MIDDLE HARBOR REDEVELOPMENT PROJECT

Final Environmental Impact Statement (FEIS)/ Final Environmental Impact Report (FEIR) and Application Summary Report (ASR)

Prepared for:

U.S. Army Corps of Engineers
Los Angeles District

The Port of LONG BEACH

April 2009

SAIC
From Science to Solutions

SCH No. 2004091010

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ACRONYMS AND ABBREVIATIONS

°	degree
AAPA	Amercian Association of Port Authorities
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
AC	asphalt concrete
ACGs	allisions, collisions, and groundings
ACM	asbestos containing materials
ACTA	Alameda Corridor Transportation Authority
AEI	Air Emissions Inventory
af	acre feet
afy	acre feet per year
AHM	acutely hazardous materials
AIRFA	American Indian Religious Freedom Act
ALECS	Advanced Locomotive Emissions Control System
AMECS	Advanced Maritime Emissions Control Systems
ANSI	American National Standards Institute
ARB	California Air Resources Board
ARPA	Archaeological Resources Protection Act
ATA	America Trucking Associatons
ATMIS	Advanced Transportation, Management, Information, and Security
AQAC	Air Quality Advisory Committee
AQMP	Air Quality Management Plan
ARPA	Archaeological Resources Protection Act
ASR	Aquifer Storage and Recovery
Ave	Avenue
BACT	best available control technology
BAT	best available technology
BCT	best conventional pollutant control technology
BLM	Bureau of Land Management
Blvd	boulevard
BMPs	Best Management Practices
BNSF	Burlington Northern Santa Fe Railroad
BTEX	benzene, toluene, ethylbenzene, and xylenes
C_2Oe	carbon dioxide equivalent
C-R	concentration-response
CAA	Clean Air Act
CAAP	Clean Air Action Plan
CAAQS	California Ambient Air Quality Standards
CAGR	compound annual growth rate
Cal-EPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CARROT	Climate Action Reporting On-Line Tool
CBD	Center for Biolgical Diversity
CC/GHG Plan	Climate Change/Greenhouse Gas Strategic Plan
CCA	California Coastal Act
CCAA	California Clean Air Act of 1988
CCAR	California Climate Action Registry
CCC	California Coastal Commission
CCR	California Code of Regulations

CDFG	California Department of Fish and Game
CDMG	California Division of Mines and Geology
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CH_4	methane
CHE	Container/Cargo Handling Equipment
CIWMB	California Integrated Waste Management Board
CLE	Contingency Level Event
CMP	Congestion Management Program
CMPTIA	Los Angeles County Metropolitan Transportation Authority Traffic Impact Analysis
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalent
COG	Gateway Cities Council of Governments
ConOps	Maritime Preventative Radiological Nuclear Detection Concept of Operations
Corps	U.S. Army Corps of Engineers
COTP	Captain of the Port
CRHP	California Register of Hisotrical Places
CRHR	California Register of Historical Resources
CSLC	California State Lands Commission
CSTF	Los Angeles Regional Contaminated Sediments Task Force
CTB	cement treated base
CTP	Clean Trucks Program
CTR	California Toxics Rule
Cu	Copper
CUPA	Certified Unified Program Agency
CUT	California United Terminals
CWA	Clean Water Act
cy	cubic yards
CZMA	Coastal Zone Management Act
DA	Department of the Army
dB	decibel
dBA	A-Weighted Sound Level
D/C	demand to capacity
DDE	dichloro-diphenyl-dichloroethylene
DDT	dichloro-diphenyl-tricloroethane
DEHP	bis(2ethylhexyl)phthalate
DIC	digital control unit
DMA	marine gas oil
DMB	marine diesel oil
DO	Dissolved Oxygen
DOC	California Department of Conservation
DOC	department operations center
DOCs	diesel oxidation catalysts
DoD	Department of Defense
DOGGR	California Division of Oil and Gas and Geothermal Resources
DOI	U.S. Department of the Interior
DOJ	California Department of Justice
DOT	Department of Transportation

DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
DU	dwelling units
EA	Enviornmental Analysis
EB	eastbound
ECA	Emission Control Area
ECMS	Electric Container Movement System
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
EIS	Enviornmental Impact Statement
EIS/EIR	Environmental Impact Statement/Environmental Impact Report
EIR	Enviornmental Impact Report
EMS	Enviornmental Management System
e/o	east of
EO	Executive Order
EOP	Emergency Operations Plan
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ER	U.S. Army Corps of Engineers regulations
ER-L	Effect Range Low
ER-M	Effect Range Medium
ESA	Endangered Species Act
F	Fahrenheit
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FMC	Federal Maritime Commission
FMP	Fishery Management Plan
FR	Federal Register
FRA	Federal Railroad Administration
FSP	Facility Security Plan
Fwy	Freeway
g	gravitational acceleration
g/bhp-hr	grams per brake horsepower hour
g/kW-hr	grams per kilowatt hour
g/m^2	grams/square meter
GEFT	Global Enviornment and Technology Foundation
GHG	greenhouse gases
GMP	Growth Management Plan
GWP	global warming potential
HABS	Historic American Buildings Survey
HAER	Historic American Engineering Record
HAP	hazardous air pollutant
HARP	Hotspots Analysis and Reporting Program
HDP	Harbor Development Permit
HFC	hydrofluorocarbons
HHI	health hazard index
HHW	higher high water
HI	hazard index
HIA	Health Impact Assessement
HLW	higher low water
HMSD	Hazardous Materials Standards Division
hp	horsepower
HRA	health risk assessment
HSAS	Homeland Security Advisory System
HSC	Harbor Safety Committee

HSP	Harbor Safety Plan
HSWA	Hazardous and Solid Waste Amendments
Hz	Hertz
I	Interstate
ICTF	Intermodal Container Transfer Facility
ICU	intersection capacity utilization
IHD	ischemic heart disease
ILWU	International Longshore and Warehouse Union
I/M	inspection and maintenance
IMO	International Maritime Organization
IS	Initial Study
ISPS	International Ship and Port Facility Security
ITS	Intelligent Transportation Systems
JPS	Jacobsen Pilot Service
JWPCP	Joint Water Pollution Control Plant
km	kilometer
km/hr	kilometer per hour
kV	kilovolt
kW	kilowatt
LACSD	Los Angeles County Sanitation District
LAF	A-weighted sound pressure level
LAHD	Los Angeles Harbor Department
LBCT	Long Beach Container Terminal, Inc.
LBFD	Long Beach Fire Department
LBGO	Long Beach Gas and Oil Department
LBHD	Long Beach Harbor Department
LBMC	Long Beach Municipal Code
LBMP	Long Beach Monitoring Program
LBPD	Long Beach Police Department
LBSWMP	Long Beach Stormwater Management Program
LBT	Long Beach Transit
LBUSD	Long Beach Unified School District
LBWD	Long Beach Water Department
LCM	Licensed Motor Carriers
LCP	Local Coastal Program/Plan
LEDPA	least environmentally damaging practicable alternative
LEED®	Leadership in Energy and Environmental Design
LEPC	Local Emergency Planning Committee
Leq	Equivalent Noise Level
LF	linear feet
LHW	lower high water
LLW	lower low water
LMW	low molecular weight
LNG	liquefied natural gas
LOS	level of service
LPS	Locally Preferred Strategy
LUD	Land Use District
M	magnitude
m	meter
m^2	square meter
MARSEC	Maritime Security
MATES-II	Multiple Air Toxics Exposure Study
MCE	maximum credible earthquake
MCGMAP	Multi-County Goods Movement Action Plan
MDO	marine diesel oil

MEPC	Marine Environment Protection Committee
MET	Mental Evaluation Team
METRO	Metropolitan Stevedore
mg/L	milligrams per liter
$\mu g/m^3$	micrograms per cubic meter
µm	micrometer
µPa	micropascal
MGD	million gallons per day
MGO	marine gas oil
MLLW	Mean Lower Low Water
mmHg	millimeters of mercury, a measure of pressure
MMPA	Marine Mammal Protection Act
MOA	Memorandum of Agreement
MOTEMS	Marine Oil Terminal Engineering and Maintenance Standards
MOU	Memorandum of Understanding
MRZ	Mineral Resource Zone
MSL	mean sea level
MTA	Metropolitan Transportation Authority
MTG	Mercator Transport Group
MTSA	Maritime Transportation Security Act
MW	megawatt
MWD	Metropolitan Water District of Southern California
MWh	megawatt-hour
MVA	megavolt ampere
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NB	northbound
NEPA	National Environmental Policy Act
NFA	No Federal Action
NFIP	National Flood Insurance Program
NFPA	National Fire Protection Association
NGO	non-governmental organization
NHPA	National Historic Preservation Act
nm	nautical miles
NMFS	National Marine Fisheries Service
n/o	north of
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOP	Notice of Preparation
NORM	naturally occurring radioactive material
NOS	National Ocean Service
NPDES	National Pollutant Discharge Elimination System
NRC	National Response Corporation
NRHP	National Register of Historic Places
O_3	ozone
OAL	Office of Administrative Law
OCORM	Office of Coast and Ocean Resource Management
OCP	organochlorine pesticide
OCR	optical character recognition

OEHHA	California Environmental Protection Agency's Office of Environmental Health Hazard Assessment
OES	California Office of Emergency Services
OGV	ocean-going vessels
OLE	Operating Level Event
OSCP	Oil Spill Contingency Plan
OSPR	California Office of Spill Prevention and Response
OPR	Governor's Office of Planning and Research
PAH	polynuclear aromatic hydrocarbon
Pb	lead
PCB	polychlorinated biphenyl
PCC	Protland cement concrete
PCE	passenger car equivalent
PCH	Pacific Coast Highway
PERP	Statewide Portable Equipment Registration Program
PFC	Perfluorocarbons
PGA	peak ground acceleration
pH	hydrocarbon ion concentration
PHL	Pacific Harbor Line
PL	Public Law
PM	Particulate Matter
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PMP	Port of Long Beach Master Plan
PMSA	Pacific Merchant Shipping Association
POLA	Port of Los Angeles
POLB	Port of Long Beach
Port	Port of Long Beach
PORTS	Physical Oceanographic Real Time System
ppm	parts per million
ppt	parts per thousand
PQL	practical quantization limit
PST	Pacific Standard Time
PRC	California Public Resources Code
PV	photovoltaic
QUEST	Quality and Energy Efficiency in Storage and Transport
RCPG	Regional Comprehensive Plan and Guide
RCRA	Resource Conservation and Recovery Act
RCTC	Riverside County Transportation Commission
re	in reference to
REC	Renewable Energy Credits
REL	reference exposure levels
RFID	radio frequency identification
RHA	Rivers and Harbors Act
RIMS	Response Information Management System
RMG	Rail Mounted Gantry
RMP	Risk Management Program
RNA	Regulated Navigation Area
ROD	Record of Decision
ROI	Region of Influence
rpm	revolutions per minute
RPM	Radiation Portal Monitor
RTG	rubber tire gantry
RTP	Regional Transportation Plan
RWQCB	Los Angeles Regional Water Quality Control Board

RYE	railyard equipment
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SB	southbound
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCC	Security Command and Control Center
SCE	Southern California Edison
SCIG	Southern California International Gateway
SCGC	Southern California Gas Company
SEA	Significant Ecological Area
SECA	Sulfur Emission Control Area
SEIS	Supplemental Enviornmental Impact Statement
SEMS	Standardized Emergency Management System
SEMS/NIMS	Standardized Emergency Management System/National Incident Management System
SERC	State Emergency Response Commission
SERRF	Southeast Resource Recovery Facility
SF_6	sulfur hexafluoride
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SMARA	Surface Mining and Reclamation Act of 1975
s/o	south of
SO_2	sulfur dioxide
SO_x	sulfer oxide
SPBP	San Pedro Bay Ports
SPBS	San Pedro Bay Standards
SPCC	Spill Prevention, Control, and Countermeasure Plan
SR	State Route
St	Street
STLC	California Soluble Threshold Limit Concentration
SUSMP	Standard Urban Stormwater Mitigation Plan
SVOC	semi-volatile organic compound
SWPPP	Storm Water Pollution Prevention Plan
SWQMP	Stormwater Quality Mitigation Plan
SWRCB	California State Water Resources Control Board
T/SP	top and side pick
TAC	toxic air contaminant
TAP	Technology Advancement Program
TCIF	Trade Corridor Improvements Fund
TEH	total extractable hydrocarbon
TEU	Twenty-foot-equivalent unit
TIA	Traffic Impact Analysis
TITP	Terminal Island Treatment Plant
TMDL	total maximum daily load
TRC	tradable renewable certificate
TRPH	Total Recoverable Petroleum Hydrocarbon
TRU	transport refrigeration units
TSS	Traffic Separation Scheme
TTLC	Total Threshold Limit Concentration
UBC	Uniform Building Code

UFP	ultrafine particles
UFP/cm^3	ultrafine particle per cubic centimeter
UP	Union Pacific
U.S.	United States
USACE	U.S. Army Corps of Engineers
USAR	Urban Search and Rescue Unit
USC	U.S. Code
USCG	U.S. Coast Guard
USFWS	U.S. Fish and Wildlife Service
UWMP	Urban Water Management Plan
V/C	volume to capacity
VCS	Voluntary Carbon Standard
VDEC	Verified Diesel Emission Control System
VER	Verified Emission Reductions
VHF-FM	very high frequency-frequency modulation
VMT	vessel miles traveled
vphpl	vehicles per hour per lane
VOC	volatile organic compound
VSP	Vessel Security Plan
VSR	Vessel Speed Reduction
VSRP	Vessel Speed Reduction Program
VTS	Vessel Traffic Service
WB	westbound
WDR	Waste Discharge Requirements
WECC	Western Electricity Coordinating Council
WHO	World Health Organization
w/o	west of
WRAP	Water Resources Action Plan
WREGIS	Western Renewable Energy Generation Information System
WRI	World Resources Institute
WQS	water quality standards
Zn	Zinc
ZOI	zone of impact

EXECUTIVE SUMMARY

ES.1 INTENDED USES AND AUTHORIZING ACTIONS

The U.S. Army Corps of Engineers (Corps or USACE) and the City of Long Beach acting by and through its Board of Harbor Commissioners have prepared this Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) to identify and evaluate the potential environmental impacts associated with implementation of the proposed Middle Harbor Redevelopment Project (hereinafter "Project" or "proposed Project"). The Board of Harbor Commissioners has authority over the City's Harbor District, commonly known as the Port of Long Beach (Port or POLB).

The USACE is the federal lead agency for National Environmental Policy Act (NEPA) compliance and preparation of the EIS for the proposed Project, and the Port, as the public agency project proponent, is the lead agency for California Environmental Quality Act (CEQA) compliance and preparation of the EIR for the Project. The USACE and the Port have prepared this joint EIS/EIR to assess the environmental impacts associated with construction and operation of the proposed Project. The purpose of this document is to inform the public and the permitting agencies about the potential adverse and beneficial environmental impacts of the proposed Project and its alternatives, and to recommend potentially feasible mitigation measures.

This document was prepared in accordance with the requirements of NEPA (42 USC 4341 *et seq*.) and Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508), and the applicable USACE NEPA regulations (33 CFR 230), policies, and handbooks, which require the evaluation of potential environmental impacts resulting from federal actions. The primary federal action associated with the Project is the issuance of permits authorizing work and structures in navigable waters of the United States (U.S.) and the discharge of fill in waters of the U.S. Specifically, the USACE is considering an application submitted by the Port for a permit to conduct dredge and fill activities and construct wharves in accordance with Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act (RHA). This action may result in significant effects on the environment, thus constituting a major federal action requiring NEPA review (42 USC 4341 *et seq*.).

This EIS/EIR also fulfills the requirements of CEQA (Public Resources Code [PRC], Section 21000 *et seq.*), CEQA Guidelines (14 California Code of Regulations [CCR], Section 15000 *et seq.*), and City of Long Beach Guidelines for the Implementation of CEQA, as amended. According to CEQA Guidelines Section 15121(a) (CCR, Title 14, Division 6, Chapter 3), the purpose of an EIR is to serve as an informational document that:

> *..will inform public agency decision-makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.*

Other state and local agencies that have jurisdiction or regulatory responsibility over components of the Project would also rely on this EIS/EIR for CEQA compliance as part of their decision-making processes (refer to Section 1.8 for additional details).

ES.2 PROJECT PURPOSE AND NEED AND PROJECT OBJECTIVES

NEPA requires an EIS to discuss the "purpose and need" for a proposed federal action. Similarly, CEQA requires an EIR to discuss the "objectives" of a proposed project. These respective discussions are essential to explaining the underlying reasons why the Port is proposing the Project and why the Project is being recommended. Additionally, the purpose and need and the objectives are key in defining the alternatives and determining which should be included in the document.

The Project includes strategic redevelopment, expansion, and modernization of existing waterfront property and Port lands to accommodate a portion of the forecasted increases in containerized cargo throughput volumes. To accomplish this, the existing terminal facilities within the Project site need to be redeveloped to correct the following deficiencies:

- Approximately 55 acres of channel waters (Slips 1 and 3, and the East Basin) and the accompanying berths are too shallow to accommodate the larger existing and projected deep-draft cargo ships;

- Slips 1 and 3 are too narrow (395 feet and 364 feet, respectively) for the current larger vessels that require a width of approximately 480 feet to maneuver safely up to and away from the existing berths;
- Berths E24 – E26 (1,990 linear feet [LF]), Berths F1 – F4 (2,200 LF), and Berths F6 – F10 (2,550 LF) can each only accommodate one of the new generation of container cargo vessels that average over 1,100 LF, leaving the excess berth underutilized;
- Some underlying Pier E and Pier F wharf structure components are significantly deteriorated and need to be replaced;
- Berths E12 – E13 and F1 – F4 concrete pile-supported wharves were designed for break-bulk cargo and do not have the structural capacity or the utility infrastructure to support modern gantry cranes;
- Pier E has minimal rail capability, which will be unable to meet the Project needs, and the railyard at Pier F is insufficient to accommodate regular service of modern intermodal trains;
- The existing utility infrastructure is outdated and inadequate to support the implementation of environmental controls necessary to reduce pollution and conserve energy;
- The existing terminal areas are insufficient for the activities and modern equipment necessary to efficiently and safely handle the anticipated containerized cargo volumes; and
- Slip 1 separates Pier E docks and adjacent backland areas from the intermodal rail facilities on Pier F, resulting in an existing Pier E terminal that is inadequately connected to the essential infrastructure required to handle intermodal containerized cargo. In addition, Slip 1 in its current state and configuration is unusable for container vessel operations and prevents maximum utilization of the Project area to operate as an efficient container terminal.

Project Purpose and Need/Objectives

NEPA Project Purpose and Need

The overall Project need is to increase container terminal efficiency to accommodate a portion of the predicted future containerized cargo throughput volume and the modern cargo vessels that transport those goods to and from the Port. These larger container vessels need slip widths, water depths, and berth lengths that are greater than previous generations of cargo vessels. The purpose of the Project is to increase and optimize the cargo handling efficiency and capacity of the Port, by constructing sufficient berthing and infrastructure capacity to accommodate a proportional share of foreseeable increases in containerized cargo. Additional Project purposes include improving marine terminal operational efficiency that would expand the use of existing waterways for international maritime commerce, and upgrading utility infrastructure to support the implementation of environmental controls necessary to reduce pollution and conserve energy.

CEQA Project Objectives

The EIS/EIR examines in detail those alternatives that the Port determines have the potential to "*feasibly attain most of the project objectives*" (CEQA Guidelines Section 15126.6[f]). The objectives of the Middle Harbor Redevelopment Project are to:

- Consolidate common operations and wharves of two terminals (Piers E and F) into one terminal;
- Rehabilitate and modernize existing primary Port facilities, including replacement of obsolete and deteriorated wharf structures with adequate, well-equipped wharf areas, along with channels and berths of sufficient width, length, and depth to allow access to the docks by existing and future cargo vessels, and provide for replacement of obsolete gantry cranes with new generation cranes that are able to reach across the new, larger vessels;
- Implement the Green Port Policy and the Clean Air Action Plan (CAAP);
- Provide for efficient terminal traffic flow and cargo handling operations; and
- Link new and improved dock and wharf operations to planned and existing on-dock intermodal railyard facilities and separate on-dock intermodal terminal lead track operations (i.e., loading/unloading and switching) from mainline track operations.

Baselines

NEPA Baseline

For this EIS/EIR, the NEPA Baseline for determining significance of impacts is defined by the 'No Federal Action" condition, which includes

the full range of construction and operational activities that could be implemented absent permits from USACE (refer to Section 1.2.1.2 for additional details). Accordingly, activities that require permits, including those activities within USACE's jurisdiction under Section 10 of the RHA and Section 404 of the CWA are not part of the NEPA Baseline. The NEPA Baseline for this Project assumes that increases in cargo throughput will occur in the future as a result of demands for higher levels of containerized shipping and Port-authorized upland developments not under federal jurisdiction. As a result, this baseline is not bound to a "no growth" scenario. Potential impacts are determined by comparing conditions with and without the federal components of the Project at given points in the future. For purposes of this EIS/EIR, the USACE will evaluate the impacts of the Project and alternatives relative to the NEPA Baseline.

The NEPA Baseline would include construction of site improvements and operational activities that could occur without issuance of federal permits. Therefore, the baseline would not include any in-water activities (e.g., dredging, filling, and/or new wharf construction). Existing wharf infrastructure would not be improved and channel and berth deepening would not occur. However, due to the demand for higher levels of containerized shipping, the Middle Harbor container terminal would experience market-driven increases in throughput. Accordingly, this baseline would include redevelopment and backland expansion on existing lands within the Project site to accommodate additional containerized cargo up to the capacity of the existing wharves and berths.

CEQA Baseline

For the purpose of this EIS/EIR, the CEQA Baseline for determining the significance of potential impacts under CEQA are the conditions that existed at the time the Port issued the Notice of Preparation (NOP) (i.e., December 2005). The CEQA Baseline represents the setting at a fixed point in time, with no project growth over time. At that time, the existing terminal consisted of 294 acres, handled 1,264,021 twenty-foot-equivalent units (TEUs), representing standard-sized shipping containers, and received approximately 6,528 average daily truck trips, 185 annual vessel calls, and 138 annual trains.

