306, and improving the 41-acre fill site. Phase II consists of all other project modifications (Table 1-1). Construction would take place 6 days per week (Monday through Saturday) with no construction occurring on Sundays or national holidays. In general construction would occur from 6:00 a.m. to between 4:00 to 6:00 p.m., although some night construction may occur. Table 1-1 shows the estimated construction schedule for each component of the proposed Project, by phase.

Table 1-1: Berths 302-306 [APL] Container Terminal Construction Phasing

Activity	Duration[1]	Period
Phase I (Package 1)		
Construct 1,250-foot Wharf and AMP at Berth 306[2]	22 months	Q4 2012 to Q2 2014
Dredge Channel along Berth 306	1 month	Q3 2012
Crane Delivery & Installation for Berths 302-306[3]	1 month per event	Q3 2012 and Q3 2014
Develop 41-acre Backlands at Berths 305-306	18 months	Q1 2013 to Q2 2014
Phase II (Package 2)		
Demolish the Roadability Facility	6 months	Q3 2014 to Q4 2014
Construct the Roadability and Genset Facilities	18 months	Q1 2013 to Q2 2014
Expand Power Shop facilities for Tractor Maintenance bays and a Marine Office (separate annex building)	18 months	Q1 2013 to Q2 2014
Develop 9 acres Backlands behind berth 301 (former LAXT site)	9 months	Q1 2013 to Q3 2013
Develop New Out-Gate (2 acres)	3 months	Q4 2013
Modify existing outbound lanes to inbound	3 months	Q1 2014
Modify Terminal Entrance	3 months	Q2 2014
Modify Earle St. Gate	3 months	Q1 2013
Conversion of Dry Container Storage Area to Refrigerated-Container Storage Area (to include Use of Electric Source Power)	6 months	Q1 2013 to Q3 2013
Install Infrastructure throughout Backlands	9 months	Q1 2013 to Q3 2013

Notes:
Q1, Q2, Q3, and Q4 signify the respective quarters of the year.

[1] Durations provided in this table are only for the construction period. The bid and award period is not included in the provided durations.

[2] The new wharf would add 4 acres of area to the terminal area.

[3] Eight cranes would be added to the new wharf and four to the existing wharves (Berths 302-305). Initially, four cranes would be installed in Year 2012 at Berths 302-305, with two more cranes installed in 2014 or at some point thereafter, and the remaining cranes installed after 2015, when throughput volume dictates need.

Implementation of automated container-handling operations at the 41-acre expansion area would depend largely on market demand and cost. For the purpose of the environmental analysis, the miscellaneous construction activity and construction-related emissions required to install the automated system (which includes installation of reefer racks, striping, curbing, etc.), and delivery, installation and operation of the automated equipment, is assumed to occur during year 2020. However, it is unknown whether installation and use of such equipment would be cost-effective in 2020 or at any other time.

1.5.2.1 Dredging of Berth 306

The existing depth along Berth 306 is less than 55 ft deep. The proposed Project includes dredging at the new Berth 306 to restore the depth of -55 ft MLLW plus two ft of overdredge. Dredging of Berth 306 to the proper depth would occur using an electric dredge with a clamshell dredge (derrick barge) or a crane mounted on a barge with a clamshell bucket. The barge would be maneuvered into proper position using a tug, and held in place with anchor lines. A second barge would be anchored next to the derrick barge to hold excavated dredge material. The clamshell bucket would be lowered to the sea floor, and then it would scoop and lift sediments, and place them on the storage barge. As the dredging progresses, the derrick barge would be repositioned as needed, and the dredging would continue. Once a storage barge is filled, it would be hauled by tug to an approved disposal site (such as the CDF at Berths 243-245 and/or Cabrillo Shallow Water Habitat Area). If these sites are unavailable or impracticable, an ocean disposal site (LA-2) could be considered assuming the material was approved for such use by the DMMT.

1.5.2.2 Wharf Construction

Construction of the new wharf would occur sequentially and involve pile driving, formwork and wharf casting, and finish work. Once dredging has been completed, construction of the new wharf at Berth 306 would commence by driving piles in the water and on the land adjacent to the water's edge. Pile driving would occur by using a crane-mounted pile hammer, which attaches to the top of a pile. The pile would be driven into the ground by the automated hammer until it is placed at the proper depth in the underlying bedrock. For piles driven from the water, the crane would be mounted on a barge. Pile driving would proceed from one end of the new wharf area to the other.

Once a suitable number of piles have been placed, in a designated section according to design specifications, wharf construction would begin while the pile driving activity continues in the next section. Formwork for a portion of the wharf deck would be installed, and the tops of the piles cut to the proper height. Steel reinforcement would be placed in the formed area, and appropriate utility conduits and structures (such as vaults, AMP, etc.) would be placed. The formed wharf area would then be filled with concrete and allowed to cure.

A second finish pour would occur after placement of the first concrete pour. Prior to the second pour, the power trench and rail trenches required for operation of the cranes would be formed. After the second concrete layer is cured, the forms would be removed, and the crane rails installed. Power infrastructure for the cranes would also be installed.

The wharf construction process would occur in approximately 100 to 300-foot long segments and would follow the pile driving process.

1.5.2.3 Crane and Equipment Delivery

A-frame cranes would be delivered to the proposed Project site by vessel (they are constructed overseas), with approximately four cranes per ship. Once the vessel is at berth, it would be ballasted so the ship deck is at the appropriate height to off-load the cranes. A temporary ship-to-shore ramp would be constructed so that the cranes could be rolled off the vessel directly onto the wharf rail system.

Delivery and installation of proposed automated equipment would be similar to the delivery process for the cranes, which would involve delivery by vessel, placement of the equipment on the rails followed by the necessary commissioning. It is assumed that an additional six vessels within a one year period would be required to deliver the ASCs and LTCs for automated operations at the Berth 306 backlands. Due to their size, the AGVs are assumed to be delivered using regularly scheduled container ships (i.e., no additional ships would be required to deliver the AGVs).

1.5.2.4 Backlands Contruction

Development of the 41-acre vacant area as backlands would be a multi-step process. The area is currently rough graded. Underground infrastructure such as utility lines, storm drains, water lines, sewers, power substation and vaults, electrical conduits, and other infrastructure would first be installed. The site would then be graded and balanced. Caissons for light structure foundations would be placed, as would electrical connectors for refrigerated units. Crushed miscellaneous base (CMB) rock would then be placed over the backland area. In addition formwork for rails (to support ASCs) would be installed, and pavement placed over the base in two layers. Pavement would be Asphalt Concrete (AC), Roller Compacted Concrete (RCC), or Portland Cement Concrete (PCC). Following paving, infrastructure would be installed or finished.

1.5.2.5 Construction of Other Improvements

Construction of other improvements such as the new gates, buildings, canopies, etc. would be accomplished using traditional building methods in the following general order: construction of foundations, installation of utilities, placement of structures, and completion of finish work. Standard demolition, trenching, paving, and construction methods would be used to construct the other terminal improvements.

1.5.2.6 Permit Conditions

As part of the approvals needed for the proposed Project, EMS's existing lease would be modified to include the expanded terminal acreage. The modified lease would extend, as does the present one, to 2027. The lease would continue to require that the premises be used for activities, operations, and purposes incidental to and related to the operation of a container terminal. Specifically, the lease would prohibit the tenant from any use of the premises other than those stated above without prior approval of the Port. The existing lease would be modified after certification of the EIS/EIR. It would require compliance with all applicable laws and regulations and certain Port policies, including feasible environmental controls that are not part of the current lease. For instance, the lease would incorporate those measures adopted as mitigation based on the Final EIS/EIR, as

well as measures arising from the Clean Air Action Plan, Port environmental policies, and the Port Real Estate Leasing Policy (POLA, 2006), as applicable. The USACE has the authority to place special conditions in USACE permits (requirements for mitigation) for areas within the USACE jurisdiction, and based on this, the USACE permits also would require specific mitigation measures specific to USACE permitting jurisdiction. Section 1.6 below describes various environmental plans and programs at the Port to reduce the environmental effects associated with operations at the Port, such as standards for terminal equipment, participation in the vessel speed reduction program, fuel requirements, AMP for a proportion of marine vessels, clean truck requirements, and other environmental measures such as storm water management, and dredging restrictions.

1.5.2.7 Terminal Operations

For purposes of evaluation, the EIS/EIR assumes the APL Terminal would operate at optimal throughput capacity by 2027. At optimal throughput capacity, the improved APL Terminal could handle approximately 3.2 million TEUs per year, which represents approximately 1,832,000 containers using a conversion factor of 1.75.[5] EMS might operate the terminal at lower TEU volumes than those described; however, an estimation of throughput based on optimal terminal capacity ensures a conservative analysis in that all reasonably foreseeable Project operations are included. Additionally, ships not belonging to APL (third-party invitees) occasionally might use the terminal. By estimating throughput based on optimal terminal capacity, the potential for such third-party ship calls is accounted for in the analysis assumptions.

Anticipated Throughput: The proposed Project would be designed to accommodate 3.2 million TEUs by 2027. This compares to an existing throughput of approximately 1.1 million TEU's in 2009 (CEQA baseline) and a design capacity of the APL Terminal of 2.2 million TEUs (NEPA baseline and No Project Alternative). While the total design capacity would be available upon completion of proposed Project construction activities, actual throughput in interim study years (2012, 2015, 2020, and 2025), would be much lower. Table 2-3 summarizes the throughput levels for the proposed Project by study year, and also includes throughput activity at the proposed Project site during the CEQA baseline year (July 2008 through June 2009) and throughput under the NEPA baseline conditions during the study years (2012, 2015, 2020, 2025, and 2027).[6]

If automated operations occur in the Berth 306 backlands, the TEU volumes for the APL Terminal in 2027 would be the same as they would be under traditional container terminal operations. The Port has prepared a white paper to assess the capacity of the terminal under automated conditions in the Berth 306 backland area. The white paper can be found in Appendix C2 of the Draft EIS/EIR. The main difference between traditional terminal operations and automated terminal operations is that with a traditional

[5] The throughput conversion factor used here represents an APL specific conversion factor and is discussed in more detail in Chapter 1, Section 1.1.2.1 of the Draft EIS/EIR.

[6] The NEPA baseline represents the set of conditions that would occur without Federal action, such as a permit from the USACE. Under the NEPA baseline, terminal throughput is expected to grow over time to accommodate future projected containerized throughput, and therefore, different levels of terminal operation would occur at each study year (2012, 2015, 2020, 2025, and 2027). The NEPA baseline in 2027 is equal to the capacity of the existing APL Terminal.

terminal, containers are moved to and from the dock at shipside and to from the backlands by diesel equipment driven by human operators whereas with automated operations the containers would be transported to and from the dock at shipside to and from the backlands by computer operated electric vehicles.

Ship Operations: The operation of container vessels, their loading and unloading, and the handling of containers in the terminal are described in Section 1.2.2.1.1 in Chapter 1, Introduction, of the Draft EIS/EIR. Normally, no more than three of the largest vessels would be berthed at the terminal wharf at one time; however, after construction of Berth 306, up to four vessels could be berthed at the same time. By intent and design, shipping companies deploy vessel strings (schedules) that are spread to avoid berth overlaps. This method allows the ship to be processed faster while in port because the maximum number of cranes and gangs can be dedicated to each ship.

To accommodate an annual throughput of approximately 3.2 million TEUs in 2027, 390 annual ship calls and associated tugboat operations would be required. For the APL Terminal, one tug generally is required for ship docking and undocking, for a total of two tugs per call, or 780 tugs operations annually. In less than one percent of cases, two tugs are needed during docking/undocking due to equipment malfunction or by request of the ship's pilot. In these rare instances, up to four tugboat operations would be required for a single ship call. As occurs today, tugboats would be able to dock at terminal facilities in between trips, reducing tug emissions associated with travel back to their docking facilities. Table 1-2 summarizes the anticipated ship calls for the Project by study year, and for the CEQA and NEPA baselines.

Truck Operations: Currently about 24 percent of Port-wide cargo throughput passes through on-dock rail facilities, 8 percent through near-dock rail facilities, and the remaining 68 percent via truck to the local and regional markets (and off-dock facilities). However, the mode split at individual terminals can vary. Mode splits differ from terminal to terminal on the basis of the existence and capacity of a terminal's on-dock rail facility, as well as the demands of shipping lines, which are sensitive to the downstream market. The existing APL Terminal transports a relatively high percentage of the containers handled at the site via on-dock rail compared to the Port as a whole. Mode splits at the APL Terminal are presently 35 percent through on-dock facilities, 11 percent through near-dock facilities, and 54 percent by truck. Table 1-2 summarizes the anticipated mode split percentages for the Project by study year, and for the CEQA and NEPA baseline years.