ES.3 DESCRIPTION OF THE PROJECT AND ALTERNATIVES

Project Location

The Project is located in the Middle Harbor, Northeast Harbor, and Southeast Harbor Planning Districts within the highly industrialized inner Port complex (Figure ES.2-1). The Project comprises Piers D, E, and F and is bordered by Pier D Street and Ocean Boulevard to the north, Pico Avenue/Harbor Scenic Drive to the east, Pier F Avenue to the south, and the Back Channel to the west. The Project would be built on land owned by the Port.

Project Alternatives

The screening process used in the EIS/EIR to evaluate a reasonable range of alternatives was based on the Project's purpose and need/objectives. Screening criteria were also used to determine feasibility in accordance with the Port's legal mandates under the state Tidelands Trust and the Long Beach City Charter. Ten alternatives were considered during preparation of this EIS/EIR, including alternative terminal configurations and locations. However, only four of the ten alternatives meet most of the proposed Project's objectives and have been selected to be carried forward for detailed analysis.

The remaining six of ten alternatives were considered but eliminated from further discussion because they failed to meet a majority of the Project's objectives or screening criteria. Those alternatives are listed below and discussed further in Section 1.6.2:

- Construction of a new near-dock intermodal container railyard to serve multiple marine terminals;
- Use of other North American ports (i.e., those located on the West, East, and Gulf Coasts) to accommodate the Port of Long Beach's forecasted increases in container cargo;
- Expansion of marine terminals within southern California but outside of the Long Beach Harbor;
- Inland port (an intermodal facility for exclusive handling of international cargo);
- Marine terminal automation; and
- Offsite backlands facility alternative (i.e., using underdeveloped land outside the Port as a container storage and handling facility).

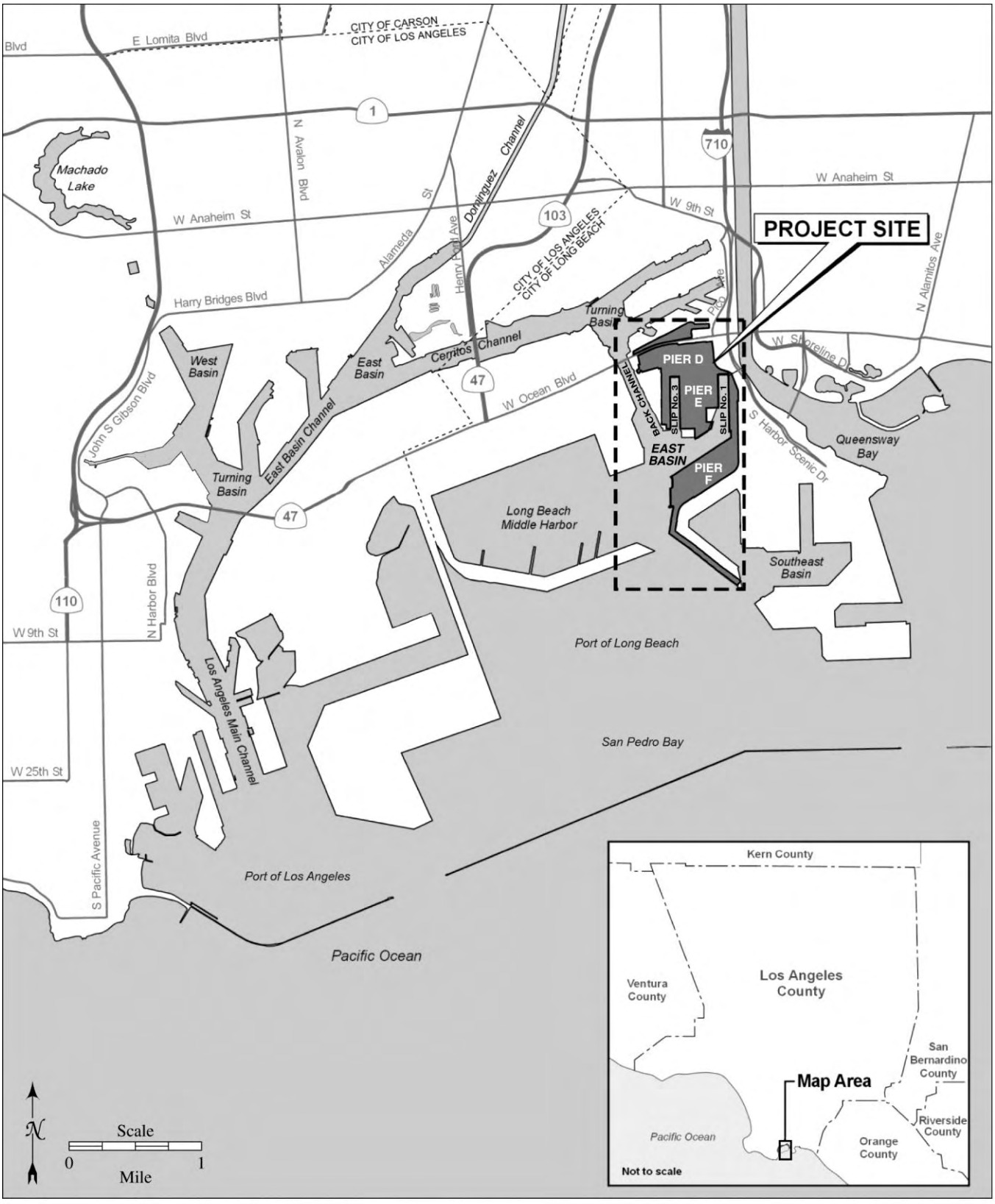


Figure ES.2-1. Project Vicinity Map

The alternatives evaluated in this EIS/EIR include:

- Alternative 1 – 345-Acre Alternative (the Project);
- Alternative 2 – 315-Acre Alternative;
- Alternative 3 – Landside Improvements Alternative; and
- Alternative 4 – No Project Alternative.

Alternative 1 – 345-Acre Alternative (the Project)

The Project would rehabilitate or replace deteriorated and obsolete terminal facilities; provide deeper water (-55 feet Mean Lower Low Water [MLLW]) at berths and in basins and channels; create new land; modernize marine terminal facilities; and implement environmental controls, including the Port's Green Port Policy and CAAP, to accommodate a portion of the predicted future increases in containerized cargo volume and the modern, larger cargo vessels that are expected to transport these goods to and from the Port. The existing 294-acre Project site would be increased to 345-acres, including 54.6 net acres of newly created land. The Project includes terminal consolidation, redevelopment, and expansion on areas of existing and newly created land, dredge and fill operations, wharf construction to create three deep water berths with -55 feet MLLW depths, and rail infrastructure improvements (e.g., mainline track realignment at Ocean Boulevard/Harbor Scenic Drive, Pier F Avenue storage yard and tracks, Pier F tail track, and expanding the existing Pier F intermodal railyard). The Project would include construction of a 66kV substation (Pier E Substation) to provide power that would support Middle Harbor container terminal operations, including supplying shore-to-ship power, and future power needs for other Port facilities.

Project construction would occur in two phases, the first phase in five stages and the second in four stages, and would be scheduled for completion in 2019 (i.e., Project build-out year). However, the proposed Middle Harbor container terminal is forecasted to be fully optimized at maximum capacity by 2025. Detailed construction elements of the Project are presented in Section 1.6.3.1.

When completed, the Project would consist of one consolidated container terminal (proposed Project) that would be designed to load and unload containerized cargo to and from marine vessels. When optimized at maximum throughput capacity (by year 2025), the consolidated container terminal would be designed to accommodate approximately 3,320,000 TEUs per year. The proposed expanded Pier F intermodal railyard would handle approximately 26.3 percent (872,480 TEUs per year) of the terminal's expected throughput. Middle Harbor container terminal operations would result in a maximum of approximately 364 vessel calls per year. Truck trips to and from the Middle Harbor container terminal would increase from the 2005 baseline average of 6,528 trips per day to an average of approximately 10,112 trips per day in the year 2030. Approximately 2,098 annual train trips would be required at maximum capacity in 2025 to support Middle Harbor container terminal operations. The terminal would operate under a new lease between the terminal operator and the Port that would include environmental controls imposed pursuant to the Port's Green Port Policy and the CAAP. This EIS/EIR assumes the proposed Project includes participation in the POLB/POLA Vessel Speed Reduction Program (VSRP) (CAAP measure OGV1) and compliance with applicable U.S. Environmental Protection Agency (EPA), California Air Resource Board (ARB), and South Coast Air Quality Management District (SCAQMD) regulations.

Alternative 2 – 315-Acre Alternative

The 315-Acre Alternative would add 24.7 net acres of newly created land to the existing 294-acre Project site by filling Slip 1 between Piers E and F (Berths E12-E14 and F1-F4). This alternative would include terminal expansion on adjacent areas of existing and newly created land, dredge and fill operations, and new wharf construction. Under the 315-Acre Alternative, a new wharf would be constructed to handle increased cargo throughput and accommodate deep-draft container ships, and to replace existing, insufficient wharves. The new 2,900-foot wharf would consist of two deep water berths with -55 feet MLLW depth. Buildout under this alternative would include the rail improvements identified for the Project (e.g., mainline track realignment at Ocean Boulevard/Harbor Scenic Drive, Pier F Avenue storage yard and tracks, Pier F tail track, and expanding the existing Pier F intermodal railyard). The proposed 66kV Pier E Substation would also be constructed, as described for Alternative 1.

When completed, the 315-Acre Alternative would consist of one consolidated container terminal that would be designed to load and offload containerized cargo from marine vessels. When optimized at maximum throughput capacity (anticipated by approximately 2025), the

consolidated container terminal would be designed to accommodate approximately 2,870,000 TEUs per year. The proposed expanded Pier F intermodal railyard would handle approximately 30.4 percent (872,480 TEUs per year) of the terminal's expected throughput. Under this alternative, Middle Harbor container terminal operations would result in approximately 364 maximum vessel calls per year. Truck trips to and from the Middle Harbor container terminal would increase from the 2005 baseline average of 6,528 trips per day to an average of approximately 8,026 trips per day in 2030. Approximately 2,095 trips annual train trips would be required at maximum capacity in 2025 to support Middle Harbor container terminal operations.

The terminal would operate under a new lease between the terminal operator and the Port that would include environmental controls imposed pursuant to the Port's Green Port Policy and the CAAP. Similar to the Project, this EIS/EIR assumes Alternative 2 would include participation in the POLB/POLA VSRP (CAAP measure OGV1) and compliance with applicable EPA, ARB, and SCAQMD regulations.

Alternative 3 – Landside Improvements Alternative

The Landside Improvements Alternative would redevelop existing terminal areas on Piers E and F and convert underutilized land north of the Gerald Desmond Bridge and Ocean Boulevard within the Project site to a container yard. The alternative would include construction of the following upland site improvements: redevelopment and backland expansion on existing lands within the Project site (the Berth E23 oil area would be abandoned and redeveloped as container yard area); construction of a new 66 kV Pier E Substation; and construction of shore-to-ship infrastructure at Piers E and F to cold-iron vessels while at berth. This alternative would also include construction of a mainline track realignment at Ocean Boulevard/Harbor Scenic Drive and the Pier F storage yard and tracks. The alternative would expand the existing Pier F intermodal railyard to six tracks.

When completed, the Landside Improvements Alternative would consist of a consolidated container terminal that would be operated by one terminal operator. The terminal would be operated under a new lease between the terminal operator and the Port that would include environmental controls imposed pursuant to the Port's Green Port Policy and the CAAP. In addition to compliance with applicable EPA, ARB, and SCAQMD regulations assumed for the Project, Alternative 3 would implement all applicable CAAP measures and regulations, including emission standards for terminal equipment (CAAP measure CHE1), the VSRP (CAAP measure OGV1), low-sulfur fuel requirements for vessels (CAAP measures OGV3 and OGV4), OGV cold-ironing (CAAP measure OGV2), and the POLA/POLB Clean Trucks Program (CTP) (CAAP measure HDV1).

When optimized at maximum throughput capacity (anticipated by approximately 2025), the terminals would be designed to accommodate a combined total of about 2,910,000 TEUs per year. Approximately 416 vessel calls per year would be expected by 2025. This alternative would result in 9,830 average daily truck trips to and from Middle Harbor terminals in 2030. Approximately 1,380 train trips per year would be required to support Middle Harbor container terminal operations at maximum capacity in 2025.

Under this alternative, there would be no in-water activities (e.g., dredging, filling Slip 1 and the East Basin, new wharf construction) as proposed for the Project, no wharf upgrades would occur (except the provisions for shore-to-ship power), and channel and berth deepening would not occur. The Landside Improvements Alternative is equivalent to a No Federal Action Alternative because it only includes construction and operational activities that would not require issuance of federal permits. As no federal action or permit would be required, there would be no significance determination under NEPA for this alternative.

Alternative 4 – No Project Alternative

This alternative considers what would reasonably be expected to occur on the site if the Port did not implement, or federal action did not permit, the proposed Project. The Port would take no further action to construct additional backlands or redevelop the 294 acres that currently exist. The USACE would not issue permits for dredge and fill or wharf construction activities. This alternative would not allow implementation of the proposed Project or other physical improvements at Middle Harbor. The No Project Alternative would maintain the current CUT and LBCT container terminals at a combined size of 294 acres and in their current configuration. Forecasted increases in cargo would still occur as greater operational efficiencies are implemented.

Under this alternative no construction and, consequently, no construction-related impacts would occur. However, the two terminals would continue to generate operational impacts: cargo ships that currently berth and load/unload at the terminal would continue to do so; terminal equipment would continue to handle cargo containers; and trucks would continue to transport containers to outlying distribution facilities. Because no rail improvements would be constructed under this alternative, the majority of the intermodal cargo to and from the two terminals would continue to be hauled by truck. In addition, the Pier E Substation would not be constructed, which would eliminate the potential for vessels to cold-iron under this alternative. However, in addition to environmental controls imposed by federal, state, and local regulatory agencies, the terminal would implement the POLB/POLA VSRP (CAAP measure OGV1) under this alternative. No other CAAP measures would be implemented under this alternative.

The No Project Alternative would result in a maximum throughput of approximately 2,600,000 TEUs per year. Approximately 312 vessel calls per year would be expected by 2025. As the existing Pier F intermodal railyard would remain operational, proposed terminal operations would result in approximately 786 annual train trips. This alternative would result in approximately 9,594 average daily truck trips to and from Middle Harbor terminals in 2030. Under this alternative, existing site conditions would constrain the ability of Middle Harbor to function as modern and efficient primary Port facilities. The lack of waterside and upland improvements would mean that the current inefficiency of cargo movement through the site's existing marine terminals would continue. As Pier E has minimal rail capability (i.e., Slip 1 separates Pier E docks and backlands from existing intermodal rail facilities) and the existing intermodal Pier F railyard is too small to accommodate regular service of modern intermodal trains, this alternative would not provide sufficient rail infrastructure to handle intermodal containerized cargo. Additionally, without the necessary dredging to deepen the channels and berths in the Middle Harbor to the planned -55-foot MLLW depth, the existing marine terminals would be limited in their ability to service modern, large, deep-draft cargo ships.

ES.4 ENVIRONMENTAL PLANS AND POLICIES

The Port has implemented a variety of plans and policies to reduce the environmental effects associated with Port operations.

Green Port Policy

The Green Port Policy, which was approved by the Board of Harbor Commissioners in January 2005, serves as a guide for decision making and establishes a framework for reducing environmental impacts associated with Port operations. The policy contains specific environmental principles that govern all Port activities and has established a series of goals for each element of the policy. The Green Port Policy includes specific metrics to measure progress toward meeting the policy's goals and identifies new environmental programs that are designed to achieve progress toward the goals. Additionally, the policy identifies specific incentives to promote program participation among tenants.

The Port has negotiated and signed new leases with two Port tenants that incorporate environmental measures. These leases require strict environmental compliance that exceed federal and state law requirements. As a landlord Port, leases are one of the primary mechanisms for the Port to implement its environmental initiatives.

Clean Air Action Plan

The Port, in conjunction with POLA, and with guidance from SCAQMD, ARB, and EPA, adopted the SPBP CAAP on November 20, 2006. The CAAP is a comprehensive strategy that is designed to develop mitigation measures and incentive programs necessary to reduce air pollution and health risks associated with Port activities. The CAAP focuses on reducing emissions based on two main goals: 1) reduce Port-related air emissions in the interest of public health; and 2) accommodate growth in trade.

The CAAP includes control measures for all Port emission sources, including OGV, trains, trucks, terminal equipment, and harbor craft. The CAAP proposes to implement near-term measures largely through new lease agreements, the CEQA/NEPA process, and tariffs. This EIS/EIR analysis requires Project compliance with the CAAP. Project mitigation measures applied to reduce air emissions and public health impacts are consistent with, and in

some cases exceed, the emission-reduction strategies stipulated in the CAAP.

ES.5 ENVIRONMENTAL ISSUES

Geology, Groundwater, and Soils

Impacts on geology, groundwater, and soils were evaluated by determining the potential for the proposed Project to alter the topography beyond that resulting from natural erosion and depositional processes; disturb unique geologic features or geologic features of unusual scientific value; trigger or accelerate geologic processes; render known mineral resources inaccessible; create a significant hazard due to the presence of soil or groundwater contamination; experience damage to structures due to an earthquake, limiting their use; experience damage to structures due to liquefaction, settlement, or surface cracks, resulting in a loss of use; and expose people or property to a greater than average risk of tsunamis or seiches. The Project would not substantially alter the topography beyond that resulting from natural erosion and depositional processes as the Project area consists of a relatively flat, paved, hydraulically filled peninsula. This topography is not subject to landslides or mudflows. Therefore, impacts would be less than significant under CEQA, and mitigation would not be required. As no impacts would occur under NEPA, no mitigation would be required.

The Project would not disturb unique geologic features (e.g., paleontological resources) or geologic features of unusual scientific value. No prominent geologic or topographic features exist in the Project area, and the Project would not result in any distinct and prominent geologic, paleontological, or topographic features being destroyed. Therefore, impacts would be less than significant under CEQA, and mitigation would not be required. As no impacts would occur under NEPA, no mitigation would be required.

Project construction activities would result in a temporary increase in the potential for wind and water erosion and associated siltation of the adjoining channels. Runoff of soil would be controlled by use of Best Management Practices (BMPs), as required by either the General Construction Activity Stormwater Permit or a site-specific Stormwater Pollution Prevention Plan (SWPPP) for the Project, issued by the Los Angeles Regional Water Quality Control Board (RWQCB). Therefore, impacts would be less than significant under CEQA and NEPA, and mitigation would not be required.

The Project site is underlain by the Wilmington Oil Field, and the proposed Project would limit oil and gas drilling from within Project boundaries. However, petroleum reserves beneath the site could be accessed from remote locations, using directional (or slant) drilling techniques. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

As undocumented oil field equipment could be encountered during grading and residual concentrations of various types of hazardous substances may be present in onsite soils and/or groundwater, health and safety impacts would be potentially significant. However, the contractor would remediate and/or dispose undocumented oil field equipment and/or contaminated soil and groundwater encountered during construction, in accordance with all federal, state, and local regulations. Therefore, impacts would be less than significant under CEQA, and mitigation would not be required. As no impacts would occur under NEPA, no mitigation would be required.

No active faults are located beneath the Project site that might result in ground rupture and attendant damage to structures, limiting their use due to safety considerations or physical condition. Therefore, no impacts would occur under NEPA and CEQA, and mitigation would not be required.

Seismic activity along numerous regional faults could produce seismic ground shaking, liquefaction, differential settlement, or other seismically induced ground failure that would expose people and structures to greater than normal risk. However, construction in accordance with the City of Long Beach Building Code requirements and State-mandated Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS) would limit the probability of occurrence and the consequences from severe seismically induced ground movement during operations. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

Project construction and operation in the Middle Harbor area would not likely expose people and structures to greater than normal risk involving tsunamis or seiches. Because the Project elevation is located within 10 to 16 feet above MLLW, there is a risk of coastal flooding due to tsunamis and seiches. Regardless, the likelihood of such an

occurrence is extremely low. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

Air Quality and Health Risk

Impacts on air quality and health risk were evaluated by determining the potential for the proposed Project to result in construction-related emissions that exceed any of the SCAQMD daily emission significance thresholds (Impact AQ-1); result in construction-related offsite ambient air pollutant concentrations that exceed any of the SCAQMD thresholds of significance (Impact AQ-2); exceed any of the operational SCAQMD daily emission significance thresholds (Impact AQ-3); result in operational offsite ambient air pollutant concentrations that exceed any of the SCAQMD thresholds of significance (Impact AQ_4); create an objectionable odor (Impact AQ-5); expose the public to significant levels of TACs (Impact AQ-6); conflict with or obstruct implementation of an applicable AQMP (Impact AQ-7); and produce GHG emissions that exceed the CEQA threshold (Impact AQ-8).

During a peak day of activity, Project construction would produce emissions of VOCs, CO, NOx, PM_{10}, and $PM_{2.5}$ that would exceed SCAQMD daily emission significance thresholds. Additionally, Project construction would result in offsite ambient air pollutant concentrations that would exceed SCAQMD thresholds of significance for one-hour NO_2 and 24-hour PM_{10}. With regard to PM_{10} and $PM_{2.5}$ emissions, the overwhelming majority of the emissions would occur in the form of fugitive dust. **Mitigation Measure AQ-1** would require additional fugitive dust control measures to provide a 90 percent reduction of fugitive dust emissions from uncontrolled levels, which would substantially reduce PM_{10} and $PM_{2.5}$ emissions. **Mitigation Measures AQ-2, AQ-2a**, **AQ-2b**, **AQ-3, and AQ-3a** would require emission controls for land-based construction equipment, construction trucks, and construction tugboats. Although not quantified, implementation of these measures would further reduce emissions of VOC, CO, NO_x, PM_{10}, and $PM_{2.5}$. However, mitigated construction emissions would exceed the (1) VOC, CO, NO_x, PM_{10}, and $PM_{2.5}$ SCAQMD daily emission thresholds and (2) SCAQMD ambient air pollutant threshold PM_{10}. Therefore, these mitigated emissions for Impacts AQ-1 and AQ-2 would be significant and unavoidable under NEPA and CEQA.

The unmitigated Project would produce lower average daily operational emissions of criteria pollutants compared to the CEQA Baseline levels in 2005. This is the case since, due to currently adopted regulations, most unmitigated Project vehicle fleets would turn over to substantially lower emission standards with time, compared to 2005 existing conditions. These lower emission rates would offset proposed throughput increases and activities. The unmitigated Project would produce lower unmitigated peak daily operational emissions of criteria pollutants compared to the CEQA Baseline levels in 2005, except for NOx emission in 2010. As a result, , except for NOx emission in 2010, the unmitigated Project would not exceed any SCAQMD daily emission threshold and daily emissions from the unmitigated Project would be less than significant under CEQA.

Under NEPA, the net change in annual average daily operational emissions between the unmitigated Project and NEPA Baseline would exceed the following SCAQMD daily emission significance thresholds: (1) NOx for all Project years; (2) VOC in all years except 2015; and (3) SO2, PM10, and PM2.5 in 2010. The following mitigation measures would reduce these significant levels of emissions: **AQ-4**, requiring an expanded VSRP; **AQ-5**, requiring shore-to-ship power ("cold ironing"); **AQ-6**, requiring low-sulfur fuels in OGV; **AQ-7**, requiring that container handling equipment (CHE) meet performance standards; **AQ-7a**, requiring the replacement of all diesel-powered RTG with electric-powered rail mounted gantry (RMG) by 2020; and **AQ-8**, requiring that heavy-duty trucks comply with the replacement schedule associated with the POLB CTP. Although not quantified in the EIS/EIR analysis, implementation of **Mitigation Measures AQ-9**, requiring clean railyard standards, **AQ-10**, requiring truck idling reduction measures, **AQ-11**, requiring slide valves on OGV main engines, **AQ-25**, requiring periodic technology review, and **AQ-26**, requiring annual cargo throughput monitoring would further reduce criteria pollutant emissions from Project operations. Implementation of these mitigation measures would result in mitigated annual average and peak daily emissions that would not exceed the SCAQMD significance thresholds under CEQA. As a result, the mitigated Project would not exceed any SCAQMD daily emission threshold and daily emissions from the mitigated Project would be less than significant under CEQA. Implementation of these mitigation measures would result in mitigated annual average daily emissions that would exceed the SCAQMD daily emission significance thresholds for (1) NOx for all Project years, and (2) VOC in 2020 and thereafter under NEPA. Additionally, the

net change in peak daily operational emissions between the mitigated Project and NEPA Baseline would exceed the SCAQMD daily emission thresholds for VOC, CO, NOx, for all Project years, and PM2.5 in 2020 and thereafter. Therefore, these mitigated emissions for Impact AQ-3 would be significant and unavoidable under NEPA.

Unmitigated emissions from Project operations would contribute to offsite ambient air pollutant concentrations that would exceed SCAQMD thresholds for one-hour and annual NO_2. Implementation of **Mitigation Measures AQ-4 through AQ-8** would reduce the ambient impact of Project operational emissions from unmitigated levels. Although not quantified, **Mitigation Measures AQ-9 through AQ-11**, **AQ-25**, and **AQ-26** would further reduce criteria pollutant emissions. However, ambient one-hour and annual NO_2 impacts from mitigated Project operations would remain significant and unavoidable under NEPA and CEQA (Impact AQ-4).

The proposed Project would not create objectionable odors to sensitive receptors. Unmitigated proposed Project operations would produce lower diesel combustion products and associated odors than CEQA Baseline levels. Therefore, impacts would be less than significant under CEQA, and mitigation would not be required. Unmitigated proposed Project operations would produce more diesel combustion products and resulting odors compared to NEPA Baseline levels. Given that the distance between proposed Project emission sources within the terminal and the nearest residents is at least 0.4 miles, this distance would be far enough to allow for adequate dispersion of these emissions to below objectionable odor levels. Therefore, impacts would be less than significant under NEPA, and mitigation would not be required (Impact AQ-5).

Unmitigated emissions of TACs from Project construction and operation in comparison to CEQA Baseline emissions would not exceed the significance criterion of 10 in one million cancer risk at any residential, occupational, or sensitive receptor. Additionally, the maximum CEQA increments for the non-cancer chronic and acute-health hazard index (HHI) from the unmitigated Project would be less than one for all receptor locations. Therefore, unmitigated Project impacts would be less than significant under CEQA. Implementation of **Mitigation Measures AQ-4 through AQ-11** would further reduce the effects of Project emissions of TACs. Under NEPA, the unmitigated Project would exceed the significance criterion of 10 in one million cancer risk at the nearest occupational receptors. Non-cancer chronic and acute health effects would be less than significant for all receptors. Implementation of **Mitigation Measures AQ-4 through AQ-11** would reduce occupational cancer risks to below the significance criterion. Therefore, the mitigated Project would produce less than significant health effects under NEPA (Impact AQ-6).

The proposed Project would not conflict with or obstruct implementation of the applicable Air Quality Management Plan (AQMP). The proposed Project would comply with the 2007 AQMP emission reduction measures that are designed to bring the SCAB into attainment of the state and national ambient air quality standards. Since the 2007 AQMP assumes growth associated with the proposed Project, it would not exceed the future growth projections in the 2007 AQMP and it would neither conflict with or obstruct implementation of the SIP. Therefore, impacts would be less than significant, and mitigation would not be required (Impact AQ-7).

The proposed Project would produce GHG emissions that would exceed the CEQA threshold. Annual CO_2e emissions would increase relative to the CEQA Baseline in each Project construction phase/stage and future year of operation. Implementation of **Mitigation Measures AQ-2 through AQ-24 and AQ-27** would directly reduce proposed GHG emissions. Additionally, implementation of **Mitigation Measures AQ-25, AQ-26, and AQ-28,** provide the opportunity to further reduce proposed GHG emissions. With mitigation, Project GHG impacts would remain significant and unavoidable under CEQA (Impact AQ-8). Annual unmitigated and mitigated CO_2e emissions from Project operations would exceed those estimated for the NEPA Baseline. However, because no NEPA significance threshold has been established, no determination of significance has been made for this impact.

Hydrology and Water Quality

Impacts on hydrology and water quality were evaluated by determining the potential for the proposed Project to result in a violation of regulatory standards or guidelines; alter water circulation or currents; result in flooding; and result in wind or water erosion. Project construction would not involve any direct or intentional discharges of wastes to harbor waters. All in-water work would be conducted in accordance with Project-specific permits that include measures to

minimize impacts to water quality and monitoring to verify the performance of those measures. Additionally, construction of backland improvements and new facilities generally would not create pollution, contamination, a nuisance, or violate any water quality standards due to implementation of BMPs (e.g., equipment shall be inspected regularly; refueling of vehicles and equipment shall be in a designated, contained area; drip pans shall be used under stationary equipment, during refueling, and when equipment is maintained; drip pans that are in use shall be covered during rainfall to prevent washout of pollutants; and monitoring to verify that the BMPs are implemented and kept in good working order) to control runoff of soils and pollutants. Runoff from general construction activities would have short-term, localized impacts on water quality. The terminal operator would be required to implement pollution control measures in compliance with the Port's Stormwater Program to minimize runoff from new and existing impervious surfaces. Potential runoff of pollutants from a large accidental spill to marine waters and sediments would be minimized through existing regulatory controls and is unlikely to occur during the life of the Project. The small amount of pollutants in discharges from Project vessels would be controlled by existing regulations. The proposed Project would not result in a violation of regulatory standards or guidelines. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

Construction activities would not substantially alter harbor water circulation. Harbor water movement patterns would remain unchanged by backland construction. With respect to on-land surface water, although grading would result in minor local changes in drainage patterns, topography would be changed very little. Circulation patterns in the Middle to Inner Harbor would change very little as a result of the dredging and filling activities for the Project. Tides would remain unchanged, and wave action in Middle Harbor would not change substantially as a result of the Project. The movement of water in East Basin and the harbor would not be substantially changed by the Project. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

Project construction and operation would not result in increased flooding. Although portions of the Project site are located within a 100-year flood zone, the proposed Project would not increase the potential for flooding onsite. Existing and new storm drains are designed to convey water from a 10-year storm. Runoff associated with a larger storm could exceed the capacity of the storm drain system, resulting in temporary and localized ponding. Site elevations, however, would remain generally the same as prior to construction, and the risk of flooding on existing backlands would not be increased above that under baseline conditions. For the new fill areas, the potential for flooding would be the same as on the existing backlands. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

Implementation of backland improvements has the potential to adversely affect harbor water quality in the immediate vicinity of storm drains and other locations where runoff of soils can enter the harbor. These construction activities, however, would generally not accelerate natural processes of wind and water erosion resulting in soil runoff or deposition that could not be contained or controlled onsite through implementation of BMPs to control runoff, as previously described. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

Biota and Habitats

Impacts on biota and habitats were evaluated by determining the potential for the proposed Project to affect rare, threatened, or endangered species or their habitat; interfere with migration; result in a loss or alteration of marine habitat; affect a natural habitat or plant community; and disrupt local biological communities. As there is no critical habitat for any federally-listed species in the Project area, construction activities would not likely affect any rare, threatened, or endangered species or their habitat. The Project is not considered an important area for least tern or brown pelican foraging; the Project area does not provide any other important habitat values for the least tern and only limited perching/resting sites for the brown pelican. The peregrine falcon would not be affected by Project activities because no prey would be lost and only a small amount of foraging area would be affected. No habitat for bat roosting or breeding would be lost as a result of Project construction because no bridges or other suitable structures would be removed. The water surface and on-shore facilities in the Project area are used by the double-crested cormorant, black skimmer, and elegant tern, which would be able to use other areas within Middle Harbor if construction activities occurred when they were present. Project operations would not affect any of the previously listed species since those species that use the area for foraging or resting could continue to do so because the Project would

not change the industrial activities or cause a loss of habitat. Additionally, the increase of 179 vessel calls per year during Project construction and operation would result in no loss of individuals or habitat for rare, threatened, or endangered species. Underwater sound from Project-related vessels or pile driving would affect few if any marine mammals, particularly since the species and abundance are limited, and mammals would be expected to avoid the disturbance areas such that injury would be prevented. To reduce noise and vibration effects during pile driving activities, the Project would implement the following environmental controls: sound abatement techniques, including but not limited to, vibration or hydraulic insertion techniques, drilled or augured holes for cast-in-place piles, bubble curtain technology, and sound aprons where feasible; a "soft start" technique in which the hammer would be operated at less than full capacity (i.e., approximately 40-60 percent energy levels) with no less than a one-minute interval between each strike for a five-minute period; and biological monitoring in the vicinity of pile driving activities for any fish kills or the presence of marine mammals within 100 meters of the pile driving, which would result in a halt in pile driving activities.

Project-related vessel strikes of blue whales, gray whales, and/or sea turtles in offshore waters would be unlikely considering the small number of these vessels relative to existing vessel traffic in this area. In addition, few blue whales and gray whales are known to be struck by existing traffic within this area. The potential for a Project-related support vessel collision with a blue whale or gray whale, or a sea turtle, while in transit within the Long Beach Breakwater and Outer Harbor would be unlikely due to the infrequent presence of these animals. The normal swimming speed of blue whales is 22 km/hr, which is approximately 10 knots; however, blue whales can swim up to 48 km/hr when alarmed (Wilson and Ruff 1999). Therefore, it is very unlikely that Project-related vessels traveling at 12 knots would increase the potential for whale strikes. Therefore, impacts would be less than significant, and mitigation would not be required.

Project construction and operation would not interfere with wildlife movement or migration corridors. No known migration corridors for terrestrial or aquatic wildlife species are present in the Project area. Project construction would not affect the migratory birds in the Project area, including the California least tern, western snowy plover, and California brown pelican, because the birds could easily fly around or over the work area. Once construction is complete, bird migration would not be affected by the changes in terminal operations because the new structures would be of similar size, number, and character as the existing structures. No wildlife movement or migration corridors would be affected by the Project. Therefore, impacts would be less than significant, and mitigation would not be required.

Filling of Slip 1 and part of East Basin would result in a permanent loss of 54.6 acres of marine habitat in Middle Harbor (29.3 acres of Inner Harbor and 25.3 acres of Outer Harbor), which would be a significant impact. **Mitigation Measure BIO-3** would require that the Port apply approximately 40 existing mitigation credits available in the Bolsa Chica mitigation bank to compensate for loss of fish and wildlife habitat due to Project construction. These credits are part of a multi-agency project to restore tidal wetland habitats in the Bolsa Chica lowlands in Orange County. Areas of the harbor designated as "Inner Harbor" for habitat mitigation purposes require the application of 0.5 credit to offset each acre of lost habitat, whereas areas designated as "Outer Harbor" require the application of 1.0 credit per acre of loss. Upon implementation of this measure, construction related impacts would be less than significant. Project construction would also result in a small amount of hard substrate loss; however, since the loss would be small, impacts would be less than significant. The permanent loss of water column, soft bottom, and rocky dike habitat impacts would continue throughout operations, however, **Mitigation Measure BIO-3** would have fully compensated for that loss. Therefore, there would be no impacts under Project operations.

The loss of 54.6 acres of marine habitat due to placement of fill and excavation for the proposed Project would be a substantial loss of habitat for Fishery Management Plan (FMP) species that use Middle Harbor, including water column and benthic habitats. **Mitigation Measure BIO-3**, as previously described, would fully mitigate the loss of marine habitat through the use of approximately 40 existing mitigation credits. After mitigation, impacts on natural habitats during Project construction would be less than significant. Project operations would not impact natural communities such as kelp, eelgrass beds, salt marsh, and freshwater wetlands, because none are present in the Project area. Increased vessel traffic (relative to the CEQA Baseline; the number of vessel calls would decrease relative to the NEPA Baseline) and runoff from the terminal during operations would have less than significant impacts on Essential Fish Habitat

(EFH). Therefore, impacts would be less than significant under CEQA and result in no impacts under NEPA, and mitigation would not be required.

Construction activities in the waters of Middle Harbor, particularly dredging of soft sediments and removal/installation of new riprap, bulkheads, and pilings, would result in temporary disturbances to benthic habitats. However, colonization by invertebrates would occur quickly on these new substrates. The Project would result in a loss of hard substrate, but this would have a less than significant impact because local benthic invertebrates and fish communities would not be substantially disrupted by the small change in the amount of hard substrate habitat. Increased turbidity would be of a short duration and would not exceed water quality standards. Runoff of pollutants from backland construction activities would have localized, short-term, and less than significant effects on marine organisms due to implementation of runoff control measures that are part of the Project. Therefore, impacts on biota and habitats during construction would be less than significant, and mitigation would not be required. Project operations would not substantially disrupt local biological communities as a result of runoff of contaminants, increased vessel traffic, or lighting. Therefore, impacts would be less than significant. However, operation of the Project facilities has the potential to result in the introduction of non-native species into the harbor via ballast water or vessel hulls, thereby substantially disrupting local biological communities. Although regulations are currently being developed by the state to address ballast water discharges, no feasible mitigation measures currently exist to totally prevent introduction of invasive species, due to the lack of a proven technology. If methods become available in the future, they would be implemented as appropriate at that time. Therefore, impacts would be significant under CEQA. Under NEPA, the number of vessel calls would be equal to or less than those for the NEPA Baseline, so there would be no increase in the potential for invasive species to be introduced. There would be no impact under NEPA.

Ground Transportation

Impacts on ground transportation were evaluated by determining the potential for the proposed Project to increase an intersection's volume to capacity (V/C) ratio in accordance with the City/POLB or the City of Los Angeles Department of Transportation guidelines; cause an increase of 0.02 or more in the demand to capacity (D/C) ratio with a resulting level of service (LOS) E or F at a Congestion Management Program (CMP) monitoring station or on non-CMP segments analyzed in this traffic study; increase the demand for transit services beyond the supply of services available to the Project site; or increase rail activity in a manner that causes delays at study area at-grade railroad crossings.

Construction activities would result in short-term, temporary increases in auto and truck traffic at the following study area intersections under CEQA and NEPA: Pico Avenue/Pier G Avenue and Harbor Plaza (2010); Pico Avenue and Pier E Street/Ocean Blvd EB On and Off-Ramps (2020); and Pico Avenue and Pier D Street (2020). The following mitigation measures would ensure impacts on study area intersections would be less than significant: **TRANS-1.1a**, requiring preparation of a Traffic Management Plan; **TRANS-1.1b**, requiring the restriction of construction related traffic to/from the Project site during morning and afternoon peak commute hours; **TRANS-1.1c**, requiring installation of a signal at the intersection of Pico Avenue and Pier E Street/Ocean Blvd EB On and Off-Ramps; **TRANS-1.1d**, requiring installation of a signal at the intersection of Pico Avenue and Pier D Street; and **TRANS-1.1e**, requiring installation of a signal at the intersection of Pico Avenue/Pier G Avenue and Harbor Plaza. In addition to the intersections identified above, Project operations would generate additional traffic at the following intersection under NEPA and CEQA: Pico Avenue/Ocean Blvd WB Off-Ramp. In addition to implementation of **Mitigation Measures TRANS-1.1c through TRANS-1.1e,** the following intersection traffic control measure would mitigate Project-related impacts: **TRANS-1.2,** requiring installation of a signal at the intersection of Pico Avenue and Ocean Blvd WB Off-Ramp. Implementation of **Mitigation Measures TRANS-1.1c through TRANS-1.1e and TRANS-1.2** would ensure Project impacts on study area intersections would be less than significant under NEPA and CEQA.

Additional traffic generated by Project construction and operation activities would have short-term significant impacts on certain highway locations in the study area, including the I-405 n/o I-710, both directions (starting 2010); I-405 s/o I-710, both directions (starting 2010); I-710 between Willow Street and Pacific Coast Highway (PCH), both directions (starting 2010); I-110 n/o C-Street, northbound (2030); SR-91 e/o I-710, both directions (starting 2010); and SR-91 w/o I-710, both directions (starting 2015). The POLB does not own, control, or maintain any of the impacted highway segments. These segments fall under the

jurisdiction of the California Department of Transportation (Caltrans). Therefore, the POLB does not have authority to unilaterally implement any mitigation measures on the highway segments. However, implementation of **Mitigation Measure TRANS-2.1**, requiring the Port to pay its fair share if Caltrans either a) adopts a fair share based program to collect funds for actual mitigation that Caltrans commits itself to implement, or b) otherwise obtains the balance of funding needed to improve the impacted study highway segments in a manner that will improve the segments level of operation. The EIS/EIR analysis assumes that until Caltrans implements improvements on the I-710, I-405, and SR-91 highway segments, the Project would have significant impacts at these locations. Therefore, impacts on highway segments during Project construction and operations would be significant and unavoidable under NEPA and CEQA.

Project construction and operations would not increase the demand for transit services. Project activities are not expected to affect public transit because the only public transit in the vicinity of the Project site is a tourist-oriented line that runs from downtown Long Beach to the Queen Mary. Due to the lack of available public transit options, this analysis has assumed the use of public transit by construction workers and onsite employees to be negligible. Therefore, the proposed Project is not expected to cause any increase in demand for transit services under NEPA and CEQA.

Construction would not result in any increases in rail activity. Construction activities are not expected to use the rail services. There are currently two grade crossings in the Port vicinity. Because the contractor would be required to use construction truck routes to avoid the grade crossings in order to minimize delays (**Mitigation Measure TRANS-1.1a**), the additional traffic associated with construction would be negligible at the grade crossings. In addition, Project-related increase in trains during operations would be easily accommodated by the Alameda Corridor without causing any significant impact. Therefore, the proposed Project would not have a significant effect on rail services or on vehicular delays at the two grade crossings.

Vessel Transportation

Impacts on vessel transportation were evaluated by determining the potential for the proposed Project to result in a change in vessel traffic patterns that results in a substantial change in risks to vessel safety. In-water construction would occur over an approximately 10-year construction period. Throughout this time, all in-water construction vessel traffic would be subject to regulatory conditions ensuring safety of users in Long Beach Harbor waters, and activities would be scheduled to avoid existing marine container terminal traffic. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

During operations, the proposed Project would increase the total number of vessels calling at Middle Harbor by 179 vessels per year, an approximately 3.4 percent increase over the current number of annual POLB vessel calls. This increase in vessel calls would result in an increase of 0.17 allisions, collisions, and groundings (ACGs) per year, increasing the overall annual average accident rate within the POLB and POLA by only 2.3 percent. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

Land Use

Impacts on land use were evaluated by determining the potential for the proposed Project to conflict with applicable land use plans and result in land uses that are incompatible with existing or adjacent land uses. Project construction would be consistent with the adopted goals, objectives, and/or policies of the Port of Long Beach Master Plan (PMP). Specifically, Project construction activities would conform to the environmental goals and policies identified in the PMP for Harbor Planning Districts 2, 5, and 8. The Project would be consistent with objectives encouraging the development of waterfront-dependent activities and aggregation of major functional and compatible land and water uses identified in the California Coastal Act (CCA) and the Coastal Zone Management Act (CZMA). Project construction activities would be reviewed by the California Coastal Commission (CCC) for consistency with the CCA, ensuring compliance with the CZMA. Project operations would also be consistent with the overall goals in the PMP and the long-range planning goals for the Middle Harbor, Northeast Harbor, and Southeast Harbor Planning Districts. Additionally, Project operations would be consistent with the policies stipulated in the CCA that encourage existing ports to modernize. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

Construction activities would be consistent with the surrounding Port-industrial land uses. The proposed Project would be located within Harbor Planning Districts 2, 5, and 8, which are designated for Commercial/Industrial uses within the PMP. Project construction would be consistent with the permitted Port-related industrial land use designations. The proposed landfills (i.e., Slip 1 and the East Basin) were previously approved by the CCC in PMP Amendment #16. Similarly, Project operations would be consistent with the permitted Port-related industrial land uses identified in the PMP, which serves as the Local Coastal Program/Plan (LCP) for the CCC, and the Project would also be consistent with land use provisions identified in the CCA/CZMA. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

Public Services/Health and Safety

Impacts on public services/health and safety were evaluated by determining the potential for the proposed Project to burden the Long Beach Police Department (LBPD) staff levels or facilities; require the addition of a new fire station or modification of an existing station; burden the U.S. Coast Guard (USCG) staff levels or facilities; diminish the public protection services provided by the Security Command and Control Center (SCCC), which facilitates security monitoring operations for the various agencies responsible for security at the POLB and POLA; and result in inconsistency with an existing emergency response plan or evacuation plan. Neither Project construction nor operations would burden LBPD staff levels or facilities. During construction, roadway modifications would be conducted in accordance with the proposed Traffic Management Plan and subject to review and approval by the LBPD such that response times would not be affected. Additionally, the Project would include basic security equipment as required by Maritime Transportation Security Act (MTSA), including fencing, lighting, intrusion detection systems, site access control, surveillance systems, and communication systems during both construction and operations. These security features would reduce the demand for law enforcement. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

Project construction activities would not substantially increase the occurrence or risk of fire; however, they would require the removal and relocation of fire hydrants, water supply trunk lines, and distribution mains. Such removals and relocations would be subject to Long Beach Fire Department (LBFD) review and approval. Additionally, Project construction and operations would further exacerbate existing inadequate emergency response times, resulting in a significant impact. **Mitigation Measure PHS-2.1** would ensure upgrades to existing LBFD facilities that would be required to ensure acceptable LBFD emergency response times, reducing construction related impacts to less than significant under NEPA and CEQA.