Port-wide, by 2027, between 30 to 33 percent of the TEUs are expected to travel to and from terminals by on-dock rail, between 7.5 to 12.5 percent are expected to travel to and from the terminal via truck to near-dock and off-dock railyards, and the remaining cargo volumes are anticipated to travel by truck to the local and regional market (i.e. markets within an approximately 700-mile radius from the Port). As previously explained, the percentage of TEUs expected to travel by on-dock rail verses by truck differ from terminal to terminal because each terminal has different on-dock rail capacities, in addition, each shipping line is subject to different market pressures and logistics.

Under the proposed Project, mode splits at the APL Terminal after year 2020 are expected to change slightly as throughput via the on-dock facility reaches its maximum capacity. The percentage of cargo passing through the on-dock facility at the APL Terminal is expected to decrease to approximately 32 percent by 2027. The maximum

annual capacity of the current on-dock facility at the APL Terminal is estimated to be 1.04 million TEUs; and given rising levels of throughput expected at the terminal in years 2025 and 2027 (see Table 1-2), on-dock throughput splits in years 2025 and 2027 would be slightly less than 35 percent. Specifically, the on-dock/near- dock/truck distribution delivery splits anticipated to occur at the terminal is 33/12/55 percent respectively in year 2025, and 32/13/55 percent respectively in year 2027.

Based on the anticipated mode splits for the proposed Project, the design capacity throughput of 3.2 million TEUs in 2027 would require a total of 11,361 peak daily truck trips and 2,953 annual one-way-rail trip movements. Those trips would include cargo hauled entirely by truck (principally within southern California, with some trips to and from northern California, Arizona, Nevada, and Utah), and intermodal cargo bound for, or coming from, locations farther east. Table 1-2 summarizes the anticipated truck trips and rail trips associated with the proposed Project by study year, and for the CEQA and NEPA baselines. Of the approximately 2.17 million TEUs transported by trucks in 2027, approximately 405,000 TEUs (approximately 23 percent) would be intermodal cargo trucked to nearby dock railyards. Draying containers to near- and off-dock facilities could become necessary because all the containers on a train that is assembled in the on-dock railyards are bound for the same destination, meaning containers bound for other locations are hauled to nearby dock facilities to be grouped with containers from other terminals bound for that same destination. Trucks would haul those containers on public highways to and from off-site railyards, including the Union Pacific Carson ICTF, the Burlington Northern Santa Fe Hobart Yard in Vernon, and the Union Pacific East Los Angeles Yard. Local and national (minimal long-haul trips) containers would be hauled to and from the terminal gates by trucks.

In addition to the above assumptions regarding transportation mode splits, assumptions regarding the timing distribution of truck trips were developed based on on-going Port-area transportation studies. Truck traffic throughout the Port in 2008 was distributed as follows: 80 percent day shift (8:00 a.m. to 5:00 p.m.), 10 percent night shift (5:00 p.m. to 3:00 a.m.), and 10 percent “hoot shift” (3:00 a.m. to 8:00 a.m.). The overall 80/10/10 percent split assumption was determined jointly by the Ports of Long Beach and Los Angeles staff, based on operational reports. However, each terminal has distinct operating characteristics, which may differ from the Port-wide composite. While EMS anticipates loading and unloading vessels during the hoot shift in 2027, it does not anticipate operating the gate or railyard during this shift. Truck traffic through the APL Terminal gate in 2008 was distributed as follows: 60 percent day shift (8:00 a.m. to 5:00 p.m.), 40 percent night shift (5:00 p.m. to 3:00 a.m.), and no activity during the hoot shift (3:00 a.m. to 8:00 a.m.). In year 2027, the split is expected to be 55/45/0. For purposes of environmental review, this assumed future distribution (55 percent day, 45 percent night) is conservative in that it would tend to result in higher traffic impacts than a 50/50 day/night distribution.

Table 1-2: Project Throughput Comparison

	NEPA Baseline					CEQA Baseline[a]	Proposed Project				
	2012	2015	2020	2025	2027	July 08-June 09	2012	2015	2020	2025	2027
Terminal Acreage	291	291	291	291	291	291	291	347	347	347	347
TEUs per Acre	6,550	6,695	6,988	7,281	7,399	3,877	6,550	7,787	8,392	8,997	9,239
Total Annual TEUs[b]	1,906,000	1,948,201	2,033,536	2,118,871	2,153,000	1,128,080	1,906,000	2,702,000	2,912,000	3,122,000	3,206,000
Annual Ship Calls	234	234	234	286	286	247	234	286	338	364	390
Daily Truck Movements (peak)	6,438	6,581	6,869	7,157	7,273	5,093	6,438	9,127	9,836	10,892	11,361
Annual Truck Trips[c]	1,701,940	1,739,620	1,815,820	1,892,020	1,922,500	998,728	1,701,940	2,412,720	2,600,240	2,879,170	3,003,160
Annual Rail Movements[d]	2,197	2,221	2,270	2,317	2,336	1,676	2,197	2,627	2,831	2,876	2,953
% TEUs by Truck[e]	55	55	55	55	55	54	55	55	55	55	55
% TEUs to Near/Off Dock Rail [f]	10%	10%	10%	10%	10%	11%	10%	10%	10%	12%	13%
% TEUs by On-Dock Rail	35%	35%	35%	35%	35%	35%	35%	35%	35%	33%	32%
Number of Cranes[g]	12	12	12	12	12	12	16	18	24	24	24
# Terminal Employees [h]	1,161	1,188	1,231	1,275	1,292	1,041	1,161	1,733	1,908	2,083	2,152

a The CEQA Baseline is the period from July 2008 through June 2009.

b Throughput forecasts conservatively estimate maximum capacity will be reached by 2027 so as to ensure environmental impacts are not underestimated.

c Annual truck trips were determined by the QuickTrip port terminal truck trip generation model, which uses truck trip generation rates from the Port of Los Angeles Baseline Transportation Study (2004) to determine a terminal's truck trips based on its TEU throughput by regional truck, on-dock rail intermodal and off-dock rail intermodal.

d Estimated annual rail one-way trips. Includes both on- and near-dock rail. Calculation extrapolated from annual TEU figures specified by Rail Master Plan and actual on-dock railyard projections. Assumes 414 TEUs per outbound trip and 114 TEUs per in-bound trip, and 1.75 TEUs per container or 302 TEUs per round train trip.

e Truck trips distribution based on current percentage rounded and projected forward. Assumes 10% to near dock rail, 55% are local/regional delivery, and 35% are on-dock

f Appendix C1 of the Draft EIS/EIR.

g This schedule represents a conservative but likely assumption regarding the phasing of cranes.

h Information for existing and future direct employees were provided or projected by EMS, 2010.