The proposed Project would not substantially increase demands on USCG staff levels and facilities. During construction, standard safety precautions governing POLB navigation would be applied to all construction support boats or barges, and the schedules and routes of existing container terminal traffic would be avoided. The USCG determines response times based on the distance that is required to travel to various Port facilities. As construction and operation activities would occur within the same operating distance as other facilities within the jurisdiction of Sector Los Angeles and Long Beach, response times would not increase due to the proposed Project. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

The SCCC would be able to continually provide public protection services throughout Project construction and operation. As previously discussed, standard MTSA security measures would be implemented during both construction and operations, thereby minimizing the potential for events that would require SCCC's emergency response coordination services. Additionally, as land based emergency response does not originate from the SCCC facility, the permanent relocation of site access would not affect SCCC emergency coordination services. All waterside access would be maintained during Project operations. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

The proposed Project would not interfere with any existing emergency response plans or emergency evacuation plans. During construction activities, Project contractors would be required to adhere to all LBFD emergency response and evacuation regulations, ensuring compliance with existing emergency plans. The proposed road improvements would provide additional emergency

access and Project operations would be subject to emergency response and evacuation systems implemented by the LBPD, Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

Noise

Impacts on noise were evaluated by determining the potential for the proposed Project to increase ambient noise levels by three A-Weighted Sound Level (dBA); exceed maximum noise levels allowed by the City of Long Beach Municipal Code (LBMC); exceed the ground vibration level acceptability limits prescribed by American National Standards Institute (ANSI) S3.29-1983; and result in the exposure to a substantially increased number of vibration events that exceed the acceptability limits prescribed by ANSI S3.29. Project construction would cause noise levels to increase by more than three dBA at nearby sensitive receptors, particularly during pile-driving activities. To reduce noise effects, the Project would implement the following standard construction noise controls: muffle and maintain all equipment powered by internal combustion engines; prohibit unnecessary idling; locate stationary noise-generating equipment far from existing noise sensitive land uses; select quiet equipment; and publish noise notices in advance of the construction schedule. In addition to these standard noise controls, **Mitigation Measure NOI-1.1a** would require that temporary noise barriers be located between noise-generating construction activities and hotel/residential buildings and Cesar Chavez School to the east, and **Mitigation Measure NOI-1.1b** would require that pile-driving activities occur only during prescribed hours. Although standard noise controls and mitigations would be implemented to reduce noise, noise levels would still be substantially increased due to the difficulty of effectively mitigating noise-generating activities. Therefore, impacts would remain significant during construction activities under NEPA and CEQA. Project operations would increase ambient noise levels less than three dBA. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

Construction activities would increase noise levels such that the LBMC maximum noise levels would be exceeded at two sensitive receiver sites (i.e., West Coast Long Beach Hotel and Long Beach Hilton Hotel). Implementation of the previously described standard construction noise controls and **Mitigation Measures NOI-1.1a and NOI-1.1b** would reduce the effects of noise; however, as noise generating activities are difficult to effectively mitigate, impacts would remain significant under NEPA and CEQA during Project construction. Project operations would not exceed LBMC maximum noise levels. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

Project operations would not generate ground vibration levels that would exceed ANSI S3.29-1983 acceptability limits. Vibration measurements did not indicate a significant difference between ambient ground vibration and ground vibration during train movements on the Port mainline tracks. Measured vibration levels are well below the acceptability curve prescribed by ANSI S3.29-1983. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

Similarly, Project operations would not increase the number of vibration events that would exceed ANSI S3.29 acceptability limits. Although Project operation would increase rail traffic in and out of the Port, ground vibration levels produced by each train movement would not exceed the limits prescribed by ANSI S3.29-1083. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

Hazards and Hazardous Materials

Impacts on hazards and hazardous materials were evaluated by determining the potential for the proposed Project to release hazardous materials from onshore facilities or vessels; result in noncompliance with state guidelines associated with abandoned oil wells; increase the probable frequency and severity of consequences to people as a result of release of a petroleum product or hazardous substance; and result in inconsistency with the Risk Management Program (RMP).

Project construction would not result in an accidental release of hazardous materials from onshore facilities or vessels. Construction activities would be conducted using BMPs in accordance with City Planning and Building Department BMP guidelines, including vehicle and equipment fueling and maintenance; material delivery, storage, and use; spill prevention and control; solid and hazardous waste management; and contaminated soil management. Adherence to applicable federal, state, and local regulations would ensure proper use and storage of hazardous materials and petroleum products, and proper removal of

asbestos containing materials (ACMs), lead-based paint, and polychlorinated biphenyl (PCBs). Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

The Project would not result in noncompliance with state guidelines associated with abandoned oil wells. Portions of Pier E have been used as an oil and gas production field, and associated oil field infrastructure continues to be used on the property. Improperly abandoned oil wells could result in gas migration to the surface, creating a health hazard. Implementation of California Division of Oil and Gas and Geothermal Resources (DOGGR) measures would reduce adverse health and safety impacts to construction and operational personnel. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

Project operation would not increase the probable frequency and severity of consequences to people or property as a result of accidental release of a petroleum product or hazardous substance. Based on the Project increase in TEUs, the frequency of potential Project-related spills would increase from 0.6 to 1.6 spills per year, representing about one additional spill per year. Based on past history, a slight possibility exists for injury and/or property damage to occur during one of these accidents. Proposed Project operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of a potential accidental release or explosion of a hazardous substance. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

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

Recreation

Impacts on recreation were evaluated by determining the potential for the proposed Project to result in a substantial loss or diminished quality of recreational resources; and result in an increased demand for recreation services. Project construction and operations would not result in a substantial loss or diminished quality of recreational resources. The Middle Harbor area has been developed primarily for industrial uses, although the Project area is accessible by recreational boaters and harbor fishing vessels. Project construction and operations would not degrade on-land recreational opportunities within the City of Long Beach as existing land uses would not change. Similarly, recreational boating would not be adversely affected by construction or operations as the Project area is used primarily for commercial shipping activities. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

The proposed Project would not increase the demand for recreation and park services during construction because the necessary workforce (i.e., 432 employees by 2015) would primarily live within the Long Beach area and a substantial influx of workers is not anticipated. Therefore, impacts during Project construction would be less than significant, and mitigation would not be required. Project operations would create 24,779 jobs by 2025 in the five-county Gateway Cities subregion, resulting in a demand for 700 additional homes in the Long Beach area. The demands on recreational facilities would be addressed as these new units were constructed by conditioning the payment of housing recreational fees pursuant to the Quimby Act. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

Socioeconomics

Impacts on socioeconomics were evaluated by determining the potential for the proposed Project to increase employment in the five-county region by 0.5 percent or more; increase the population in one or more city or the unincorporated area within the Gateway Cities subregion by 0.5 percent; and increase the housing demand on one or more cities or the unincorporated area within the Gateway Cities subregion by 0.5 percent.

The Project would not increase employment in the five-county region by 0.5 percent or more. The jobs created during Project construction would comprise between 0.003 percent and 0.005 percent of regional employment. Project operations would create 24,779 additional jobs by 2025 in the five-county Gateway Cities subregion, which includes the counties of Los Angeles, Orange, Riverside, San Bernardino, and Ventura.

However, the share of employment would only range between zero percent and 0.25 percent. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

Similarly, the Project would not increase population in the Gateway Cities subregion by 0.5 percent or more. It is likely that most of the workers required for Project construction already reside in the Gateway Cities subregion and would not migrate to the area; therefore, there would be no significant increase in the population due to the Project. During Project operations, the additional population through the Gateway Cities would comprise at most 0.3 percent of the total population in each individual city, which would not exceed the 0.5 percent threshold. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

The Project would not increase the demand for housing units in the Gateway Cities subregion by 0.5 percent or more. As previously described, the construction labor force in the region would be sufficient to complete the construction projects without workers migrating to the region, such that no new housing units would be necessary. During Project operations, the additional housing units that would be demanded in the Gateway Cities subregion would comprise between 0.1 percent in 2010 and 0.4 percent in 2020 and 2025 of the total number of housing units. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

Utilities and Service Systems

Impacts on utilities and service systems were evaluated by determining the potential for the proposed Project to require the construction or expansion of water, wastewater, storm drains, natural gas, or electrical utilities lines or infrastructure; and exceed existing water, wastewater, or landfill capacities. The proposed Project would require the demolition of existing utility infrastructure and the construction of new utility line connections. All demolition and construction would be conducted in a manner to prevent service interruptions for adjacent tenants, and new construction would be in conformance with current design standards. Therefore, construction and demolition of utility lines and infrastructure would result in a less than significant impact, and mitigation would not be required. During operations, the number of new Project employees and increased terminal electrical demand would not be substantial relative to the existing and projected regional electrical supply. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

Project construction and operation would not exceed existing water supply, wastewater, or landfill capacities. During construction activities, water and wastewater demands would be intermittent and temporary, and would be considered nominal. Water would be used to control fugitive dust and wash streets, and portable chemical toilets would be used for onsite wastewater collection. Construction and demolition activities would generate debris that would require disposal in a landfill. Construction debris is one of the greatest individual contributors to solid waste capacity. The Project would implement the following environmental controls to minimize construction waste: dredged and excavated materials generated during construction would be reused within the proposed Project site as fill during subsequent construction phases; recyclable waste materials would be processed for reuse by the Project or other construction activities within the Port; and non-recyclable material accumulated during the demolition activities would be transported to an appropriate disposal site. Implementation of these controls would ensure that construction impacts would be less than significant, and mitigation would not be required. Project operations would represent minimal increases in demands on water supply, wastewater treatment, and solid waste disposal. The proposed Project would increase the demand of water by 467.2 acre feet per year (afy) over CEQA Baseline conditions, and by 73.2 afy over NEPA Baseline conditions. Additionally, wastewater generation would increase by 0.06 million gallons per day (MGD) over both CEQA and NEPA Baselines, and solid waste generation would increase by 10.5 tons per day over the CEQA Baseline, and 1.6 tons over the NEPA Baseline. These increases are considered nominal. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

Cultural Resources

Impacts on cultural resources were evaluated by determining the potential for the proposed Project to adversely affect a resource listed in or eligible for listing in the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), or otherwise considered a unique or important archaeological

resource under CEQA; and result in the permanent loss of a paleontological resource of regional or statewide significance.

The proposed Project would not reasonably be expected to impact potentially significant archaeological resources since construction activities would occur in an area that is located on artificial fill material to a depth of approximately 30 feet. No intact prehistoric or historic archaeological or cultural resources would be expected within the Project area, and impacts would be less than significant under NEPA and CEQA. Although the potential for damaging unknown prehistoric remains is remote, implementation of **Mitigation Measure CR-1.1.1,** halting work in the vicinity of any archaeological material discovered during construction, and contacting the Los Angeles County Coroner if human remains are encountered, would further reduce impacts on unexpected discoveries during construction.

Project construction would adversely impact historic architectural resources, including two 1953 Smoke Houses/Offices, resulting in a potentially significant impact under CEQA. This impact would be feasibly mitigated by implementation of the following mitigation measure: **CR-1.2.2** would require that the historic architectural resources be relocated to another suitable location within the Project area under the direction of a qualified Architectural Historian. Implementation of this measure would ensure that impacts would be reduced to less than significant under CEQA. Under NEPA, there would be no impacts to historic architectural resources as none are located within the USACE's scope of analysis under NEPA because the upland areas would be redeveloped as part of the NEPA Baseline.

Construction of the proposed Project would not result in the loss of, or loss of access to, a paleontological resource because the artificial fill within the upland portion of the Project area has no potential to contain intact vertebrate fossils. Similarly, the in-water area has been historically dredged such that any intact vertebrate fossils would have already been removed or severely disturbed. Therefore, there would be no impact under NEPA and CEQA, and mitigation would not be required.

Environmental Justice

Impacts on environmental justice were evaluated by identifying minority and low-income populations in the Project area and determining the potential for the Project to cause disproportionate public health and environmental effects on minority and low-income populations.

Significant unavoidable impacts from the Project would occur for air quality, biota and habitats, ground transportation, and noise. Project construction air quality impacts resulting from increased emissions of VOC, CO, NOx, PM_{10}, and $PM_{2.5}$, and increased one-hour and annual NO_2, and 24-hour PM_{10} levels would not represent disproportionately high and adverse impacts on minority and low-income populations. Project construction activities would generate short-term noise level increases that would exceed LBMC maximum noise levels at the West Coast Long Beach Hotel and the Long Beach Hilton Hotel under NEPA and CEQA (**Impact NOI-2.1**). The Long Beach Hilton Hotel site is representative of condominium and apartment buildings south of Ocean Boulevard. Because the Census Tract population containing this site constitutes a low-income population when compared to the general population and the percent minority exceeds 50 percent, these noise impacts would be disproportionately high and adverse on minority and low-income populations under NEPA and CEQA.

Project operational air quality impacts resulting from increased emissions of VOCs, CO, NOx, PM_{10}, and $PM_{2.5}$, and one-hour and annual NO_2, and 24-hour PM_{10} would not represent disproportionately high and adverse impacts on minority and low-income populations under NEPA and CEQA.

The proposed Project would produce GHG emissions that would exceed the CEQA threshold of significance and would result in significant and unavoidable impacts. As no NEPA significance threshold has been established for GHG, no determination of significance has been made for this impact under NEPA. The potential ecological damage and damage to human populations from global climate change would affect people globally, including all people in California and the U.S. These effects would have consequences for all people, and therefore would not affect low-income and minority populations disproportionately.

Operation of the Project facilities has the potential, even though of low probability, to result in the introduction of non-native species into the harbor via ballast water or vessel hulls, thereby substantially disrupting local biological communities. However, as this impact would affect marine biological communities, it would not result

in a disproportionately high and adverse impact on minority and low-income populations.

Implementation of the proposed Project would result in significant unavoidable impacts on ground transportation on highway segments in the study area, including portions of I-405, I-710 and SR-91 under NEPA and CEQA. Since these highway segments represent major thoroughfares, these impacts would adversely affect regional commuters and commercial traffic, but would not represent a disproportionately high and adverse effect on minority and low-income populations under NEPA and CEQA.

Aesthetics/Visual Resources

Impacts on aesthetics/visual resources were evaluated by determining the potential for the proposed Project to contrast with the visual quality of the existing setting; degrade the existing character of the site and its surroundings; and create new sources of light or glare.

Construction equipment/activities would be potentially visible from elevated viewpoints (e.g., Pico Avenue Overpass). However, these activities would not result in discernable changes to the visual environment due to the distance of this viewpoint from the Project site and the intervening Port infrastructure. Under Project operations, the change in the visual industrial quality of background views from public vantage points would be minor relative to the existing highly industrialized inner Port complex perceived in distant background and closer foreground public views. Therefore, Project construction and operation would not contrast with the existing industrial visual quality of the Project area. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

Project construction and operational activities would not adversely impact the existing visual industrial character and quality of the Project site and its surroundings. The presence of vessel and land-based equipment over the approximate 10-year construction period would be compatible with the existing industrial character and visual quality of the Project site. Project operational activities would be consistent with the general industrial nature of the Port and would not introduce incompatible visual characteristics. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

The proposed Project would not create a new source of substantial light or glare during construction activities and project construction would not occur during evening hours. Therefore, no additional night lighting or equipment headlights that could contribute to impacts on nighttime views in the area would result. Construction equipment would not have reflective surfaces capable of increasing sunlight glare. Project operations would introduce new glare sources that would potentially degrade existing visual conditions. However, the implementation of Proposed Environmental Lighting Controls including photo cells/timers, low energy fixtures, and light-spillover reduction features into new terminal lighting would result in less than substantial increases in night light over the Project site and surrounding areas compared to existing levels. Therefore, impacts would be less than significant under NEPA and CEQA, and mitigation would not be required.

ES.6 CUMULATIVE IMPACTS

A list of related and cumulative projects included in the cumulative impact analysis is provided in Section 2.1.2.

Geology, Groundwater, and Soils

All related POLB and POLA projects would be subject to structural damage and risk of injury due to seismically induced ground shaking. However, incorporation of modern construction engineering and safety standards would ensure that cumulative impacts would be less than significant. Similarly, structural damage and risk of injury is possible from coastal inundation as a result of a large tsunami; however, these events are extremely rare and cumulative impacts would be less than significant. Related projects involving grading, excavations, and construction/demolition could result in erosion-induced sedimentation of harbor waters and potential encounters with contaminated soil. However, implementation of a SWPPP and construction BMPs would ensure that cumulative impacts remain less than significant. Furthermore, potential impacts associated with encountering contaminated soil at probable future sites involving grading and construction would be less than significant because they would be generally localized and confined to the immediate area of contamination.

The proposed Project would result in a less than significant contribution to cumulative impacts under NEPA and CEQA associated with seismic-related impacts due to incorporation of modern

construction engineering and safety standards. Due to the low probability of a tsunami at the Project site, the proposed Project would result in a less than significant contribution to cumulative impacts associated with tsunami events. The proposed Project would require implementation of a SWPPP and construction BMPs, which would reduce the Project's cumulative contribution to erosion induced sedimentation of harbor waters to adverse, but less than significant under NEPA and CEQA, the Project's cumulative contribution to impacts associated with encountering contaminated soils would be adverse, but less than significant under NEPA and CEQA, as such impacts are generally localized and confined to the immediate area of contamination.

Air Quality and Health Risk

Probable future projects contributing to cumulative impacts on air quality include those located in California for GHG, the SCAB, and the Project's zone of influence (ZOI). The SCAB is not in attainment for the national and/or state ambient air quality standards for O_3, CO, PM_{10}, and $PM_{2.5}$. This is due to the region's large population, number of emission sources, and geographical/ meteorological conditions that inhibit atmospheric dispersion. These pollutant non-attainment conditions within the Project region are considered cumulatively significant. Proposed peak daily Project construction activities would produce mitigation emissions that would exceed the SCAQMD thresholds for VOC, CO, NO_x, $PM_{10,}$ $PM_{2.5}$, one-hour NO_2, and 24-hour PM_{10}. Although implementation of **Mitigation Measures AQ-1, AQ-2, AQ-2a**, **AQ-2b**, **AQ-3**, **and AQ-3a** would reduce criteria pollutant emissions; however, mitigated emissions from Project construction would produce cumulatively considerable and unavoidable contributions to O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$ levels under NEPA and CEQA. As annual average and/or peak daily operational emissions from the mitigated Project would exceed the SCAQMD daily emission thresholds for VOCs, NOx, CO, and $PM_{2.5}$ under NEPA, the Project would have a cumulatively considerable impact on criteria pollutants during operations under NEPA. Since the unmitigated Project would produce lower operational emissions compared to the CEQA Baseline, the Project would have a less than cumulatively considerable impact on criteria pollutants under CEQA.

Mitigated Project operations would produce ambient impacts that would exceed the SCAQMD one-hour and annual NO_2 ambient thresholds under NEPA and CEQA. As a result, mitigated Project operations, in combination with existing and future projects, would produce cumulatively considerable and unavoidable contributions to ambient NO_2 levels under NEPA and CEQA.

Since the Port contains a large number of diesel emission sources and residents (sensitive receptors) adjacent to Port operations, odorous emissions in the Project region are cumulatively significant. Project operational activities would generate air pollutants from the combustion of diesel fuels. Project operations would reduce diesel combustion products and associated odors compared to existing conditions. As a result, unmitigated Project operations would produce less than cumulatively considerable contributions to ambient odor levels under CEQA. However, Project operations would increase diesel combustion products and associated odors compared to NEPA Baseline levels. As a result, mitigated Project operations would produce cumulatively considerable and unavoidable contributions to ambient odor levels under NEPA.

Elevated levels of TACs due to POLB and POLA operational emissions occur within and in proximity to the ports. Accordingly, airborne cancer and non-cancer conditions within the Project regions are cumulatively significant. Unmitigated emissions of TACs from Project construction and operation would produce lower cancer risks and chronic and acute non-cancer effects to all receptor types within the Project region compared to the CEQA Baseline. Therefore, the Project would result in less than cumulatively considerable contributions to health effects under CEQA.

Mitigated emissions of TACs from Project construction and operation would increase cancer and non-cancer health effects to all receptor types in the Project region compared to the NEPA Baseline, although at levels below Project-specific impact significance criteria. Nevertheless, the mitigated Project would result in a cumulatively considerable and unavoidable contribution to airborne cancer and non-cancer health effects to all receptor types under NEPA. Implementation of **Mitigation Measure AQ-29** would provide the opportunity to further reduce cumulative air quality and health impacts from the proposed Project.

The 2007 AMQP attainment strategies in this plan include mobile source control measures and clean fuel programs that are enforced at the federal and state level on engine manufacturers and petroleum refiners and retailers. All reasonable foreseeable

projects, including the Project, would automatically comply with these control measures that are independent of proposed operations. The POLB provides SCAG with Port-wide cargo forecasts that are used to simulate future emission scenarios in the AQMP. The activity associated with the Project is included as part of these cargo forecasts. As a result, the Project would not exceed the future emission projections in the 2007 AQMP and it would not conflict with nor obstruct implementation of the SIP. Therefore, construction and operation of the Project would result in less than cumulatively considerable contributions to the objective to implement the applicable AQMP under NEPA and CEQA.

GHG emissions associated with all reasonably foreseeable projects, including the proposed Project, would be cumulatively significant. As climate change is by nature a global impact, an appreciable impact on global climate change would occur when GHG emissions from a project combine with GHG emissions from other man-made activities on a global scale. As GHG emissions during Project construction and operation would increase during each Project year compared to the CEQA Baseline, any concurrent emissions-generating activity that occurs worldwide would incrementally contribute to impacts on global climate change. As any increase in GHG emissions above the CEQA Baseline would be significant, the Project would result in a cumulatively considerable and unavoidable contribution to climate change under CEQA. Because no NEPA impact significance threshold has been established for Project GHG emissions, no determination of significance has been made for this impact under NEPA.