Rail Operations. The on-dock railyard at the existing terminal would handle a portion of the increased cargo from the expanded APL Terminal. According to the Ground Transportation analysis done for the proposed Project, as well as the Port Rail Master Plan, the existing railyard at the APL Terminal could handle approximately 1.04 million TEUs annually.

As occurs under existing conditions, containers would be hauled by yard tractors between the vessel berths and the on-dock railyard (Photograph 10 shows a yard tractor at the existing APL Terminal). At the railyard, containers would be lifted on and off railcars by mobile cranes or RMG cranes. The railyard would operate 24 hours per day; 365 days per year, as it does now, and could accommodate two double-stack unit trains each day. Although each train, both inbound and outbound, could carry a maximum of 250 containers (with each container measuring 40 ft long), the trains usually carry a mix of containers, including those 20-ft long, and fewer than the maximum number of containers due to weight considerations. A more realistic estimate is that each inbound train trip (into the Port) transports an average of 65 containers (114 TEUs) plus empty railcars, while each outbound train trip (to inland locations) transports an average of 237 containers (415 TEUs), for an average of 151 containers (264 TEUs) per round trip.[7]

Photograph 10: Yard Tractor

Rail operations at on-dock railyards involve a number of entities. The terminal operator moves containers to and from the on-dock facility. Containers are off-loaded and loaded directly from and onto train components known as wells, with each well capable of carrying two 40-foot containers (Photograph 11 shows containers stacked on wells beneath an RMG at the existing on-dock railyard). Five wells make up a railcar, and each railcar is then coupled with other railcars traveling to the same destination. The coupled railcars are called a unit train. Unit trains vary in length between 21 and 28 railcars (105 and 140 wells). The average on-dock train length at the APL Terminal is 15 railcars (75 wells), or 4,725 ft, and this figure would not change under the proposed Project.

[7] The conversion of containers to TEUs is based on an APL Terminal-specific factor of 1.75. In other words, 65 containers being sent via rail multiplied by the 1.75 factor equals approximately 114 TEUs.

These unit trains are usually built by Pacific Harbor Line (PHL). PHL is a third party, independent rail company that provides rail transportation, yard switching, maintenance and dispatching services to the Port Complex. PHL manages all rail dispatching and switching functions at the on-dock railyards at the two ports, including:

- Scheduling and overseeing all train movements;
- Organizing railroad cars carrying containers of imported goods and switching them onto various tracks to form unit trains;
- Breaking down unit trains arriving at the ports, switching railroad cars onto various tracks and distributing them to nine marine terminals where containers are loaded onto ships for export;
- Maintaining 60 miles of railroad tracks within the Port Complex; and
- Breaking and storing railroad cars awaiting dispatch.

Photograph 11: Stacked containers in rail car wells

The Port is served by two Class 1 railroads, Burlington Northern Santa Fe (BNSF) and Union Pacific (UP), often referred to as the 'main line' or 'line-haul' rail companies. After PHL has built a unit train, BNSF or UP will hook up their line-haul locomotive(s) to the train and pull the train out of the on-dock railyard on to the main-line tracks to the eventual destination. PHL locomotives will occasionally pull portions of a unit train out of the on-dock facility to one of the near dock ICTFs. A loaded double-stack train is typically pulled by three or four line-haul locomotives, although, if PHL pulls the train, it would be hauled by two or three smaller locomotives.

PHL contracts with the Ports of Los Angeles and Long Beach to operate the centralized traffic control (signaling) system. Agreements with BNSF and UP for international cargo are usually handled by the shipping lines. Many shipping lines have a contract with both BNSF and UP.

Cargo-handling Equipment. Under the proposed Project, an increase in the number of some pieces of cargo-handling equipment would be required to process the increased throughput. The current and future equipment inventory is described by the following:

- Forklifts (36 in 2008, 46 in 2027);
- RMG cranes (10 in 2008, 10 in 2027);
- Rubber-tired Gantry Crane (8 in 2008, 8 in 2027);
- Side picks (7 in 2008, 7 in 2027);
- Top handlers (19 in 2008, 27 in 2027); and
- Yard tractors (195 in 2008, 285 in 2027).

Cargo-handling equipment have useful operating lives, which correspond to the period during which continued operation, with routine maintenance and periodic retrofits, is still cost-effective. At the expiration of useful operating lives, items of equipment would be replaced. EMS has adopted a schedule for equipment replacement consistent with the retrofit schedule adopted by CARB. Specifically:

- Forklifts would be replaced approximately every twelve years;
- RMG cranes would be replaced approximately every thirty years;
- A-frame cranes would be replaced every 30 years;[8]
- Rubber-tired gantry cranes (see Photograph 12) would be replaced every twenty-five years;
- Side picks (see Photograph 13) would be replaced every twelve years;
- Top handlers (see Photograph 14) would be replaced every twelve years;
- Yard tractors (see Photograph 10 above) would be replaced every seven years; and
- Miscellaneous diesel equipment would be replaced every twelve years.

[8] RMGs and A-frames are not expected to be replaced as a normal course of business during the length of the lease

Photograph 12: Rubber Tire Gantry Crane

Photograph 13: Side pick

Photograph 14: Top pick or handler

Operation of the 41-acre Backland Area Adjacent to Berth 306. Because it is not certain as to whether or when use of an automated system would commence, for the purposes of environmental review, the EIS/EIR assumes that either (1) the terminal would continue to operate using traditional operations throughout the lease term; or (2) the operation of the 41-acre backland would transition from a traditional operation (i.e., transport of containers by mostly diesel-powered equipment) to an automated operation with mostly electric equipment during the lease term. Following is a description of traditional and automated backland operations:

Traditional Backlands

The existing APL Terminal operates using "traditional" methods for container terminal operations. As detailed in Section 1.2.2.1.1 in Chapter 1, Introduction, of the Draft EIS/EIR under the traditional operations, 1 to 10 cranes (depending on the size of the ship and availability of the cranes) operating simultaneously unload or load one ship. Once containers have been off-loaded from the ship or received through the gates on trucks and trains, the containers are stored and moved around the backlands area of the terminal (the storage yards) using cargo-handling equipment that may include electric- or diesel-powered RMGs, diesel-powered RTGs, and/or diesel-powered sidepicks, toppicks, and yard tractors. Through the use of this handling equipment, containers are stored by stacking containers on top of each other, up to five containers high, with the bottom container placed directly on the ground, or with a container stored directly on a chassis (trailer). All of the unloading/loading equipment used in the traditional backland operations is performed and operated by workers. A majority of the equipment used in the traditional operations is diesel-powered.