Hydrology and Water Quality

Construction of related projects in the Long Beach/Los Angeles Harbor complex would directly affect marine water quality through fill, dredging, wharf construction/reconstruction, rocky dike construction, or other construction activities, and would indirectly affect water quality through runoff of sediments and pollutants during construction activities on land. However, since disturbances associated with suspension and resuspension of sediments resulting from construction activities, such as fill, would be dispersed in time and space and are not expected to exceed regulatory water quality standards, cumulative impacts would be less than significant. Runoff control measures required in Project permits, such as SWPPPs, would help to further reduce the cumulative impacts of runoff to be less than significant. Cumulative impacts on flooding would be less than significant as the potential for flooding would not be adversely affected by related projects.

The proposed Project would result in a less than significant contribution to cumulative impacts associated with water circulation and quality in the harbor area because filling would not affect flow in other parts of the harbor. Control of pollutant runoff is required by the Port and by permits for Project operations; therefore, the Project's contribution to the cumulative impacts of runoff would be less than significant. Further, the Project operations would not contribute to cumulative impacts on flooding, and impacts would be less than significant under NEPA and CEQA.

Biota and Habitats

Probable future projects contributing to cumulative impacts on biota and habitats include those located in the Long Beach/Los Angeles Harbor (Inner and Outer Harbor areas), and the land portions of the harbor. Cumulative projects would directly affect marine biological resources through fill (approximately 277 acres of which about 105 acres are completed or under construction), dredging, wharf construction/reconstruction, installation of boat slips, artificial reef construction, and/or rocky dike construction. Construction activities in harbor waters associated with the cumulative projects, such as dredging, excavation, and wharf construction, would remove soft bottom habitat as well as temporarily remove hard substrate habitat (e.g., piles and rocky dikes). Wharf construction and reconstruction would also result in underwater sound pressure waves from pile driving that could affect marine mammals and fish. Increased vessel traffic associated with some of the cumulative projects would increase the potential for introduction of invasive species. Further, all of the cumulative projects would have the potential to indirectly affect marine biological resources through runoff of sediments and pollutants as a result of construction and operations activities on land.

Related projects would also have the potential to adversely affect the California least tern, an endangered species, and those cumulative impacts would be significant but feasibly mitigated. Increased vessel traffic as a result of the cumulative projects would have less than significant cumulative impacts within the harbor because few marine mammals would be affected (small numbers are present in the harbor), individuals would avoid the vessels, and overall

underwater noise levels would not be significantly increased. The increase in vessel traffic , particularly large vessels travelling at greater than 10 knots, would increase the potential for vessel strikes of whales. Mortality of blue whales is a particular concern, and cumulative impacts would be significant and unavoidable for this species.

The proposed Project would contribute 54.6 acres, or about 16 percent, of the approximately 332 acres of fill recently completed or proposed for the harbor (including the Project). The permanent marine habitat loss from the Project would also include EFH. The Project would make a cumulatively considerable contribution to habitat loss prior to mitigation, but this impact would be mitigated to less than significant under CEQA and NEPA with the implementation of **Mitigation Measure BIO-3**. The proposed Project construction activities related to dredging, excavation, and wharf construction would have less than significant impacts on local biological communities under NEPA and CEQA, and these activities would not contribute substantially to cumulative impacts of other projects that could take place concurrently. Due to the dispersal of runoff in the harbor, implementation of runoff control measures, such as SWPPPs, and the minimal amount of land affected by Project development, the proposed Project's contribution to cumulative runoff impacts would not be cumulatively considerable under NEPA or CEQA. The Project also would not affect migration or movement of fish and wildlife and, therefore, would not contribute to cumulative effects.

The Project would not contribute to cumulative effects on the least tern because this species would not be affected, and the Project would not make a cumulatively considerable contribution to cumulative effects of vessel sound on marine mammals under NEPA and CEQA. Project-related vessel strikes to blue whales would be unlikely to occur; however, any that did occur would make a cumulatively considerable contribution to significant and unavoidable cumulative impacts associated with vessel strikes to that species. Therefore, the small increase in vessel traffic in the harbor (3.4 percent) caused by the Project, relative to the CEQA Baseline, would add to that cumulative potential, resulting in a cumulatively considerable effect under CEQA. A decrease in vessel traffic relative to the NEPA Baseline would reduce the potential for a blue whale strike and would not contribute to cumulative impacts. Although current ballast water regulations would reduce, but not eliminate the risk of invasive species introduction into the harbor, the Project-related small increase in vessel traffic in the harbor would add to the cumulative potential, resulting in a cumulatively considerable effect.

Ground Transportation

Related projects located within the Project region would contribute to cumulative impacts on ground transportation. The Project, when considered cumulatively, would have significant impacts at certain study area intersections. The deteriorations in the LOS, and associated impacts with the addition of Project traffic to the cumulative background traffic conditions, would be cumulatively considerable. However, as implementation of **Mitigation Measures TRANS-1.1c through TRANS-1.1e and TRANS-1.2** would reduce impacts on intersections to less than significant, the Project would result in less than cumulatively considerable impacts on study area intersections under NEPA and CEQA.

Reasonably foreseeable projects in the Project vicinity, including the Project, would also result in cumulatively significant impacts at certain study area highway segments. The regional cumulative impact on these highway segments would remain significant and unavoidable until Caltrans either implements a fair share based program to collect funds for mitigation or otherwise obtains the balance of funding needed to improve the impacted study area highway segments. No additional feasible mitigation measures are available at this time. However, the Port is currently participating in several on-going regional transportation programs (i.e., I-710 Corridor EIR/EIS, The Advanced Transportation Management, Information and Security [ATMIS], and the SR-91 Corridor Study), which would contribute towards mitigation any potential impacts of the Project. However, until Caltrans implements improvements to the I-710, I-405, and SR-91, the proposed Project would have a cumulatively considerable and unavoidable contribution to impacts on highway segments under NEPA and CEQA.

As the Project would not increase the demand for transit services and its incremental effect on rail activities would not be cumulatively considerable, the Project would not contribute towards the cumulative impacts on transit or rail services.

Vessel Transportation

Related projects located within POLB and POLA would result in a substantial growth in port calls and TEUs. Projected growth at the ports has the

potential to result in a substantial increase in ACGs. The threefold increase in port shipping would result in an equivalent increase in the number of ACGs, assuming accident rates remain unchanged. This is considered a potentially significant cumulative impact on vessel transportation. As this is a relatively small fraction of potential cumulative ACGs that would occur throughout the POLB and POLA and due to the low annual average accident rate, the Project's contribution to potential cumulative impacts to vessel transportation would be less than significant. Additionally, existing standard vessel safety measures applied to all POLB calls would reduce the nature of the Project's contribution. Therefore, the proposed Project's contribution to potential cumulative impacts to vessel transportation would be less than significant under NEPA and CEQA.

Land Use

Probable future projects contributing to cumulative impacts on land use include those located within the POLB and POLA. The land in this region is permitted for Port-related industrial uses, and development is governed by existing land use plans and policies. Therefore, the cumulative impact on land use of the related projects throughout the POLB and POLA would be less than significant. As the proposed Project would result in less than significant impacts on land use, the proposed Project's contribution to cumulative impacts on land use would be less than significant under NEPA and CEQA.

Public Services/Health and Safety

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

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

Noise

Construction of the related projects considered for cumulative impacts would have the potential to result in significant impacts on noise. Additionally, reasonably foreseeable projects would have the potential to generate operational noise impacts, such as increased noise from vehicular traffic, and to increase rail traffic, resulting in potentially significant vibration impacts.

During construction, the Project's contribution to cumulative impacts would remain significant and unavoidable under NEPA and CEQA, even with mitigation implementation and adherence to modern construction engineering and safety standards. However, the Project's contribution to cumulative vehicular traffic noise and vibration impacts resulting from operations would be less than significant under NEPA and CEQA.

Hazards and Hazardous Materials

Compliance with laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills would minimize the potential for adverse impacts associated with related POLB and POLA projects. The cumulative impact of these projects on hazards and hazardous materials would be less than significant.

The proposed Project would increase the number of truck trips and the potential for accidents to occur. However, as the Project would comply with standard federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, the Project's contribution to cumulative impacts would be less than significant under NEPA and CEQA.

Recreation

Construction and operation activities of related projects in the POLB and POLA areas would not have any physical effect on nearby recreational uses. However, in contrast, numerous projects would enhance local recreation by creating new recreational opportunities. Any short-term construction jobs resulting from related project construction would generally be accommodated by

the workforce already living in the regional vicinity. Therefore, the cumulative impact of related projects on recreation would be less than significant.

The proposed Project would implement standard Port navigational safety standards, thereby reducing potential impacts on marine based recreational opportunities. Therefore, the Project's contribution to cumulative impacts on recreation would be less than significant under NEPA and CEQA.

Socioeconomics

Related projects in the POLB and POLA area would increase the availability of short-term construction jobs and long-term employment opportunities in the five-county region and the Gateway Cities subregion. The incremental effects, however, of reasonably foreseeable projects would not be significant given the minimal effects of the additional employment, population, and demand for housing on the five-county region and the Gateway Cities subregion.

The incremental effect of the construction and operation employment from proposed Project construction activities would be minimal given the estimated number of jobs that would be created as a result of Project construction and the number of construction jobs in the five-county region. Therefore, the proposed Project's contribution to cumulative impacts on socioeconomics would be less than significant under NEPA and CEQA.

Utilities and Service Systems

Many of the related projects involve relocation of existing facilities from within the POLB and POLA or do not involve expansion of operation and would not, therefore, result in an increased demand on public resources. However, several of the related projects would generate additional temporary and permanent employees that would result in additional demand on utilities/service systems including increased generation of solid waste and wastewater treatment, or through consumption of water, electricity, or natural gas. Due to the number of related projects that would place an additional demand on utilities/service systems, potentially significant cumulative impacts on utilities/service systems would result.

The proposed Project's contribution to these cumulative impacts would not be significant, because it would not result in a substantial percentage increase of the demand for utilities/service systems. Therefore, the Project's contribution to cumulative impacts on utilities/service systems would be less than significant under NEPA and CEQA.

Cultural Resources

Construction activities associated with related projects in the POLB and POLA areas have the potential to disturb unknown prehistoric or historic archaeological resources, or to require removal or significant historical architectural resources. Therefore, the cumulative impact of related projects on cultural resources would be potentially significant.

As the Project area is located on artificial fill material to a depth of approximately 30 feet below ground surface, no intact prehistoric or historic archaeological cultural resources would be expected within the Project area. The Project would, however, result in disturbances to historic architectural resources and would represent a cumulatively considerable contribution to cumulatively significant impacts on these cultural resources. However, implementation of **Mitigation Measure CR-1.2.1** would reduce the proposed Project's individual impacts to less than significant. Therefore, the proposed Project would represent a less than considerable contribution to cumulative impacts on historic architectural resources under CEQA. Under NEPA, the Project would result in no impacts to historic architectural resources; therefore, the Project would not contribute to cumulative impacts on historic architectural resources under NEPA.

Environmental Justice

Construction and operation of related projects in the POLB and POLA region would increase the potential for cancer and chronic non-cancer health risks. Because the populations in closest proximity to the Port are predominantly minority and disproportionately low-income, this elevated cumulative risk would represent a disproportionately high and adverse impact on minority and low-income populations.

Project operations would increase diesel combustion products and associated odors and as a result, would produce cumulatively considerable contributions to ambient odor levels under NEPA (cumulative **Impact AQ-5**). Because the populations in closest proximity to the Port, where effects are likely to be the greatest, are predominantly minority and disproportionately low-income, this cumulative odor impact would represent a disproportionately high and adverse impact on minority and low-income populations under NEPA.

The Project's contribution to cancer risk and chronic and acute non-cancer health effects under NEPA due to already elevated risk levels in the vicinity of the ports would be significant and unavoidable (cumulative **Impact AQ-6**). Project operations would produce disproportionately high and adverse effects on minority and low-income populations under NEPA for this cumulative health impact.

Project GHG emissions would exceed the CEQA threshold of significance and contribute to significant cumulative impacts under CEQA. As no NEPA significance threshold has been established for GHG, no determination of significance has been made for this impact under NEPA. The potential ecological damage and damage to human populations from global climate change would affect people globally, including all people in California and the U.S. These effects would have consequences for all people, and therefore would not affect low-income and minority populations disproportionately.

Project-related vessel strikes to blue whales would be unlikely to occur; however, any that did occur would make a cumulatively considerable contribution to significant and unavoidable cumulative impacts associated with vessel strikes to that species. This impact would be a significant unavoidable cumulative impact under NEPA and CEQA. Because these impacts would affect marine biological communities, they would not result in a disproportionately high and adverse impact on minority and low-income populations.

Additional traffic generated by the Project would create significant and unavoidable ground transportation impacts and would contribute to significant cumulative impacts on highway segments in the study area under NEPA and CEQA. Since these highway segments represent major thoroughfares, these impacts would adversely affect regional commuters and commercial traffic, but would not represent a disproportionately high and adverse effect on minority and low-income populations.

Aesthetics/Visual Resources

Development of related POLB and POLA projects would be visible from numerous public view corridors. However, this future related development would occur within the visual context of a highly industrialized land use area, and would be unlikely to introduce development that is visually incompatible with existing port industrial uses. Night lighting and glare would be increased, but both ports implement standard measures that would reduce potential night illumination. Therefore, the cumulative impact of related projects on aesthetics/ visual resources would be less than significant.

The proposed Project would result in less than significant impacts on aesthetics/visual resources, and would therefore have a less than significant contribution to cumulative impacts under NEPA and CEQA.

ES.7 PUBLIC INVOLVEMENT

The USACE and Port issued a Notice of Intent (NOI) on December 30, 2005 and a Notice of Preparation (NOP)/Initial Study (IS) on December 15, 2005. The NOI and NOP/IS described the Project and the joint environmental review process, solicited public input on environmental issues to be addressed in the EIS/EIR, and announced a joint NEPA/CEQA public scoping meeting. USACE and the Port conducted a joint public scoping meeting on January 30, 2006, at the Long Beach City Council Chambers. The Port conducted a second public scoping meeting on February 6, 2006, at the Cabrillo High School. Table ES.7-1 summarizes the environmental issues that were identified during the public scoping process and indicates the EIS/EIR sections in which these issues are addressed.

Several copies of the Draft EIS/EIR were distributed to various government agencies, organizations, and individuals during the 80-day public review period. Two public meetings were held during the public review period on June 11, 2008 at the Long Beach City Council Chambers and on June 28, 2008 at Silverado Park. The Draft EIS/EIR was also made available for review at various libraries and online at both the USACE and POLB website. Copies of the Draft EIS/EIR in CD-ROM format were also made available to any interested parties.

During the public review period, 64 comment letters were received, and a total of 81 people spoke at the two public meetings. The comment letters and responses to comments are located in Chapter 10 of the Final EIS/EIR. Revisions resulting from issues identified during the public review period have been incorporated into the Final EIS/EIR.

ES.8 IMPACTS AND MITIGATION MEASURES

Table ES.8-1 summarizes the environmental impacts and mitigation measures identified in this EIS/EIR.

Table ES-7-1. Comments Received During the Middle Harbor Redevelopment Project Public Scoping Process

Commenter	Comment Summary	Draft EIS/EIR Section Addressing Comment
Karen Goebel, U.S. Fish and Wildlife Service	Information provided in the Ports of Long Beach and Los Angeles Year 2000 Baseline Study of San Pedro Bay should be integrated into the EIS/EIR. Include a Port mitigation history and a description of the basis and process of establishing the Port's landfill mitigation credits. The EIS/EIR should also include an accounting of Port mitigation credits available for use by this Project and the balance remaining after the Project.	Section 3.4 (Biota and Habitats)
Duane James, U.S. Environmental Protection Agency	The EIS/EIR should address the Clean Air Act (CAA) Section 176 and EPA's general conformity regulations. The EIS/EIR should conform to SCAQMD Rule 1901 and 40 CFR Part 51.	Section 3.2 (Air Quality and Health Risk)
	The EIS/EIR should consider a range of alternatives which include varying degrees and configurations of landfill as well as one no-action (no filling of waters of the U.S.) alternative.	Chapter 1 (Introduction and Project Description)
	The Port should evaluate the feasibility of operating a CDF at Pier E and using all suitable materials (including contaminated sediments) generated within the Los Angeles region as construction fill material. USACE and the Port should work with the CSTF Advisory Committee to coordinate and identify disposal options that will maximize beneficial reuse of dredged materials from within and outside the Harbor District.	Chapter 1 (Introduction and Project Description)
	The EIS/EIR should include appropriate mitigation to address the loss of marine habitat associated with filling 48 acres of waters of the U.S.	Section 3.4 (Biota and Habitats)
Cheryl Powell, California Department of Transportation (Caltrans), District 7	A traffic study needs to be completed to evaluate the project's overall impact on the State transportation system (SR 47, SR 103, I-710, I-110). Appropriate transportation permits should be obtained including, encroachment permits for right-of-way work, and transportation permit from Caltrans for over-size and over-weight trucks. Mitigation measures should be developed to include assessment fees and limitations on peak hour trips on State system.	Section 3.5 (Ground Transportation)
Rob Wood, Native American Heritage Commission	Conduct an updated archaeological survey that adequately evaluates potential impacts on historical resources. Prepare the cultural resources assessment consistent with Native American Heritage Commission provisions.	Section 3.14 (Cultural Resources)
Greg Holmes, Department of Toxic Substances Control	Identify any onsite releases of hazardous wastes/substances related to current or historic site uses and/or known or potentially contaminated sites within the Project area. Proper investigation, sampling, and remedial actions should be conducted prior to new development or any construction. Demolition activities should be conducted in accordance with requirements regulating the lead-based paints or products, ACMs, biohazards, and other wastewater chemicals of concern. Appropriate sampling of excavated soil should be conducted prior to disposal; all contaminated soil must be disposed in an appropriate facility.	Section 3.10 (Hazards and Hazardous Materials)
Torrey Contreras, City of Cerritos	The EIS/EIR should address potential impacts associated with increased Project-related truck traffic volumes on I-605 north and south of the SR-91 and on the SR-91 east and west of the I-605.	Section 3.5 (Ground Transportation)
	The EIS/EIR should include Project alternatives that minimize truck traffic impacts on cities within the Port vicinity, including construction of a new intermodal railyard and alternative container ground delivery systems.	Chapter 1 (Introduction and Project Description)

Table ES-7-1. Comments Received During the Middle Harbor Redevelopment Project Public Scoping Process (continued)

Commenter	Comment Summary	Draft EIS/EIR Section Addressing Comment
Birgit De La Torre, Long Beach Council PTA	The EIS/EIR should identify and analyze all available mitigation measures/technologies that could be employed in the project and that would reduce the cumulative health impact of the Port to the maximum degree possible.	Section 3.2 (Air Quality and Health Risk)
	The EIS/EIR should consider that some mitigation measures merely relocate pollution (i.e., electricity), and should consider the large scale installation/use of low or non-polluting energy sources, such as solar panels.	Section 3.2 (Air Quality and Health Risk) and Section 3.13 (Utilities and Service Systems)
	The EIS/EIR should define "capacity" of the project at "full build out" to reflect Port growth projections which could lead to project operations above capacity. (Refer to page 21 of the Air Quality and Risk Assessment Analysis Protocol for the Proposed Projects at the Port of Long Beach.)	Section 3.2 (Air Quality and Health Risk)
Birgit De La Torre, Long Beach Council PTA (continued)	The HRA should include health risk assessments from truck and trains after they leave the Port, including impacts from these sources on neighborhoods along major transportation corridors.	Section 3.2 (Air Quality and Health Risk)
	All health impact analyses should include particulates smaller than PM_{10}.	Section 3.2 (Air Quality and Health Risk)
	Noise exposure impacts along major transportation routes originating from the Port should be assessed and analyzed for their impact on children specifically.	Section 3.9 (Noise)
NRDC. Coalition for Clean Air, Long Beach Alliance for Children with Asthma, San Pedro and Peninsula Homeowner's Coalition, California Earth Corps, and Coalition for a Safe Environment	The EIS/EIR must accurately define the purpose and objectives of the Project.	Chapter 1 (Introduction and Project Description)
	The EIS/EIR must have an accurate environmental baseline.	Chapter 1 (Introduction and Project Description)
	The EIS/EIR must consider the impacts from the proposed Project as it is constructed, in addition to the impacts created after buildout.	Sections 3.1 through 3.16
	The EIS/EIR must fully address cumulative impacts.	Sections 3.1 through 3.16
	The EIS/EIR must contain a complete and accurate health risk assessment.	Section 3.2 (Air Quality and Health Risk)
	The EIS/EIR analysis must be based on the maximum capacity of the terminal, rather than the expected usage.	Chapter 1 (Introduction and Project Description) and Sections 3.1 through 3.16
	The EIS/EIR should analyze the mitigation measures in the Port of Los Angeles' "No Net Increase" Plan as well as other measures to mitigate the proposed Project's environmental impacts.	Section 3.2 (Air Quality and Health Risk)
	The EIS/EIR must address the effects of atmospheric deposition on water quality.	Section 3.2 (Air Quality and Health Risk) and Section 3.3 (Hydrology and Water Quality)
	The EIS/EIR must consider environmental justice impacts.	Section 3.15 (Environmental Justice)
	The EIS/EIR should consider a reasonable range of alternatives.	Chapter 1 (Introduction and Project Description)
Susan Nakamura, South Coast Air Quality Management District (SCAQMD)	The Project needs to implement the cleanest pollution control measures for all equipment to minimize air quality/health risk impacts. Conduct a health risk assessment in accordance with the Port of Long Beach Air Quality and Risk Assessment Protocol. Implementation of all feasible mitigation measures to minimize Project impacts on air quality/health risk. Maximize use of on-dock intermodal railyard facilities and alternative non-diesel container ground delivery system.	Section 3.2 (Air Quality and Health Risk)
	Provide information regarding the relationship between the number of TEUs, containers, and truck trips in the EIS/EIR.	Chapter 1 (Introduction and Project Description)