Automated Backlands

The Ports of Los Angeles and Long Beach have developed a roadmap for moving forward with the identification, evaluation, and integration of zero emission technologies for goods movement. It is foreseeable that a technology change could result in replacement of some of the traditional backland operations at the APL Terminal through

the use of an automated container handling system on the 41-acre backland area adjacent to the proposed Berth 306. If installed, such a system would involve the use of semi-automatic dual hoist electric shore side gantry cranes, AGVs, electric ASCs, and semi-automated electric LTCs. Figure 1-6 and the following Figure 1-7 show a preliminary conceptual design associated with the potential automated container operations.

Once the vessel arrives at the berth, the cranes would begin unloading containers from the vessel. Each crane would have a dual trolley with spreaders - a ship trolley and a shore trolley. The ship trolley would lift the container from the vessel to a platform on the crane where the Inter-Box-Connectors (IBCs) would be removed from the container. The shore trolley would then lift the container from the coning platform to an AGV that is positioned directly to the rear of the crane. The AGV would receive wireless instructions and proceed through the use of sensors below the ground surface to a pre-assigned location in the backlands area. Once the AGV arrives at the correct location, an ASC would lift the container from the AGV and place it in the appropriate location.

When a customer's truck arrives at the terminal to pick up an import container, the truck would proceed to the Landside Transfer Area adjacent to the backlands area. The Landside Transfer Area would be comprised of parking stalls for the trucks delivering or receiving of containers from the 41-acre backland area adjacent to Berth 306, LTCs for the delivery and receiving of containers, and parking stalls on the backland area for AGVs to park. A truck would back into a stall with a chassis, and the driver would exit the truck and enter a booth. An AGV would then proceed to the appropriate grounded location of the container and an ASC would lift the container from the grounded location to the AGV. The AGV would proceed to the Landside Transfer Area and arrive at an AGV stall. The LTC would then lift the container from the AGV and move it by trolley to a position near the chassis, then land the container onto the chassis. The driver of the truck would re-enter the truck and proceed to the Out Gate. The container handling process for loading export containers would be handled in the same manner but in the reverse direction.

With the exception of the operator of the A-frame/shore side gantry crane, the automated backlands would be unmanned and fully automated. The automated system would be operated from a remote facility (such as the remodeled/expanded Power Shop). With the exception of the diesel/electric AGVs, all or part of the equipment used would be electric.

While infrastructure to support electric and automated equipment would be installed as part of the initial proposed Project improvements by 2013, the timing of the installation, integration, and operation of the automated equipment on the 41-acre backlands area would depend largely on market demand and cost.

Although no date is certain, for this environmental analysis, the construction effects of the installation of additional infrastructure and equipment necessary for automated operations on the 41-acre are assumed to occur around 2020. However, it is unknown whether installation and use of such equipment would be cost-effective in 2020 or at any other time.

The potential environmental impacts associated with the operations of the Berth 306 backlands as a traditional container terminal are quantified under each environmental resource area. This is the most conservative approach for estimating the environmental

impacts associated with the proposed Project operations. Where impacts associated with automated operations could differ from impacts associated with traditional operations, the impacts of automated operations at the backland area adjacent to Berth 306 also are addressed at full build-out in 2027, based on the information available from the conceptual designs.

Terminal Operating Hours

Currently, APL Terminal operations occur 360 days per year in two 8-hour shifts and one 5-hour shift per day, 7 days a week. The two 8-hour shifts can be extended to two 10-hour, overlapping shifts if operations so demand. For the 5 days of the year where the marine terminal does not operate, rail operations and mechanics at the on-dock railyard continue to operate 24 hours per day. The unloading and loading of ships (and supporting operations in backland areas) follows the schedule described above except that, during the hoot shift, only mechanics and security personal are working. Meanwhile, gate operations do not occur on Friday nights, Saturday nights, Sunday days, and Sunday nights, and not at all during the hoot shift. To facilitate these operations, the terminal directly employed up to 599 workers during the day, up to 407 at night, and 35 in the hoot shift in the CEQA baseline period July 2008 – June 2009.

In 2027, terminal operating hours are expected to change from those existing in 2008. Along with other terminals in the Port, EMS expects to load and unload ships and operate their gates during all three shifts in the future.

By 2027, terminal employees are expected to increase from a peak daily total of up to 1,041 in the CEQA baseline period to approximately 2,152 in 2027 (926 workers during the day, up to 849 at night, and up to 377 in the hoot shift). The terminal is run as a continuous operation, in which more employees are hired to supplement operations as needed. Thus, the terminal is expected to operate 24 hours a day (*i.e.*, with cargo operations occurring 24 hours per day) at a fairly consistent level of services.

1.6 Port of Los Angeles Environmental Initiatives

The Environmental Management Policy of the Port, as described in this section, was approved by the Harbor Commission on April 27, 2003. The purpose of the Environmental Management Policy is to provide an introspective, organized approach to environmental management; further incorporate environmental considerations into day-to-day Port operations; and achieve continual environmental improvement.

The Environmental Management Policy includes existing environmental initiatives for the Port and its customers, such as the voluntary Vessel Speed Reduction Program (VSRP), Source Control Program, Least Tern Nesting Site Agreement, Hazardous Materials Management Policy, and the Clean Engines and Fuels Policy. In addition, the Policy encompasses initiatives such as the Environmental Management System (EMS) with the Construction and Maintenance Division of the Port, and a Clean Marina Program. These programs are Port-wide initiatives to reduce environmental pollution. Many of the programs relate to the proposed Project. The following discussion includes details on a number of the programs and their goals.

1.6.1 Port Environmental Policy

The Port is committed to managing resources and conducting Port developments and operations in an environmentally and fiscally responsible manner. The Port strives to improve the quality of life and minimize the impacts of its development and operations on the environment and surrounding communities. This is done through the continuous improvement of its environmental performance and the implementation of pollution-prevention measures, in a feasible and cost-effective manner that is consistent with the overall mission and goals of the Port and with those of its customers and the community.

To ensure this policy is successfully implemented, the Port will develop and maintain an Environmental Management Program that will:

- Ensure that environmental policy is communicated to Port staff, its customers, and the community
- Ensure compliance with all applicable environmental laws and regulations
- Ensure that environmental considerations include feasible and cost-effective options for exceeding applicable regulatory requirements
- Define and establish environmental objectives, targets, and best management practices (BMPs), and monitor performance
- Ensure the Port maintains a Customer Outreach Program to address common environmental issues
- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations through environmental awareness and communication with employees, customers, regulatory agencies, and neighboring communities

The Port is committed to the spirit and intent of this policy and the laws, rules, and regulations, which give it foundation.

1.6.2 Environmental Plans and Programs

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

1.6.2.1 Clean Air Action Plan

The Ports of Los Angeles and Long Beach, with the participation and cooperation of the staff of the USEPA, CARB and SCAQMD, the San Pedro Bay Ports CAAP, a planning and policy document that sets goals and implementation strategies to reduce air emissions and health risks associated with port operations while allowing port development to continue. In addition, the CAAP sought the reduction of criteria pollutant emissions to the levels that assure Port-related sources decrease their “fair share” of regional emissions to enable the Basin to attain state and federal ambient air quality standards. Each individual CAAP measure is a proposed strategy for achieving these emissions reductions

goals. The Ports approved the first CAAP in November, 2006. Specific strategies to significantly reduce the health risks posed by air pollution from port-related sources include:

- Aggressive milestones with measurable goals for air quality improvements
- Specific goals set forth as standards for individual source categories to act as a guide for decision-making
- Recommendations to eliminate emissions of ultrafine particulates
- Technology advancement programs to reduce greenhouse gases
- Public participation processes with environmental organizations and the business communities

The CAAP focuses primarily on reducing diesel particulate matter (DPM), along with nitrogen oxide (NOx) and sulfur oxides (SOx). This reduces emissions and health risk and thereby allows for future port growth while progressively controlling the impacts associated with growth. The CAAP includes emission control measures as proposed strategies that are designed to further these goals expressed as Source-Specific Performance Standards which may be implemented through the environmental review process, or could be included in new leases or Port-wide tariffs, Memoranda of Understanding (MOU), voluntary action, grants or incentive programs.

The CAAP Update, adopted in November, 2010 includes updated and new emission control measures as proposed strategies which support the goals expressed as the Source-Specific Performance Standards and the Project-Specific Standards. In addition, the CAAP Update includes the recently developed San Pedro Bay Standards which establish emission and health risk reduction goals to assist the ports in their planning for adopting and implementing strategies to significantly reduce the effects of cumulative port-related operations.

The goals set forth as the San Pedro Bay Standards are the most significant addition to the CAAP and include both a Bay-wide health risk reduction standard and a Bay-wide mass emission reduction standard. Ongoing Port-wide CAAP progress and effectiveness will be measured against these Bay-wide Standards which consist of the following reductions as compared to 2005 emissions levels:

- Health Risk Reduction Standard: 85 percent reduction in DPM by 2020
- Emission Reduction Standards:
  - By 2014, reduce emissions by 72 percent for DPM, 22 percent for NOx, and 93 percent for SOx
  - By 2023, reduce emissions by 77 percent for DPM, 59 percent for NOx, and 92 percent for SOx

The Project-Specific Standard remains as adopted in the original CAAP in 2006, that new projects meet the 10 in 1,000,000 excess residential cancer risk threshold, as determined by health risk assessments conducted subject to CEQA statutes, regulations and guidelines, and implemented through required CEQA mitigations and/or lease negotiations. Although each Port has adopted the Project Specific Standard as a policy, the Boards of Harbor Commissioners retain the discretion to consider and approve

projects that exceed this threshold if the Board deems it necessary by adoption of a statement of overriding considerations at the time of project approval.

This EIS/EIR analysis assumes compliance with the CAAP. Proposed Project-specific mitigation measures applied to reduce air emissions and public health impacts are consistent with, and in some cases exceed, the emission-reduction strategies of the CAAP.

1.6.2.2 Water Resources Action Plan (WRAP)

Both the LAHD and Port of Long Beach face ongoing challenges from contaminants that remain in Port sediments, flow into the harbor from port land, and flow from upstream sources in the watershed, well beyond the ports' boundaries. Therefore, the Ports undertook a collaborative, scientific effort to address existing and potential sources of water and sediment pollution. Building on the collaborative model developed by the CAAP, the Port Complex under the WRAP will continue to work together and with other stakeholders to achieve further progress in water and sediment quality improvement. The WRAP establishes a program of water quality improvement measures necessary to achieve the goals and targets that will be established by the Los Angeles RWQCB in upcoming regulations. The WRAP targets the four basic types of potential sources of pollutants to harbor waters (land use discharges, on-water discharges, sediments and watershed discharges) and includes control measures zeroing in on known and potential sources of water and sediment contamination in the harbor area (POLA and POLB, 2009).

1.6.2.3 Port of Los Angeles Sustainable Construction Guidelines

The Port adopted the Port of Los Angeles Sustainable Construction Guidelines in February 2008. The guidelines will be used to establish air emission criteria for inclusion in bid specifications for construction. The guidelines will reinforce and require sustainability measures during performance of the contracts, balancing the need to protect the environment, be socially responsible, and provide for the economic development of the Port. Future resolutions are anticipated to expand the guidelines to cover other aspects of construction, as well as planning and design. These guidelines support the forthcoming Port Sustainability Program.

The intent of the Guidelines is to facilitate the integration of sustainable concepts and practices into all capital projects at the Port and to phase in the implementation of these procedures in a practical, yet aggressive, manner (LAHD, 2008). These guidelines will be made a part of all construction specifications advertised for bids.

Significant features of these Guidelines include, but are not limited to:

- All ships and barges used primarily to deliver construction-related materials for LAHD construction contracts shall comply with the VSRP and use low-sulfur fuel within 40 nautical miles of Point Fermin,
- Harbor craft shall meet USEPA Tier-2 engine emission standards, and the requirement will be raised to USEPA Tier-3 engine emission standards by January 1, 2011,
- All dredging equipment shall be electric,

- On-road heavy-duty trucks shall comply with USEPA 2004 on-road emission standards for inhalable particulate matter (PM_{10}) and NO_X and shall be equipped with a CARB-verified Level 3 device. Emission standards will be raised to USEPA 2007 on-road emission standards for PM_{10} and NO_X by January 1, 2012,
- Construction equipment (excluding on-road trucks, derrick barges, and harbor craft) shall meet Tier 2 emission off-road standards. The requirement will be raised to Tier 3 by January 1, 2012, and to Tier 4 by January 1, 2015. In addition, construction equipment shall be retrofitted with a CARB-certified Level 3 diesel emissions control device,
- Comply with SCAQMD Rule 403 regarding fugitive dust, and other fugitive dust control measures, and
- Additional Best Management Practices, based largely on Best Available Control Technology (BACT), will be required on construction equipment (including on-road trucks) to reduce air emissions further.