Table ES.8-1. Summary of Environmental Impacts and Mitigation Measures

Impact	Significance Before Mitigation	Mitigation	Significance After Mitigation
Geology, Groundwater, and Soils			
GEO-1: The Project would not substantially alter the topography beyond that resulting from natural erosion and depositional processes.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
GEO-2: The Project would not disturb or otherwise adversely affect unique geologic features (e.g., paleontological resources) or geologic features of unusual scientific value.	CEQA: No impact NEPA: No impact	CEQA: None necessary. NEPA: None necessary.	CEQA: No impact NEPA: No impact
GEO-3: The Project would not accelerate geologic processes, such as erosion.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
GEO-4: The Project site is underlain by the Wilmington Oil Field.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
GEO-5: Construction activities may encounter toxic substances or other contaminants associated with historical uses of the Port, resulting in short-term exposure (duration of construction) to construction personnel.	CEQA: Less than significant NEPA: No impact	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: No impact
GEO-6: No active faults are located beneath the Project site.	CEQA: No impact NEPA: No impact	CEQA: None necessary. NEPA: None necessary.	CEQA: No impact NEPA: No impact
GEO-7: Seismic activity along numerous regional faults could produce seismic ground shaking, liquefaction, differential settlement, or other seismically induced ground failure that would expose people and structures to greater than normal risk.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
GEO-8: Project construction and operation in the Middle Harbor area would not likely expose people and structures to greater than normal risk involving tsunamis or seiches.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant

Table ES.8-1. Summary of Environmental Impacts and Mitigation Measures (continued)

Impact	Significance Before Mitigation	Mitigation	Significance After Mitigation
Air Quality			
AQ-1: Proposed Project construction would produce emissions that exceed SCAQMD emission significance thresholds.	CEQA: Significant NEPA: Significant	CEQA: **Mitigation Measure AQ-1: Additional Fugitive Dust Controls.** The Project construction contractor shall develop and implement dust control methods that shall achieve this control level in a SCAQMD Rule 403 dust control plan; and designate personnel to monitor the dust control program and order increased watering, as necessary, to ensure a 90 percent control level. Their duties shall include holiday and weekend periods when work may not be in progress. Additional control measures to reduce fugitive dust shall include, but are not limited to, the following: • Apply approved non-toxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas or replace groundcover in disturbed areas; • Provide temporary wind fencing around sites being graded or cleared; • Cover truck loads that haul dirt, sand, or gravel or maintain at least two feet of freeboard in accordance with Section 23114 of the California Vehicle Code; • Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off tires of vehicles and any equipment leaving the construction site; • Suspend all soil disturbance activities when winds exceed 25 mph as instantaneous gusts or when visible dust plumes emanate from the site and stabilize all disturbed areas; • Appoint a construction relations officer to act as a community liaison concerning on-site construction activity including resolution of issues related to PM_{10} generation; • Sweep all streets at least once a day using SCAQMD Rule 1186, 1186.1 certified street sweepers or roadway washing trucks if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water); • Apply water three times daily, or non-toxic soil stabilizers according to manufacturers' specifications, to all unpaved parking or staging areas or unpaved road surfaces; • Pave road and road shoulders; and • Apply water three times daily or as needed to areas where soil is disturbed. **Mitigation Measure AQ-2: Emission Controls for Non-road Construction Equipment.** Construction equipment shall meet the EPA Tier 4 non-road engine standards, where feasible. The Tier 4 standards become available starting in year 2012. **Mitigation Measure AQ-2a: Best Management Practices (BMPs) for Construction Equipment**. The construction contractor shall implement the following BMPs on construction equipment, where feasible, to further reduce emissions from these sources. • Use of diesel oxidation catalysts and/or catalyzed diesel particulate traps, as feasible. • Maintain equipment according to manufacturer specifications. • Restrict idling of equipment and trucks to a maximum of five minutes (per ARB regulation). • Use of high-pressure fuel injectors on diesel-powered equipment. • Use of electricity from power poles rather than temporary diesel- or gasoline-powered generators.	CEQA: Significant and unavoidable NEPA: Significant and unavoidable

Table ES.8-1. Summary of Environmental Impacts and Mitigation Measures (continued)

Impact	Significance Before Mitigation	Mitigation	Significance After Mitigation
Air Quality (continued)			
(AQ-1: continued)		**Mitigation Measure AQ-2b: Construction Traffic Emission Reductions**. The construction contractor shall implement the following measures to further reduce emissions from construction. • Trucks used for construction (a) prior to 2015 shall use engines certified to no less than 2007 NOx emissions standards and (b) in 2015 and beyond shall meet EPA 2010 emission standards. • Provide temporary traffic control such as flag person, during all phases of construction to maintain smooth traffic flow. • Schedule construction activities that affect traffic flow on arterial systems to off-peak hour where possible. • Re-route construction trucks away from congested streets or sensitive receptor areas. • Provide dedicated turn lanes for movement of construction trucks and equipment on- and off-site. • Configure construction parking to minimize traffic interference. • Improve traffic flow by signal synchronization. • All vehicle and equipment will be properly tuned and maintained according to manufacturer specification. • Reduce traffic speeds on all unpaved roads to 15 mph or less. **Mitigation Measure AQ-3: Emission Controls for Construction Tugboats.** All tugboats used in construction shall meet the EPA Tier 2 marine engine standards, and if feasible use construction tugs that meet the EPA Tier 3 marine engine standards. The Tier 3 standards become available starting in year 2009. **Mitigation Measure AQ-3a: Construction Tugboat Home Fleeting**. The construction contractor shall require all construction tugboats that home fleet in the SPBP to (a) shut down their main engines and (b) refrain from using auxiliary engines at dock or to use electrical shore power, if need be. NEPA: See **Mitigation Measure AQ-1 through AQ-3a.**	
AQ-2: Proposed Project construction would result in offsite ambient air pollutant concentrations that exceed a SCAQMD threshold of significance.	CEQA: Significant NEPA: Significant	CEQA: See **Mitigation Measure AQ-1 through AQ-3a.** NEPA: See **Mitigation Measure AQ-1 through AQ-3a.**	CEQA: Significant and unavoidable NEPA: Significant and unavoidable

Table ES.8-1. Summary of Environmental Impacts and Mitigation Measures (continued)

Impact	Significance Before Mitigation	Mitigation	Significance After Mitigation
Air Quality (continued)			
AQ-3: The proposed Project would result in operational emissions that exceed SCAQMD thresholds of significance.	CEQA: Less than significant NEPA: Significant	CEQA: None necessary. NEPA: **Mitigation Measure AQ-4: Expanded VSRP.** All OGV that call at the Middle Harbor container terminal shall comply with the expanded VSRP of 12 knots from 40 nm from Point Fermin to the Precautionary Area. **Mitigation Measure AQ-5: Shore-to-Ship Power ("Cold Ironing").** All OGV that call at the Middle Harbor container terminal shall utilize shore-to-ship power while at berth according to the following schedule: (1) 33 percent of all OGV by December 2009 (2) 66 percent of all OGV by March 2012, and (3) 100 percent of all OGV by December 2014. Lease stipulations shall include consideration of alternative technologies that achieve 90 percent of the emission reductions of cold-ironing. **Mitigation Measure AQ-6: Low-sulfur Fuels in OGV.** All OGV that call at the Middle Harbor container terminal shall use 0.2 percent or lower sulfur MGO fuel in vessel auxiliary and main engines at berth and out to a distance of 40 nm from Point Fermin, or implement equivalent emission reductions. **Mitigation Measure AQ-7: Container Handling Equipment.** All Project CHE shall meet the following performance standards. • By the end of 2010, all yard tractors shall meet, at a minimum, the EPA non-road Tier 4 engine standards; • By the end of 2012, all pre-2007 on-road or pre-Tier 4 non-road top picks, forklifts, reach stackers, RTGs, and straddle carriers less than 750 Hp shall meet, at a minimum, the EPA non-road Tier 4 engine standards; and • By the end of 2014, all CHE with engines greater than 750 Hp shall meet, at a minimum, the EPA Tier 4 non-road engine standards. Starting in 2009 (until equipment is replaced with Tier 4), all CHE with engines greater than 750 Hp shall install the cleanest available VDEC, as established by the ARB. **Mitigation Measure AQ-7a: High Efficiency Rail Mounted Gantry (RMG) Cranes.** The Project terminal operator shall replace all diesel-powered RTGs with electric-powered RMGs, as soon as feasible, but no later than the completion of construction in 2020. Each RMG shall include high efficiency, regenerative drive systems. **Mitigation Measure AQ-8: Heavy-Duty Trucks.** Container trucks that call at the Middle Harbor container terminal shall comply with the following replacement schedule as part of the POLB CTP tariff. This measure goes beyond the ARB's requirements for reducing truck emissions. It is similar to CAAP measure HDV1 (CTP). However, it is more stringent and would result in the following: • Ban pre-1989 trucks by 10/1/2008; • Ban 1989-1993 trucks by 1/1/2010; • Ban un-retrofitted 1994-2003 trucks by 1/1/2010; and • Ban all trucks that do not meet the EPA 2007 Heavy-Duty Highway Rule emission standards by 1/1/2012. **Mitigation Measure AQ-9: Clean Railyard Standards**. The expanded Pier F intermodal railyard shall incorporate the cleanest locomotive technologies into its operations. **Mitigation Measure AQ-10: Truck Idling Reduction Measures.** The Middle Harbor container terminal operator shall minimize on-terminal truck idling and emissions. Potential methods to reduce idling include, but are not limited to (1) maximize the durations when the main gates are left open, including during off-peak hours, and (2) implement a container tracking and appointment-based truck delivery and pick-up system to minimize fuel consumption and resulting criteria pollutant emissions. **Mitigation Measure AQ-11: Slide Valves on OGV Main Engines.** All OGV that call at the Project container terminal shall have slide fuel valves installed on their main engines, or implement an equivalent emission reduction technology. This retrofit is most applicable to OGV with MAN B&W engines. **Mitigation Measure AQ-25: Periodic Technology Review**. To promote new emission control technologies, the tenant shall implement in 2015 and every five years following the effective date of the lease agreement, a review of new air quality technological advancements, subject to mutual agreement on operational feasibility, technical feasibility, and cost-effectiveness and financial feasibility, which shall not be unreasonably withheld agreement. If a technology is determined to be feasible in terms of cost, technical and operational feasibility, the tenant shall work with the Port to implement such technology. **Mitigation Measure AQ-26: Cargo Throughput Monitoring**: Every five years, the Port shall compare actual cargo throughput that occurred at the terminal to the cargo assumptions used to develop the Final EIS/EIR. The years used in this analysis shall include 2015, 2020, 2025, and 2030. The Port shall calculate annual air emissions associated with these throughput levels (for OGV, assist tugs, locomotives, cargo handling equipment, and trucks) and compare them to the annual air emissions presented in the Final EIS/EIR. If actual emissions exceed those presented in the Final EIS/EIR, then new/additional mitigations would be applied through Mitigation Measure AQ-25.	CEQA: Less than significant NEPA: Significant and unavoidable.

Table ES.8-1. Summary of Environmental Impacts and Mitigation Measures (continued)

Impact	Significance Before Mitigation	Mitigation	Significance After Mitigation
		Air Quality (continued)	
AQ-4: Proposed Project operations would produce offsite impacts that exceed SCAQMD ambient thresholds of significance for 1-hour and annual NO2	CEQA: Significant NEPA: Significant	CEQA: See **Mitigation Measures AQ-4 through AQ-11, AQ-25, and AQ-26**. NEPA: See **Mitigation Measures AQ-4 through AQ-11, AQ-25, and AQ-26**.	CEQA: Significant and unavoidable. NEPA: Significant and unavoidable.
AQ-5: The proposed Project would not create objectionable odors to sensitive receptors.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
AQ-6: The proposed Project would expose receptors to significant levels of TACs.	CEQA: Less than significant NEPA: Significant	CEQA: None necessary. NEPA: See **Mitigation Measures AQ-4 through AQ-11, AQ-25, and AQ-26**. **Mitigation Measure AQ-29: Cumulative Air Quality Impact Reduction Program**. To help reduce cumulative air quality impacts of the Middle Harbor Redevelopment Project, the Port will require the Project to provide funding in support of the Schools and Related Sites Guidelines for the Port of Long Beach Grant Programs and Healthcare and Seniors Facility Program Guidelines for the Port of Long Beach Grant Programs in the amount of $5 million each. The distribution of these funds to potential applicants and projects will be determined through a public evaluation process and by approval of the Board of Harbor Commissioners. The timing of the payments pursuant to this mitigation measure shall be made by the later of the following two dates: (1) the date that the Port issues a Notice to Proceed or otherwise authorizes the commencement of construction on the Phase 1 Construction Contract; or (2) the date that the Middle Harbor Final EIS/EIR is conclusively determined to be valid, either by operation of PRC Section 21167.2 or by final judgment or final adjudication.	CEQA: Less than significant NEPA: Significant and unavoidable
AQ-7: The proposed Project would not conflict with or obstruct implementation of the applicable AQMP.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
AQ-8: Proposed Project construction and operation would produce GHG emissions that would exceed the CEQA threshold.	CEQA: Significant NEPA: No determination, as no NEPA significance threshold has been established.	CEQA: See **Mitigation Measures AQ-3 through AQ-11, AQ-25, and AQ-26.** **Mitigation Measure AQ-12: Expanded VSRP for GHG.** All OGV that call at the Middle Harbor container terminal shall comply with the expanded VSRP of 12 knots from the California overwater border to the Precautionary Area. **Mitigation Measure AQ-13: Low-sulfur Fuels in OGV for GHG.** All OGV that call at the Project container terminal shall use 0.2 percent or lower sulfur MGO fuel in vessel auxiliary and main engines at berth and within California State Waters, or implement equivalent emission reductions. **Mitigation Measure AQ-14: LEED**. The main terminal building shall obtain the LEED gold certification level. **Mitigation Measure AQ-15: Compact Fluorescent Light Bulbs**. All interior terminal building lighting shall use compact fluorescent light bulbs. **Mitigation Measure AQ-16: Energy Audit**. The Middle Harbor container terminal tenant shall conduct a third party energy audit every five years and install innovative power saving technologies where feasible, such as power factor correction systems and lighting power regulators. **Mitigation Measure AQ-17: Solar Panels**. The applicant shall install solar panels on the main terminal building. **Mitigation Measure AQ-17a: Solar Carports.** The applicant will install carport-mounted PV solar panels over the employee and visitor parking areas to the maximum extent feasible. **Mitigation Measure AQ-18: Recycling**. The terminal buildings shall achieve a minimum of 40 percent recycling by 2012 and 60 percent recycling by 2015. Recycled materials shall include: • White and colored paper; • Post-it notes; • Magazines; • Newspaper; • File folders; • All envelopes including those with plastic windows; • All cardboard boxes and cartons; • All metal and aluminum cans; • Glass bottles and jars; and • All plastic bottles.	CEQA: Significant and unavoidable. NEPA: No determination has been made as no NEPA significance threshold has been established.

Table ES.8-1. Summary of Environmental Impacts and Mitigation Measures (continued)

Impact	Significance Before Mitigation	Mitigation	Significance After Mitigation
		Air Quality (continued)	
(AQ-8: continued)		**Mitigation Measure AQ-19: Tree Planting**. The Port shall plant shade trees around the main terminal building. **Mitigation Measure AQ-19a: Tree Planting – Transportation Corridors.** The Port shall plant new shade trees on Port-controlled lands adjacent to the roads into the Middle Harbor container terminal to the extent practicable given safety and other land use considerations.terminal will incorporate cool roofing systems to the extent feasible. Building rooftop areas which are covered with solar panels in accordance with Mitigation Measure AQ-17 shall be exempt from this measure. **Mitigation Measure AQ-20: Cool Roofs**. Buildings on the Middle Harbor container terminal will incorporate cool roofing systems to the extent feasible. Building rooftop areas which are covered with solar panels in accordance with Mitigation Measure AQ-17 shall be exempt from this measure. **Mitigation Measure AQ-21: Energy Efficient Boom Flood Lights.** The Port shall install boom flood lights with energy efficient features on existing and new dock cranes to the extent feasible. Such features may include, but are not limited to, use of photo cells/timers, low energy fixtures, and light-spillover reduction features, electronic ballasts, use of double filaments, and applying auto-switch-off controls when the crane boom is up. **Mitigation Measure AQ-22: Reefer Lighting.** The terminal tenant shall downsize light fittings and associated electrical power usage at reefer platforms to the extent feasible. **Mitigation Measure AQ-23: Employee Carpooling.** The construction contractor and terminal tenant shall encourage construction and terminal employees to carpool or to use public transportation. These employers shall provide incentives to promote the measure, include preferential parking for carpoolers, vanpool subsidies, and they shall provide information to employees regarding the benefits of alternative transportation methods. **Mitigation Measure AQ-24: Mitigation for Indirect GHG Emissions.** The terminal tenant shall be required to use green commodities, such as those available from the California Climate Action Registry's Climate Action Reserve, to offset carbon emissions associated with terminal's electricity consumption subject to the limitation specified below. This measure applies to all electricity consumed at the terminal, including shore-to-ship power usage ("cold ironing"). The terminal-related carbon emissions from electricity consumption will be calculated each year based on the local utility's carbon intensity for that year as recognized by the State of California. The tenant may adjust the carbon intensity value to wholly reflect any carbon offsets provided by the electricity deliverer (i.e., point of generation or point of importation) under applicable California and/or federal cap-and-trade regulations (i.e., no double offsetting). The Port is limiting the potential cost of this measure. The maximum expenditure for purchased offsets required under this measure shall not exceed 15 percent of the terminal electricity costs for any given year (i.e., cost of offsets shall not exceed 15 percent of terminal electricity costs (US$ basis)). **Mitigation Measure AQ-27: Electrical Regenerative Systems on Dock Cranes**. Port will require that the terminal operator to have electric regenerative systems on all Project dock cranes in Project year 1. **Mitigation Measure AQ-28: Greenhouse Gas Emission Reduction Program Guidelines (GHG Program**). To partially address the cumulative GHG impacts of the Middle Harbor Redevelopment Project, the Port will require this Project to provide funding for the GHG Program in the amount of $5 million. This money will be used to pay for measures pursuant to the GHG Emission Reduction Program Guidelines, include, but are not limited to, generation of green power from renewable energy sources, ship electrification, goods movement efficiency measures, cool roofs to reduce building cooling loads and the urban heat island effect, building upgrades for operational efficiency, tree planting for biological sequestration of CO_2, energy-saving lighting, and purchase of renewable energy certificates (RECs). The timing of the payments pursuant to this mitigation measure shall be made by the later of the following two dates: (1) the date that the Port issues a Notice to Proceed or otherwise authorizes the commencement of construction on the Phase 1 Construction Contract; or (2) the date that the Middle Harbor Final EIS/EIR is conclusively determined to be valid, either by operation of PRC Section 21167.2 or by final judgment or final adjudication. NEPA: None necessary.	

Table ES.8-1. Summary of Environmental Impacts and Mitigation Measures (continued)

Impact	Significance Before Mitigation	Mitigation	Significance After Mitigation
		Hydrology and Water Quality	
WQ-1.1: Wharf demolition, dredging, and excavation in Slip 3 and Berth F201, and fill in Slip 1 and the East Basin could result in violation of regulatory standards or guidelines.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
WQ-1.2: Backland construction activities could result in violation of regulatory standards or guidelines.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
WQ-2: Construction activities would not substantially alter harbor water circulation.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
WQ-3.1: Project construction would not result in increased flooding that would have the potential to harm people or damage property or sensitive biological resources.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
WQ-4.1: Construction activities have the potential to accelerate natural processes of wind and water erosion and sedimentation, resulting in substantial soil runoff or deposition which could not be contained or controlled onsite.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
WQ-1.3: Operation of Project facilities could result in violation of regulatory standards or guidelines.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
WQ-3.2: Operation of Project facilities would not result in increased flooding, which would have the potential to harm people or damage property or sensitive biological resources.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
WQ-4.2: Operations have a low potential to accelerate natural processes of wind and water erosion and sedimentation, resulting in substantial soil runoff or deposition which would not be contained or controlled onsite.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
		Biota and Habitats	
BIO-1.1: Construction activities would not substantially affect any rare, threatened, or endangered species or their habitat.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
BIO-2.1: Construction activities would not interfere with wildlife movement/migration corridors.	CEQA: No impact NEPA: No impact	CEQA: None necessary. NEPA: None necessary.	CEQA: No impact NEPA: No impact

Table ES.8-1. Summary of Environmental Impacts and Mitigation Measures (continued)

Impact	Significance Before Mitigation	Mitigation	Significance After Mitigation
Biota and Habitats (continued)			
BIO-3.1: Construction would result in a substantial loss or alteration of marine habitat through filling (in Slip 1, for the Berth E24 extension, and in a portion of the East Basin) and excavation (widening Slip 1 and at Berth F201) for a net loss of 54.6 acres.	CEQA: Significant NEPA: Significant	CEQA: **Mitigation Measure BIO-3:** The Port would apply approximately 40 credits available in the Bolsa Chica bank to compensate for loss of fish and wildlife habitat due to construction of fill in Slip 1 and East Basin. Implementation of this mitigation measure would occur upon completion of construction of the Project, although permits to begin construction would normally not be issued until the permitting agencies (USACE and POLB for this Project) have received assurance that sufficient mitigation is or will be available. This document constitutes that assurance. NEPA: See **Mitigation Measure BIO-3**.	CEQA: Less than significant NEPA: Less than significant
BIO-4.1: Construction activities would substantially affect a natural habitat or plant community.	CEQA: Significant NEPA: Significant	CEQA: See **Mitigation Measure BIO-3**. NEPA: See **Mitigation Measure BIO-3**.	CEQA: Less than significant NEPA: Less than significant
BIO-5.1: Dredging, filling, and wharf construction activities would not substantially disrupt local biological communities.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
BIO-1.2: Operations would not substantially affect any endangered, threatened, or rare species or their habitat.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
BIO-2.2: Operations activities would not interfere with wildlife movement/migration corridors.	CEQA: No impact NEPA: No impact	CEQA: None necessary. NEPA: None necessary.	CEQA: No impact NEPA: No impact
BIO-3.2: Operation of Project facilities would not substantially reduce or alter marine habitat.	CEQA: No impact NEPA: No impact	CEQA: None necessary. NEPA: None necessary.	CEQA: No impact NEPA: No impact
BIO-4.2: Operations of Project facilities could substantially affect a natural habitat or plant community.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
BIO-5.2: Operation of Project facilities would not substantially disrupt local biological communities.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
BIO-5.3: Project operations could disrupt local biological communities through introduction of non-native species.	CEQA: Significant NEPA: No impact	CEQA: None feasible. NEPA: None necessary.	CEQA: Significant and Unavoidable NEPA: No impact

Table ES.8-1. Summary of Environmental Impacts and Mitigation Measures (continued)