1.6.2.4 Other Environmental Programs

1.6.2.4.1 Air Quality

Alternative Maritime Power. AMP reduces emissions from container vessels docked at the Port. Normally, ships shut off their propulsion engines when at berth, but use auxiliary diesel generators to power electrical needs such as lights, pumps, and refrigerator units. These generators emit an array of pollutants, primarily NO_X, SO_X, and particulate matter (PM_{10} and $PM_{2.5}$). The Port is beginning to provide shore-based electricity as an alternative to running the generators (a process also referred to as cold ironing). The AMP program allows ships to "plug-in" to shoreside electrical power while at dock instead of using on-board generators, a practice that will dramatically reduce emissions. Before being used at the Port, AMP was used commercially only by the cruise ship industry in Juneau, Alaska. Now, AMP facilities have been installed and are currently in use at China Shipping and the Yusen Terminals with plans for additional facilities at the Evergreen Terminal, TraPac Terminal, and Cruise Ship Terminal, among others. AMP has been incorporated into the CAAP as a project-specific measure.

Off-Peak Program. Extending cargo terminal operations by five night and weekend work shifts, the Off-Peak Program, managed by PierPASS (an organization created by marine terminal operators) has been successful in increasing cargo movement, reducing the waiting time for trucks inside port terminals, and reducing truck traffic during peak daytime commuting periods.

On-Dock Rail and the Alameda Corridor. Use of rail for long-haul cargo is acknowledged as an air quality benefit. Four existing on-dock railyards at the Port, including the existing on-dock facility on the proposed Project site (another two on-dock yards are proposed), significantly reduce the number of short-distance truck trips (the trips that normally would convey containers to and from off-site railyards). Combined, these intermodal facilities eliminate an estimated 1.4 million truck trips per year, and the emissions and traffic congestion that go along with them. A partner in the Alameda Corridor project, the Port is using the corridor to transport cargo to downtown railyards at 10 to 15 miles per hour faster. Use of the Alameda Corridor allows cargo to travel the 20 miles to downtown Los Angeles at a faster pace and promotes the use of rail

versus truck. In addition, the Alameda Corridor eliminates 200 rail/street crossings and emissions produced by cars with engines idling while the trains pass.

Tugboat Retrofit Project. The engines of several tugboats in the Port were replaced with ultra-low-emission diesel engines. This was the first time such technology had been applied to such a large engine. Emissions testing showed a reduction of more than 80 tons of NO_X per year, nearly three times better than initial estimates. Under the Carl Moyer Program,[9] the majority of tugboats operating in the Port Complex have been retrofitted.

Electric and Alternative Fuel Vehicles. The Port has converted more than 35 percent of its fleet to electric or alternative-fuel vehicles. These include heavy-duty vehicles and passenger vehicles. The Port proactively has embarked on the use of emulsified fuels that are verified by CARB to reduce diesel particulates by more than 60 percent compared to diesel-powered equipment.

Electrified Terminal Operating Equipment. The 57 ship-loading cranes currently in use at the Port operate under electric power. In addition, numerous other terminal operations equipment has been fitted with electric motors.

Yard Equipment Retrofit Program. Over the past 5 years, DOCs have been applied to nearly all yard tractors at the Port. This program has been carried out with Port funds and funding from the Carl Moyer Program.

Vessel Speed Reduction Program. Under this voluntary program, oceangoing vessels slow to 12 knots when within 20 nautical miles of the entrance to Los Angeles Harbor, thus reducing emissions from main propulsion engines. Currently, approximately 70 percent of ships comply with the voluntary program.

Greenhouse Gas Reduction. Under a December 2007 agreement with the Attorney General's office, the Port will conduct a comprehensive inventory of port-related greenhouse gas (GHG) emissions, tracking these emissions from their foreign sources to domestic distribution points throughout the United States. The Port will report this data annually to the California Climate Action Registry. The annual report will include emissions of all ships bound to and from the Port terminals, encompassing points of origin and destination; emissions of all rail transit to and from Port terminals, encompassing major rail cargo destination and distribution points in the United States; and emissions of all truck transit to and from Port terminals, encompassing major truck destinations and distribution points. The Port-wide inventory will be conducted annually until Assembly Bill (AB) 32 regulations become effective.[10] Under the agreement, the Port will also construct a 10-megawatt photovoltaic solar system to offset approximately 17,000 metric tons of carbon dioxide equivalent annually. In addition to the recent agreement with the Attorney General, many of the environmental programs described in

[9] The Carl Moyer Program is a grant program implemented by CARB and administered by the SCQAMD to fund the incremental cost of cleaner-than-required engines.

[10] The California Global Warming Solutions Act of 2006, also known as Assembly Bill (AB) 32, requires CARB to adopt regulations to require the reporting and verification of statewide GHG emissions and to monitor and enforce compliance with the program. In general, the bill requires CARB to reduce statewide GHG emissions to the equivalent of those in 1990 by 2020.

this section such as the Green Terminal Program, the Recycling Program, the Green Ports Program, and all of the air quality improvement programs described above, will serve to reduce GHG emissions.

1.6.2.4.2 Water Quality

Clean Marinas Program. To help protect water and air quality in the Harbor, the Port is developing a Clean Marinas Program. The program advocates that marina operators and boaters use BMPs - environmentally friendly alternatives to some common boating activities that could cause pollution or contaminate the environment. The program also includes several innovative clean water measures unique to the Port. The Clean Marinas Program features voluntary components and measures required through Port leases, CEQA mitigation requirements, or established federal, state, and local regulations.

Water Quality Monitoring. The Port has been monitoring water quality at 31 established stations in San Pedro Bay since 1967, and the water quality today at the Port is among the best of any industrialized port in the world. Samples are tested on a monthly basis for dissolved oxygen (DO), biological oxygen demand (BOD), and temperature. Other observations are noted, such as odor and color, as well as the presence of oil, grease, and floating solids. The overall results of this long-term monitoring initiative show the tremendous improvement in Harbor water quality that has occurred over the last four decades.

Inner Cabrillo Beach Water Quality Improvements. The Port is one of the few industrial ports in the world to have a swimming beach. Inner Cabrillo Beach provides quiet water for families with small children. However, in recent years, upland runoff has resulted in high levels of bacteria in shoreline waters. The Port has invested hundreds of thousands of dollars in water circulation/quality models and studies to investigate the problem. Recently, the Port repaired storm drains and sewer lines, replaced poor quality beach sand with clean sand, removed the groin at the north end of the beach, and installed a bird exclusion device, all as part of its commitment to make sure that Inner Cabrillo Beach continues to be an important regional recreational asset, but more importantly – improve water quality.