Impact	Significance Before Mitigation	Mitigation	Significance After Mitigation
Ground Transportation			
TRANS-1.1: Construction would result in short-term, temporary increases in auto and truck traffic at certain study intersections.	CEQA: Significant NEPA: Significant	CEQA: **Mitigation Measure TRANS-1.1a:** Prior to beginning construction, the construction contractor shall prepare a detailed traffic management plan, which in addition to work shift start/end times, shall include the following: detour plans, coordination with emergency services, coordination with adjacent property owners and tenants, advanced notice of temporary parking loss, identification of temporary parking replacement or alternative adjacent parking within a reasonable walking distance, use of designated haul routes, use of truck staging areas, observance of hours of operations restrictions and appropriate signing for construction activities. The traffic management plan shall be submitted to Port of Long Beach for approval before beginning construction. **Mitigation Measure TRANS-1.1b:** Consistent with City of Long Beach Public Works Department practice, the construction-related traffic to/from the Project site shall be restricted during morning and afternoon peak commute hours. Furthermore, no closure of major road corridors shall be permitted as a result of construction activities. **Mitigation Measure TRANS-1.1c*:*** The Port shall install a signal at the intersection of Pico Avenue and Pier E Street/Ocean Blvd EB On and Off-Ramps. **Mitigation Measure TRANS-1.1d:** The Port shall install a signal at the intersection of Pico Avenue and Pier D Street. **Mitigation Measure TRANS-1.1e:** The Port shall install a signal at the intersection of Pico Avenue/Pier G Avenue and Harbor Plaza. NEPA: See **Mitigation Measures TRANS-1.1a through TRANS-1.1e**.	CEQA: Less than significant NEPA: Less than significant
TRANS-2.1: Additional traffic generated by construction activities would have short-term significant impacts on certain highway locations in the study area.	CEQA: Significant NEPA: Significant	CEQA: **Mitigation Measure TRANS-2.1:** If Caltrans either a) adopts a fair share based program to collect funds for actual mitigation that Caltrans commits itself to implement, or b) otherwise obtains the balance of funding needed to improve the impacted study highway segments in a manner that will improve the segments level of operation, POLB shall pay its fair share into that program. NEPA: See **Mitigation Measure TRANS-2.1.**	CEQA: Significant and Unavoidable NEPA: Significant and Unavoidable
TRANS-3.1: Construction would not increase the demand for transit services.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
TRANS-4.1: Construction would not result in any increases in rail activity.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
TRANS-1.2: Additional traffic generated by the Project would have significant impacts at certain study area intersections.	CEQA: Significant NEPA: Significant	CEQA: See **Mitigation Measures TRANS-1.1c through TRANS-1.1e**. **TRANS-1.2:** The Port shall install a signal at the intersection of Pico Avenue and Ocean Blvd WB Off-Ramp. NEPA: See **Mitigation Measures TRANS-1.1c through TRANS-1.1e and TRANS-1.2.**	CEQA: Less than significant NEPA: Less than significant
TRANS-2.2: Additional traffic generated by the Project would have significant impacts on certain highway locations in the study area.	CEQA: Significant NEPA: Significant	CEQA: See **Mitigation Measure TRANS-2.1.** NEPA: See **Mitigation Measure TRANS-2.1.**	CEQA: Significant and Unavoidable NEPA: Significant and Unavoidable
TRANS-3.2: Project operations would not increase the demand for transit services.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
TRANS-4.2: Project operations would not result in any significant impacts because of rail activity.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant

Table ES.8-1. Summary of Environmental Impacts and Mitigation Measures (continued)

Impact	Significance Before Mitigation	Mitigation	Significance After Mitigation
		Vessel Transportation	
VT-1.1: Project construction-related marine traffic would not interfere with normal navigational activities within and near the POLB.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
VT-1.2: Project operations would not result in a substantial increase in vessel traffic or a change in patterns of vessel movements that would impair the level of safety for vessels navigating in the Middle Harbor area and/or the precautionary areas.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
		Land Use	
LU-1.1: Project construction would be consistent with the adopted goals, objectives, and/or policies of applicable land use plans.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
LU-2.1: Project construction would be consistent with the adopted goals, objectives, and/or policies of applicable land use plans.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
LU-1.2: Project operations would be consistent with the adopted goals, objectives, and/or policies of the PMP.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
LU-2.2: Proposed Middle Harbor container terminal activities would be consistent with surrounding Port-related industrial land uses.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
		Public Services/Health and Safety	
PHS-1.1: Project construction activities would not sufficiently burden existing staff levels and facilities whereby the LBPD would not be able to maintain an adequate level of service.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
PHS-2.1: Project construction activities would require upgrades to existing antiquated fire protection facilities to maintain acceptable emergency response times.	CEQA: Significant NEPA: Less than significant	CEQA: **Mitigation Measure PHS-2.1:** The Port shall enter into a mitigation agreement to upgrade existing facilities at Stations 15 and 20. The Port shall submit proof to the City of Long Beach that an agreement has been executed prior to commencement of construction activities. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
PHS-3.1: Project construction would not substantially increase demands on USCG staff levels and facilities.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
PHS-4.1: Project construction would not result in a substantially diminished level of public protection services provided by the SCCC.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
PHS-5.1: Construction activities would not substantially interfere with an existing emergency response or evacuation plan, capable of increasing risk of injury or death.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant

Table ES.8-1. Summary of Environmental Impacts and Mitigation Measures (continued)

Impact	Significance Before Mitigation	Mitigation	Significance After Mitigation
Public Services/Health and Safety (continued)			
PHS-1.2: Project operations would not sufficiently burden existing staff levels and facilities such that the LBPD would not be able to maintain an adequate level of service.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
PHS-2.2: Project operations would require upgrades to existing antiquated fire protection facilities to maintain acceptable emergency response times.	CEQA: Significant NEPA: Less than significant	CEQA: See **Mitigation Measure PHS-2.1.** NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
PHS-3.2: Project operations would not substantially increase demands on USCG staff levels and facilities such that the adequate service levels would be maintained.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
PHS-4.2: Project operations would not result in a substantially diminished level of public protection services provided by the SCCC.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
PHS-5.2: Project operations would not substantially interfere with any existing emergency response plans or emergency evacuation plans.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
Noise			
NOI-1.1: Project construction activities would increase ambient noise levels by three dBA.	CEQA: Significant NEPA: Significant	CEQA: **Mitigation Measure NOI-1.1a**: Temporary noise barriers shall be located between noise-generating construction activities (e.g., pile driving) and hotel/residential buildings to the east. **Mitigation Measure 1.1b**: Pile-driving activities shall be limited to the hours of 7:00 am to 7:00 pm on weekdays, between 9:00 am and 6:00 pm on Saturdays, and prohibited anytime on Sundays and holidays as prescribed by Section 8.80.202 of the LBMC. NEPA: See **Mitigation Measures NOI-1.1a and NOI-1.1b**.	CEQA: Significant and unavoidable NEPA: Significant and unavoidable
NOI-2.1: Construction activities would exceed City of Long Beach Municipal Code maximum noise levels.	CEQA: Significant NEPA: Significant	CEQA: See **Mitigation Measures NOI-1.1a and NOI-1.1b**. NEPA: See **Mitigation Measures NOI-1.1a and NOI-1.1b**.	CEQA: Significant and unavoidable NEPA: Significant and unavoidable
NOI-1.2: Project operations would not generate noise levels that would increase ambient noise levels by three dBA.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
NOI-2.2: Project operations would not exceed City of Long Beach Municipal Code maximum noise levels.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
NOI-3.1: Project operations would not generate ground vibration levels that would exceed ANSI S3.29-1983 acceptability limits.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
NOI-4.1: Project operations would not increase the number of vibration events that would exceed ANSI S3.29 acceptability limits.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant

Table ES.8-1. Summary of Environmental Impacts and Mitigation Measures (continued)

Impact	Significance Before Mitigation	Mitigation	Significance After Mitigation
Hazards and Hazardous Materials			
HAZ-1: Construction activities would not result in an accidental release of hazardous materials from onshore facilities or from vessels that would adversely affect the health and safety of the general public or workers.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
HAZ-2: The Project would not result in noncompliance with state guidelines associated with abandoned oil wells.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
HAZ-3: Project operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of accidental release of a petroleum product or hazardous substance.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
HAZ-4: The Project would comply with Risk Management Program policies guiding development within the Port.	CEQA: No impact NEPA: No impact	CEQA: None necessary. NEPA: None necessary.	CEQA: No impact NEPA: No impact
Recreation			
REC-1.1: Project construction would not result in a substantial loss or diminished quality of recreational, educational, or visitor-oriented opportunities, facilities, or resources.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
REC-2.1: Project construction would not result in a demand for recreation and park services that exceeds the available resources.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
REC-1.2: Project operation would not result in a substantial loss or diminished quality of recreational, educational, or visitor-oriented opportunities, facilities, or resources.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
REC-2.2: Project operation would not result in a demand for recreation and park services that exceeds the available resources.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
Socioeconomics			
SOCIO-1.1: The Project would not increase employment in the five-county region by 0.5 percent or more.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
SOCIO-2.1: The Project would not increase population in the Gateway Cities subregion by 0.5 percent or more.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
SOCIO-3.1: The Project would not increase the demand for housing units in the Gateway Cities subregion by 0.5 percent or more.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant

Table ES.8-1. Summary of Environmental Impacts and Mitigation Measures (continued)

Impact	Significance Before Mitigation	Mitigation	Significance After Mitigation
Socioeconomics (continued)			
SOCIO-1.2: The Project would not increase employment in the five-county region by 0.5 percent or more.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
SOCIO-2.2: The Project would not increase population in the Gateway Cities subregion by 0.5 percent or more.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
SOCIO-3.2: The Project would not increase the demand for housing units in the Gateway Cities subregion by 0.5 percent or more.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
Utilities and Service Systems			
UTIL-1.1: Project construction activities would result in the extension of new utility line connections to Project sites.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
UTIL-2.1: Proposed Project construction activities would not exceed existing water supply, wastewater, or landfill capacities.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
UTIL-1.2: Project operations would result in the extension of new utility line connections to the Project site.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
UTIL-2.2: Project operations would not exceed existing water supply, wastewater, or landfill capacities.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
Cultural Resources			
CR-1.1: Project ground disturbances would not impact potentially significant archaeological resources.	CEQA: Less than significant NEPA: Less than significant	CEQA: **Mitigation Measure CR-1.1.1**; In the unlikely event that any archaeological material is discovered during construction, all work must be halted within the vicinity of the archaeological discovery until an assessment of the significance by a qualified archaeologist is completed. If the resources are found to be significant, they shall be avoided or shall be mitigated consistent with SHPO Guidelines. Treatment plans must be developed in consultation with the County, SHPO, and local Native Americans. If human remains are encountered, the Los Angeles County Coroner shall be contacted immediately. If the remains appear to be Native American, the coroner shall contact the Native American Heritage Commission who will appoint the Most Likely Descendent. Additionally, if the human remains are determined to be Native American, a plan will be developed regarding the treatment of human remains and associated burial objects, and the plan will be implemented under the direction of the Most Likely Descendent. NEPA: See **Mitigation Measure CR-1.1.1.**	CEQA: Less than significant NEPA: Less than significant

Table ES.8-1. Summary of Environmental Impacts and Mitigation Measures (continued)

Impact	Significance Before Mitigation	Mitigation	Significance After Mitigation
		Cultural Resources (continued)	
CR-1.2: Construction activities would adversely impact potentially significant historic architectural resources.	CEQA: Significant NEPA: No impact	CEQA: **Mitigation Measure CR-1.2.1**: The two historic architectural resources shall be temporarily moved during construction and then relocated to another suitable location within the Project area subsequent to construction under the direction of a qualified Architectural Historian. A survey shall be conducted after the relocation to document, identify, and describe any internal and external cracking, condition of walls, and other elements as a result of their movement. The survey shall be undertaken under the direction of a qualified Architectural Historian and shall be in accordance with accepted standard methods. A written report documenting conditions after Project completion shall be prepared under the supervision and approval of a qualified Architectural Historian. The report shall provide any necessary measures to address stabilization and repair of areas that have been disturbed during relocation, including photo-documentation. The repairs shall be undertaken by the Port in a timely manner. NEPA: None necessary.	CEQA: Less than significant NEPA: No impact
CR-2.1: The Project would not result in the permanent loss of, or loss of access to, a paleontological resource.	CEQA: No impact NEPA: No impact	CEQA: None necessary. NEPA: None necessary.	CEQA: No impact NEPA: No impact
CR-1.3: Industrial reuse of the three potentially relocated historic properties would be consistent with their original Port-related function.	CEQA: Less than significant NEPA: No impact	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: No impact
		Aesthetics/Visual Resources	
VIS-1.1: Project construction activities would not substantially contrast with the existing industrial visual quality of the Project area.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
VIS-2.1: Project construction activities would not adversely impact the existing visual industrial character and quality of the Project site and its surroundings.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
VIS-3.1: Project construction activities would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.	CEQA: No impact NEPA: No impact	CEQA: None necessary. NEPA: None necessary.	CEQA: No impact NEPA: No impact
VIS-1.2: Project development would not substantially contrast with the visual industrial quality of the Project area.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
VIS-2.2: Project development would not substantially degrade the existing industrial character or quality of the site and its surroundings.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant
VIS-3.2: Project development would introduce new glare sources that would potentially degrade existing visual conditions.	CEQA: Less than significant NEPA: Less than significant	CEQA: None necessary. NEPA: None necessary.	CEQA: Less than significant NEPA: Less than significant

Chapter 1
INTRODUCTION AND PROJECT DESCRIPTION

1.1 INTRODUCTION

The U.S. Army Corps of Engineers (Corps or USACE) and the City of Long Beach acting by and through its Board of Harbor Commissioners (Port of Long Beach [Port or POLB]) have prepared this Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) to identify and evaluate the potential environmental impacts associated with implementation of the proposed Middle Harbor Redevelopment Project (hereinafter "Project" or "proposed Project"). The Project is part of a continued effort to optimize and expand Port facilities to accommodate increasing volumes of cargo efficiently. Accordingly, as described in Section 1.6.3.1, the Project would consolidate and expand the existing 294-acre Project site, consisting of the Pier E terminal (170 acres), the Pier F terminal (101 acres), 18 acres of underutilized land north of the Gerald Desmond Bridge and Ocean Boulevard, and the Berth E24 subsided oil area (five acres), into a single, modern, 345-acre container terminal. The Project would include a berth depth of -55 feet mean lower low water level (MLLW) to accommodate the current and expected future generations of cargo vessels and to support modernized operations. The Project would incorporate environmental practices and equipment pursuant to the Port's Green Port Policy and the San Pedro Bay Ports (SPBP) Clean Air Action Plan (CAAP).

The Project would be constructed over a 10-year timeframe (2009 through 2019) with anticipated Project buildout occurring in 2019. The Project site would reach full operational capacity by 2025; however, since full-capacity operation would continue from 2025 to 2030, 2030 is analyzed as the Project's horizon year. The Project is also referred to in the EIS/EIR as the 345-Acre Alternative (Section 1.6.3.1). The other alternatives analyzed in detail in this document are the 315-Acre Alternative (Section 1.6.3.2), the Landside Improvements Alternative (Section 1.6.3.3), and the No Project Alternative (Section 1.6.3.4).

The USACE is the federal lead agency under the National Environmental Policy Act (NEPA) and is responsible for preparation of the EIS portions of this document. The Port is the state lead agency under the California Environmental Quality Act (CEQA), and is responsible for preparation of the EIR portions of this document, and is the project proponent for the proposed Project. The USACE and the Port have prepared this joint EIS/EIR as a single document to optimize efficiency and avoid duplication of effort.

This EIS/EIR describes the affected environmental resources and evaluates the potential impacts to those resources as a result of constructing and operating the Project or the proposed alternatives to the Project. This document will be used to inform agencies and the public of significant environmental effects associated with the Project and reasonable alternatives, and to propose mitigation measures that would avoid or reduce significant environmental effects.

1.1.1 NEPA

This EIS/EIR has been prepared in accordance with the requirements of NEPA (42 United States Code [USC] 4341 *et seq*.) and Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508), which require the evaluation of potential environmental impacts resulting from federal actions. The federal action associated with the Project is the issuance of permits authorizing work and structures in navigable waters of the U.S. and the discharge of fill in waters of the U.S. The USACE is considering an application submitted by the Port for a permit to conduct dredge and fill activities and to construct wharves in accordance with Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act (RHA). This action may result in significant effects on the environment, thus constituting a major federal action requiring NEPA review (42 USC 4341 *et seq*.).

At this time, however, this document is not serving as a public notice of application for any permits. Public notice of any permit application will be separate from but concurrent with the public review period for this EIS/EIR.

1.1.2 CEQA

This EIS/EIR also fulfills the requirements of CEQA (Public Resources Code [PRC], Section 21000 *et seq*.), CEQA Guidelines (14 California Code of Regulations [CCR], Section 15000 *et seq*.), and POLB Procedures for Implementation of the CEQA (Resolution No. HD-1973). According to CEQA Guidelines Section 15121(a) (CCR, Title 14, Division 6, Chapter 3), the purpose of an EIR is to serve as an informational document that:

> *…will inform public agency decision-makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.*

This Draft EIS/EIR evaluates the direct, indirect, and cumulative impacts of the Project in accordance with the provisions set forth in the CEQA Guidelines. It will be used to address potentially significant environmental issues and to recommend adequate and feasible mitigation measures that, where possible, could reduce or eliminate significant environmental impacts.

Other state and local agencies that have jurisdiction or regulatory responsibility over components of the Project will also rely on this EIS/EIR for CEQA compliance as part of their decision-making processes (Section 1.8).

1.2 SCOPE OF REVIEW AND ENVIRONMENTAL BASELINES

1.2.1 USACE Scope of Review and NEPA Baseline

1.2.1.1 USACE Scope of Review

Analysis of a proposed project in joint NEPA/CEQA format requires the USACE to distinguish the scientific and analytical basis of its decisions from those of the CEQA Lead Agency. The NEPA Baseline for determining significance of impacts is defined by the "No Federal Action" condition, which is determined by examining the full range of construction and operational activities the applicant could implement and is likely to implement in the absence of permits from USACE. Therefore, the NEPA Baseline includes all of the construction and operational impacts likely to occur without in-water construction activities (e.g., air emissions and traffic likely to occur without issuance of permits for dredge and fill or to modify wharves). The determination is based on direct statements and empirical data from the applicant, as well as the judgment and experience of the USACE. Activities that require permits — those activities within the USACE's jurisdiction under Section 10 of the RHA and Section 404 of the CWA — are not part of the NEPA Baseline.

Once the USACE "jurisdiction" and NEPA Baseline are defined, USACE Regulations (33 CFR 325 Appendix B) require the USACE to examine whether the Corps' "scope of review" or "scope of analysis" should be expanded to account for indirect and/or cumulative effects that could occur due to the issuance of a permit. Those regulations state "the district engineer should establish the scope of the No Federal Action document to address the impacts of the specific activity requiring Department of the Army (DA) permits and those portions of the entire project over which the district engineer has sufficient control and responsibility to warrant Federal review." Typical factors considered in determining "sufficient control and responsibility" include:

1. Whether or not the activity comprises "merely a link" in a corridor type project;
2. Whether there are aspects of an 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 Corps jurisdiction; and
4. The extent of Federal cumulative control and responsibility.

Generally, any ultimate permit decision would focus on direct impacts to the aquatic environment, as well as indirect and cumulative impacts in the uplands determined to be within the scope of federal control and responsibility as part of the required public interest review. The USACE has identified potentially significant indirect and cumulative effects within the federal scope of control in uplands that could occur as a result of the proposed Project (directly traceable to the landfill activity and construction of wharves). While operational impacts in the uplands are outside of USACE jurisdiction, operational impacts within waters of the U.S. are

within its jurisdiction, thus requiring the preparation of an EIS for the Project.

1.2.1.2 NEPA Baseline

The NEPA Baseline for this Project assumes that increases in cargo throughput will occur in the future as a result of demands for higher levels of containerized shipping and Port-authorized upland developments not under federal jurisdiction. As a result, this baseline is not bound to a "no growth" scenario. Potential impacts are determined by comparing conditions with and without the federal components of the Project at given points in the future. For purposes of this EIS/EIR, the USACE will evaluate the impacts of the Project and alternatives relative to the NEPA Baseline.

The NEPA Baseline would include construction of site improvements and operational activities that could occur without issuance of federal permits. Therefore, the baseline would not include any in-water activities (e.g., dredging, filling, and/or new wharf construction). Existing wharf infrastructure would not be improved and channel and berth deepening would not occur. However, due to the demand for higher levels of containerized shipping, the Middle Harbor container terminal would experience market-driven increases in throughput. Accordingly, this baseline would include redevelopment and backland expansion on existing lands within the Project site to accommodate additional containerized cargo up to the capacity of the existing wharves and berths.

The elements of the Project are described in Section 1.6.3.1. The NEPA Baseline is equivalent to Alternative 3 (Section 1.6.3.3) because Alternative 3 only includes construction and operational activities that would not require issuance of federal permits.

1.2.2 CEQA Baseline

The CEQA Baseline is established as December 2005, when the Notice of Preparation (NOP) for the Project was published. The CEQA Baseline analysis considers impacts from all changes that would occur by 2025 compared to conditions in December 2005 for both in-water (dredging, filling, and wharf construction) and upland Project components (electrical substation, expanded intermodal railyard, track realignments and additions, and terminal maintenance and administration facilities). The CEQA impact analysis is based on a comparison of the changes caused by the Project and alternatives from December 2005 through the year 2025.

1.3 PROJECT PURPOSE AND NEED AND PROJECT OBJECTIVES

NEPA requires an EIS to discuss the "purpose and need" for a proposed federal action. Similarly, CEQA requires an EIR to discuss the "objectives" of a proposed project. These respective discussions are essential to explaining the underlying reasons why the Port is proposing the Project and why the Project is being recommended. Additionally, the purpose and need and the objectives are key in defining the alternatives and determining which should be included in the document.

The purpose, need, and objectives of the Project are based on the goals of the Port of Long Beach Master Plan (PMP) (Section 1.3.1.1), the Port's forecasts of future cargo volumes (Section 1.3.1.2), and analyses of the future capacity of Port terminals to accommodate those cargo volumes (Section 1.3.1.3).