1.6.2.4.3 Habitat Management and Endangered Species

California Least Tern Site Management. The federal- and State-endangered California least tern (a species of small sea bird) nests from April through August on Pier 400 in the Port adjacent to the Pier 400 container terminal. Through an interagency nesting site agreement, the Port maintains, monitors, and protects the approximately 15-acre nesting site on Pier 400.

Interagency Biomitigation Team. As part the development of mitigation for the Deep-Draft Navigation Improvements, including the Pier 400 Landfill, the Port Complex helped establish an interagency mitigation team to evaluate and provide solutions for impacts of landfill and terminal construction on marine resources in the ports. The primary agencies involved include the USACE, USFWS, NMFS, and the CDFG. A number of mitigation agreements have been established through this coordination, and it continues to meet as necessary to address environmental issues associated with Port development and operations.

1.6.2.4.4 General Port Environmental Programs

Green Building Policy. In August 2007, the Port adopted a Green Building Policy, which outlines the environmental goals for newly constructed and existing buildings, dictates the incorporation of solar power and technologies that are efficient with respect to the use of energy and water, dedicates staffing for the advancement and refinement of sustainable building practices, and maintains communication with other City Departments for the benefit of the community. The policy incorporates sustainable building design and construction guidelines based on the United States Green Building Council - Leadership in Energy and Environmental Design (USGBC - LEED) Green Building Rating System (POLA, 2007).

Recycling. The Port incorporates a variety of innovative environmental ideas into its construction projects. For example, when building an on-dock rail facility, the Port saved nearly $1 million and thousands of cubic yards of landfill space by recycling existing asphalt pavement instead of purchasing new pavement. The Port also maintains an annual contract to crush and recycle broken concrete and asphalt. In addition, the Port successfully has used recycled plastic products, such as fender piles and protective front-row piles, in many wharf construction projects.

1.6.3 Port of Los Angeles Leasing Policy

On February 1, 2006, the Harbor Commission approved a comprehensive Leasing Policy for the Port that not only establishes a formalized, transparent process for tenant selection but also includes environmental requirements as a provision in Port leases (POLA, 2006).

Specific emission-reducing provisions contained in the Leasing Policy that apply to the proposed Project as specific to cargo-handling equipment purchases, which must meet one of the following standards:

- Cleanest available NOx alternative-fueled engine, meeting 0.01 g/bhp-hr PM; or
- Cleanest available NOx diesel-fueled engine, meeting 0.01 g/bhp-hr PM, or, if 0.01 g/bhp-hr PM engines are unavailable;
- Cleanest available engine (either fuel type) and install cleanest Verified Diesel Emissions Controls (VDEC) available.
- Compliance with VSRPs;
- Use of clean AMP or cold-ironing technology, plugging into shore side electric power while at dock, where appropriate;
- Use of low sulfur fuel in main and auxiliary engines while sailing within the boundaries of the South Coast Air Basin; and
- Use of clean, low-emission trucks and locomotives to service the terminal.

1.6.4 Port Community Advisory Committee

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

- Assess the impacts of Port developments on the Harbor area communities and recommend suitable mitigation measures to the Board for such impacts;

- Review past, present, and future environmental documents in an open public process and make recommendations to the Board to ensure that impacts to the communities are mitigated appropriately in accordance with federal and California law; and
- Provide a public forum and make recommendations to the Board to assist the Port in taking a leadership role in creating balanced communities in Wilmington, Harbor City, and San Pedro so that the quality of life is maintained and enhanced by the presence of the Port.

The role of the PCAC in Port environmental documents is described in Appendix B of the Draft EIS/EIR.

1.7 Changes to the Draft EIS/EIR

This section of the Final EIS/EIR discusses general changes and modifications that have been made to the Draft EIS/EIR. Actual changes to the text, organized by Draft EIS/EIR chapters and sections, can be found in Chapter 3, "Modifications to the Draft EIS/EIR," of this Final EIS/EIR. The changes to the Draft EIS/EIR are primarily editorial in nature and have been made for the purpose of correcting and clarifying information contained within the Draft EIS/EIR based on comments received from the public.

Changes noted in Chapter 3 are identified by text strikeout and underline. These changes are referenced in Chapter 2, "Responses to Draft EIS/EIR Comments," of this Final EIS/EIR, where applicable. The project description is presented above and summarized in the Executive Summary, incorporating the editorial changes noted in the Responses to Comments and other minor corrections.

The changes and clarifications presented in Chapter 3 were reviewed to determine whether or not they warranted recirculation of the Draft EIS/EIR prior to certification of the EIS/EIR according to CEQA and NEPA Guidelines and Statutes. The changes would not result in any new significant environmental impacts or a substantial increase in the severity of an existing environmental effect. In response to public comments, changes and clarifications have been made throughout the Draft EIS/EIR.

The above changes are consistent with the findings contained in the environmental impact categories in Chapter 3, "Environmental Analysis," of the Draft EIS/EIR, as amended. There would be no new or increased significant effects on the environment due to the proposed project changes, and no new alternatives have been identified that would reduce significant effects of the proposed Project. Therefore, the Draft EIS/EIR does not need to be recirculated, and the EIS/EIR can be certified without additional public review, consistent with PRC Section 21092.1 and CEQA Guidelines Section 15088.5, and NEPA regulations in 40 Code of Federal Regulations (CFR) 1502 and 1503.

1.8 References

1.8.1 Printed References

Los Angeles Harbor Department (LAHD). 2008. *Los Angeles Harbor Department Sustainable Construction Guidelines for Reducing Air Emissions.*

Port of Los Angeles and Port of Long Beach. 2009. *Water Resources Action Plan* (WRAP). August. Available at: < http://www.portoflosangeles.org/DOC/WRAP_Final.pdf>. Last accessed May 2011.

Port of Los Angeles (POLA). 2006. *Port of Los Angeles Real Estate Leasing Policy.* Available at <http://www.portoflosangeles.org/Publications/POLA_Leasing_Policy_020106.pdf>. Last accessed September 2011.

_____. 2007. *Green Building Policy.* Available at <http://www.portoflosangeles.org/newsroom/2007_releases/news_082907green_building_policy.pdf>. Last accessed September 2011.

_____. 2009. *Port of Los Angeles Channel Deepening Project, Final Supplemental Environmental Impact Statement/Supplemental Environmental Impact Report.* State Clearinghouse No. 1999091029.

_____.1979. *Port of Los Angeles Master Plan with Amendments.* Last revised November 2009.