1.3.1 Background

Since 1970, containerized shipping through U.S. West Coast ports has increased twenty-fold. In 2000, the value of waterborne trade through West Coast ports reached $309 billion, a 400 percent increase since 1980 (*Los Angeles Times*, October 4, 2002). Major West Coast ports, particularly the Ports of Long Beach, Los Angeles, and Oakland, have continued to invest billions of dollars optimizing their facilities to accommodate increases in containerized shipping. These ports have deepened their harbors to accommodate large, deep-draft container ships; demolished existing facilities and built new container terminals in their place; created new landfills to provide space for additional container terminal backlands; and purchased high-speed cranes and more efficient cranes. The terminal operators have modernized transportation equipment to move containers more efficiently between ships and trucks or trains.

1.3.1.1 The Port of Long Beach Master Plan

The PMP, as amended, addresses the primary goal of providing adequate water and landside

marine terminal facilities to accommodate a portion of increasing containerized cargo throughput volumes and the modern cargo vessels that transport these goods to and from the Port. The purpose of the PMP is to help the Port manage its resources in a manner that promotes sustainable management practices and ensures continued support of Port activities. PMP goals for primary and ancillary Port facilities within the Northeast Harbor, Middle Harbor, and Southeast Harbor Planning Districts (including the Project area) include the following:

- Consolidate similar and compatible land and water areas;
- Modernize old break-bulk terminals by conversion to container terminals;
- Encourage maximum use of facilities;
- Improve internal roadway and rail circulation;
- Provide for safe cargo handling and movement of vessels within the Port;
- Develop land for primary Port facilities and Port-related uses; and
- Protect, maintain, and enhance the overall quality of the coastal environment.

1.3.1.2 Long-Term Growth Forecasts

The Port's current projections for container throughput growth are based on the SPBP Long-Term Cargo Forecast (Mercer 1998). Portions of this forecast were updated in 2001 for the Ports of Long Beach/Los Angeles Transportation Study (Meyer, Mohaddes Associates 2001). These studies indicate that if the ports had unlimited capacity to accommodate future cargo forecasts, overall container throughput for the San Pedro Bay ports could reach 36.2 million twenty-foot equivalent units (TEUs) by 2020 (more than double the 14.2 million TEUs throughput for the ports in 2005). This reflects the expected demand for containerized goods moving through the two ports based on long-term demographic and economic trends for the U.S. and its trading partners, but does not take into account the potential capacity limitations of POLB/Port of Los Angeles (POLA) infrastructure and was not considered in the development of the forecast.

Historically, the size and number of container ships serving the Port has grown along with overall cargo volumes. It is expected that this relationship will persist well into the future. In February 2005, the ports completed a "Forecast of Container Vessel Specifications and Port Calls Within San Pedro Bay" (Mercator 2005). This study forecasted the number and size of vessels expected to call at POLB and POLA if cargo growth proceeds as expected. Increasing cargo volumes combined with the continued introduction of larger vessels will result in a 74 percent increase in the number of ship calls at the Ports between 2004 and 2020. The forecast also projects that 20 percent of the weekly services calling at the POLB and POLA will consist of vessels with a capacity of 8,000 to 12,000 TEUs. In comparison, 8,000+ TEU vessels accounted for less than two percent of vessel calls in 2005.

The expected growth of cargo volumes and vessel activity requires the modernization of Port facilities. Without expansion or significant improvements, the capacity of the existing POLB facilities is estimated to be approximately 12 million TEUs per year. Given the Port's growth expectations, that level of throughput will be reached by 2015. The improved terminal efficiency and additional terminal acreage provided by the Port's terminal development program would increase overall capacity to 20.3 million TEUs per year and delay Port-wide capacity constraints to after 2020.

The Project is part of a continued effort to meet the goals and objectives of the PMP. Accordingly, as detailed in Section 1.6.3.1, the Project would construct and operate a consolidated, 345-acre modern container terminal with a berth depth of -55 feet MLLW to meet the increasing volumes of import and export cargo and to accommodate changing requirements for handling modern containerized cargo vessels at primary Port facilities in Middle Harbor.

1.3.1.3 Port of Long Beach Cargo Capacity

The Port's current projections for container throughput growth have been used as the basis for the projected throughput volumes associated with proposed Project operations (Section 1.6.3.1). As forecasts include all cargo that would be transported through the Port assuming unlimited capacity, the potential capacity limitations of Port infrastructure were not considered in development of the forecast. However, the capacity of each POLB terminal,

including the proposed Project, is estimated based on the preferred future configuration of a terminal, which limits the terminal's throughput.

The process for determining the capacities of both the Project terminal and all non-project POLB terminals began by estimating the backland throughput capacity of each terminal. Once that figure was determined, the capacity of the terminal's berths was estimated, as described below.

Backland Capacity

A JWD Group (JWD 2006) spreadsheet model was used to calculate maximum container yard capacity for each of the Project terminal's development alternatives, as well as for each of the proposed or conceptual development alternatives for the other POLB terminals.

Key model variables included the size of the storage area, how the containers are stored (i.e., chassis vs. grounded), and how long the containers remain in storage on the terminal (dwell time). Container dwell times, in turn, are largely a function of the container destination and whether it is loaded with cargo. Tables 1.3-1 and 1.3-2 provide a list of assumptions about the types of containers handled and various backland operations that feed into the model. The model uses these inputs to estimate the overall capacity of the yard.

Berth Capacity

The number and size of vessels expected to call at the Project terminal were determined from the San Pedro Bay distribution of vessels forecast for 2020. This forecast is based on the 2005 fleet forecast prepared by Mercator Transport Group (MTG) (Mercator 2005) and is designed to accommodate San Pedro Bay's expected 2020 container cargo (identified as the "Base-Case Scenario" in the MTG study). The Project fleet would be a representative subset of the San Pedro Bay fleet that is projected to be capable of handling the container yard throughput.

An initial Project fleet was developed by selecting a diverse collection of ships from the 2020 Mercator distribution that could handle terminal throughput approximately equal to the estimated container yard capacity. (In certain cases the collection of services for a given terminal may have an expected annual capacity that is greater than the capacity of the terminal's container yard.) This fleet represents input to a berth capacity modeling system (JWD 2006) that determines if the initial fleet can be accommodated at the Project's wharf. The model considers each ship's overall length, the number

Table 1.3-1. Detailed Container-Type Assumptions for Calculating Backland Capacity

Container Type	Mean dwell time (days)	Percent wheeled	Mean stack height
Import local load	4.0	10%	3.5
Import on-dock intermodal load	2.0	10%	3.5
Import off-dock intermodal load	1.5	10%	3.5
Export local load	6.0	5%	3.5
Export on-dock intermodal load	6.0	0%	3.5
Export off-dock intermodal load	6.0	10%	3.5
Import empty	Na	Na	5.5
Export empty	7.0	5%	5.5

Source: JWD 2006.

Table 1.3-2. Utilization Rate and Static Density Assumptions for Calculating Backland Capacity

Utilization rate for stacked storage area	1 / (Peak / mean)	85%
Maximum wheeled utilization		90%
Wheel shape efficiency factor[1]		80%
Slot density for wheeled storage	TEU slots per acre	50%
Slot density for top and side pick (T/SP)[2]	TEU slots per acre	100%
Slot density for rubber tire gantry (RTG)[2]	TEU slots per acre	115%

Notes:
1. This is an adjustment factor to compensate for the fact that container yards that are not rectangular are less efficient that those that are.
2. Stacks of loaded containers to be handled by RTG cranes; stacks of empty containers to be handled by T/SP.

Source: JWD 2006.

of containers discharged and loaded, and various assumptions about berth operations in order to estimate how long each vessel will remain at berth and how much berth space it will use.

The vessel distribution produced from this process was then evaluated to determine the probability of vessel queuing (waiting for berth space to become available) using JWD's terminal resources model (JWD 2006). If the vessel distribution exceeded a queuing probability of five percent, the distribution was modified by adjusting the mix of vessels to find a combination of weekly services that could accommodate the container yards capacity throughput while avoiding a queuing expectation of five percent or greater. These modified vessel schedules may no longer be representative of the overall distribution of vessels forecast for San Pedro Bay. However, the POLB fleet should remain as close to representative of the San Pedro Bay total as possible.

The need for calculating probability stems from the fact that a terminal wharf cannot be occupied 100 percent of the time (i.e., its theoretical capacity). To the extent that ship arrival times will vary, a certain amount of useable wharf will need to remain unoccupied for a period of time in order to avoid unacceptable ship queuing. JWD's terminal resources model calculates this queuing probability using vessel call schedules developed from the M&N model and empirical data on the frequency and length of time container vessels calling at San Pedro Bay arrive late due to weather and other circumstances.

Overall Capacity

Comparing the berth capacity to the container yard capacity reveals where terminal capacity constraints arise, as the lesser of the two will limit throughput. A berth constrained terminal has a container yard capacity greater than the berth capacity. Therefore, the berth cannot accommodate the vessel activity required to deliver all the throughput the container yard could handle. A container yard constrained terminal has a berth capacity greater than the capacity of the storage yard. Accordingly, the terminal's berths will be under-utilized because the container yard cannot handle all of the containers that could be moved over the wharf.

1.3.1.4 Middle Harbor Container Terminal Capacity

The Project includes strategic redevelopment, expansion, and modernization of existing waterfront property and Port lands to accommodate a portion of the forecasted increases in containerized cargo throughput volumes. To accomplish this, the existing terminal facilities within the Project site need to be redeveloped to correct the following deficiencies:

- Approximately 55 acres of channel waters (Slips 1 and 3, and the East Basin) and the accompanying berths are too shallow to accommodate the larger existing and projected deep-draft cargo ships;
- Slips 1 and 3 are too narrow (395 feet and 364 feet, respectively) for the current larger vessels that require a width of approximately 480 feet to maneuver safely up to and away from the existing berths;
- Berths E24 – E26 (1,990 linear feet [LF]), Berths F1 – F4 (2,200 LF), and Berths F6 – F10 (2,550 LF) can each only accommodate one of the new generation of container cargo vessels that average over 1,100 LF, leaving the excess berth underutilized;
- Some underlying Pier E and Pier F wharf structure components are significantly deteriorated and need to be replaced;
- Berths E12 – E13 and F1 – F4 concrete pile-supported wharves were designed for break-bulk cargo and do not have the structural capacity or the utility infrastructure to support modern gantry cranes;
- Pier E has minimal rail capability, which will be unable to meet the Project needs, and the railyard at Pier F is insufficient to accommodate regular service of modern intermodal trains;
- The existing utility infrastructure is outdated and inadequate to support the implementation of environmental controls necessary to reduce pollution and conserve energy;
- The existing terminal areas are insufficient for the activities and modern equipment necessary to efficiently and safely handle the anticipated containerized cargo volumes; and

- Slip 1 separates Pier E docks and adjacent backland areas from the intermodal rail facilities on Pier F, resulting in an existing Pier E terminal that is inadequately connected to the essential infrastructure required to handle intermodal containerized cargo. In addition, Slip 1 in its current state and configuration is unusable for container vessel operations and prevents maximum utilization of the Project area to operate as an efficient container terminal.

1.3.2 NEPA Project Purpose and Need

The overall Project need is to increase container terminal efficiency to accommodate a portion of the predicted future containerized cargo throughput volume and the modern cargo vessels that transport those goods to and from the Port. These larger container vessels need slip widths, water depths, and berth lengths that are greater than previous generations of cargo vessels. The purpose of the Project is to increase and optimize the cargo handling efficiency and capacity of the Port, by constructing sufficient berthing and infrastructure capacity to accommodate a proportional share of foreseeable increases in containerized cargo. Additional Project purposes include improving marine terminal operational efficiency that would expand the use of existing waterways for international maritime commerce, and upgrading utility infrastructure to support the implementation of environmental controls necessary to reduce pollution and conserve energy.

1.3.3 CEQA Project Objectives

The objectives of the Middle Harbor Redevelopment Project are to:

- Consolidate common operations and wharves of two terminals (Piers E and F) into one terminal;
- Rehabilitate and modernize existing primary Port facilities, including replacement of obsolete and deteriorated wharf structures with adequate, well-equipped wharf areas, along with channels and berths of sufficient width, length, and depth to allow access to the docks by existing and future cargo vessels, and provide for replacement of obsolete gantry cranes with new generation cranes that are able to reach across the new, larger vessels;
- Implement the Green Port Policy (Section 1.7.1) and the CAAP (Section 1.7.2);
- Provide for efficient terminal traffic flow and cargo handling operations; and
- Link new and improved dock and wharf operations to planned and existing on-dock intermodal railyard facilities and separate on-dock intermodal terminal lead track operations (i.e., loading/unloading and switching) from mainline track operations.

1.4 PROJECT HISTORY AND BACKGROUND

Redevelopment of the Middle Harbor area of the Port was the subject of the 2001 EIR for the Middle Harbor Terminal Redevelopment Project. As a result of subsequent Project modifications for in-water and wharf construction activities the Port, in cooperation with the USACE, initiated studies and issued a Notice of Intent/Notice of Preparation (NOI/NOP) in 2004.

In early 2005, the Port adopted the Green Port Policy designed to reduce the impacts of Port development and operations; part of the Green Port Policy included reviewing and strengthening the Port's environmental review and documentation processes. The specific environmental policies delineated in the Green Port Policy provided a framework for reducing environmental impacts, including air pollution and health risk, which established the Port's strategy for reducing Port-related air emissions in the interest of the public health. In view of the new environmental initiative, the Port decided to conduct a new environmental analysis of the entire Project in order to ensure that all environmental impacts and alternatives are thoroughly disclosed and analyzed, that all feasible mitigation measures are included, and that the Project incorporated all applicable environmental controls pursuant to the Port's Green Port Policy. Accordingly, the USACE and Port prepared a new NOI/NOP that was released in late 2005.

In 2006 the Port, in conjunction with POLA, adopted the SPBP CAAP. The CAAP is a comprehensive strategy that is designed to develop mitigation measures and incentive programs necessary to reduce air pollution and health risks associated with Port activities. The principles of the CAAP have also been

incorporated into the Project and are considered in this document.

1.4.1 Historic Use of Project Site

The Port was created in 1909. Subsequent harbor improvements included construction, by means of fill, of new land within San Pedro Bay. Piers D and E were constructed in the 1940s, and Pier F was completed in 1965. Historically, the area has been used intensively for various Port activities. Prior to 1979, Piers D and E were used for handling break-bulk commodities such as general cargo, lumber, and steel and dry-bulk products such as grain. Since 1979, Pier E has been used predominately for handling containerized cargo (refer to Section 1.5.2 for additional details). Pier D is now used mainly for break-bulk, liquid-bulk, and dry-bulk (cement). Pier F was also used for break-bulk operations until the mid-1980s, when it, too, was converted to containerized cargo handling. Oil extraction has occupied substantial areas on all three piers throughout their existence.

1.5 PROJECT SETTING AND LOCATION

1.5.1 Regional Context

POLB is one of the world's busiest seaports, and is a leading gateway for trade between the U.S. and Asia. In 2005, the Port handled more than 6.7 million containers (TEUs). It is the second busiest port in the U.S. Containers handled at POLB account for 40 percent of those moving through all California ports, 29 percent moving through all West Coast ports, and 16 percent moving through all U.S. ports.

The Port comprises 3,200 acres of land, 10 piers, 80 berths, and 71 post-PANAMAX gantry cranes. In total, the POLB has some 17 miles of berthing frontage for commercial vessels and has 157 named berths, of which 77 are deep-water berths. All berths lie within 4.5 nautical miles (nm) of the open sea. Containers are the primary cargo moving through the Port, with major container terminals at Piers A, C, E, F, G, J, and T. Bulk oil and products cargo are located at Piers B, D, and T, and dry-bulk cargo is handled at Piers F and G. Other cargoes moving through the POLB include forest products at Piers D and T, and scrap metal recycling and export at Pier T.

The Port (Figure 1.5-1) is located in San Pedro Bay in southern Los Angeles County, adjacent to the POLA. The general area of the two ports is characterized by marine terminals and associated uses, heavy and light industry (including several refineries), commercial uses, transportation facilities (including a major railyard), and residential areas. Residential areas in the immediate vicinity include the neighborhood of west Long Beach, approximately 1.5 miles north of the Project site, and downtown Long Beach, less than a mile east and northeast of the Project site. The Project site is served by the I-710 and several major east-west highways (e.g., Anaheim Street and Pacific Coast Highway [PCH]), and by Union Pacific (UP) and Burlington Northern Santa Fe (BNSF) railroads.

The Port includes diverse land uses, including containerized and bulk cargo terminals; light manufacturing and industry; recreational destinations; and commercial operations including sport fishing concessions, hotels, retail shops, and a public boat launch. Major Port activities include commercial shipping and transfer of containerized cargo, petroleum/ petrochemical and non-petroleum liquid-bulk cargo; dry-bulk cargo (such as petroleum coke, salt, and cement); neo-bulk cargo (such as autos, steel, and lumber); recreation; and tourism.

1.5.2 Project Site and Vicinity

The Project site (Figure 1.5-2) is in the Middle Harbor, Northeast Harbor, and Southeast Harbor Planning Districts within the highly industrialized inner Port complex. The Project site is bordered by Pier D Street and Ocean Boulevard to the north, Pico Avenue/Harbor Scenic Drive to the east, Pier F Avenue to the south, and the Back Channel to the west. The site is entirely owned by the Port.

The Pier D and Pier E portions of the Project site are currently operated by California United Terminals (CUT) as a break-bulk and container cargo terminal with a combined area of approximately 170 acres and a total wharf length of 6,200 feet. Berths D28-31 and D34 occupy the southern portion of Pier D and support a general break-bulk facility, while Berths E24-E26 support container terminal operations on Pier E. Berths E11-E13 are obsolete and are not used. Backlands are used for storage and handling of containerized cargo. The Pier F portion of the Project site is operated by Long Beach Container Terminal, Inc. (LBCT). The Pier F terminal has a total area of approximately 101 acres, a total wharf length of 2,490 feet (Berths

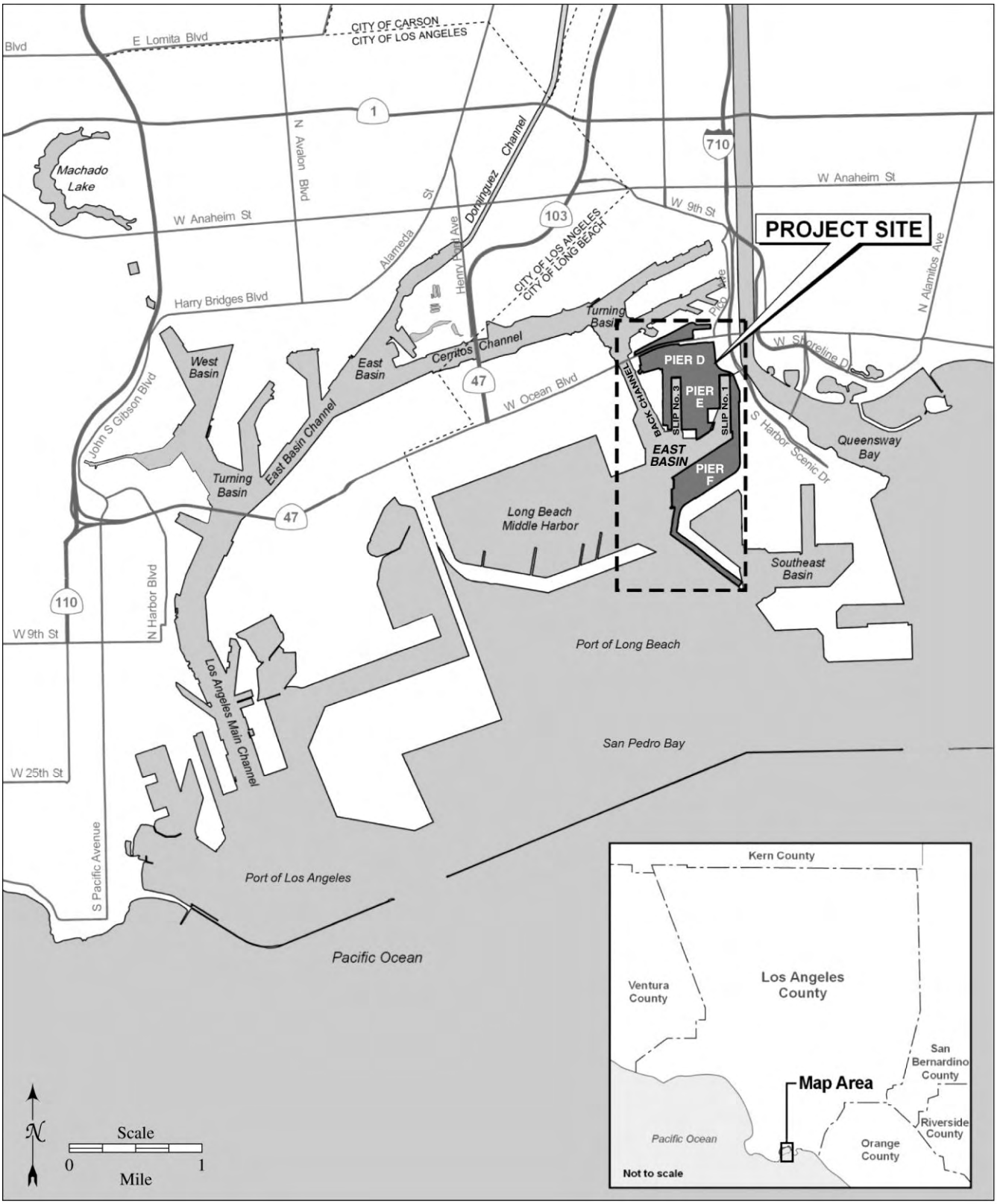


Figure 1.5-1. Project Vicinity Map

F6 through F10), and an existing 10,000 track-feet intermodal rail facility. Berths F1-F4 are obsolete and are not used.

The Project site vicinity includes additional containerized cargo and dry- and liquid-bulk terminals and various industrial/commercial uses. Two break-bulk facilities located at Berths D32-D33 and D46 are operated by Cemex USA and G-P Gypsum Corp, respectively, and are not within the Project area (Figure 1.5-2). Surrounding areas to the north on Pier D include the Catalyst Terminal (newsprint importer); G-P Gypsum Corp. (bulk gypsum); and L.G. Everist, Inc., a private-property concern that leases space to various businesses. Commercial and industrial uses to the east include Loren Scale Company, Memorial Maritime Clinic, Port Petroleum, Inc., and Quick Stop Commercial Oil and Lube Service. In addition, areas farther east on Pier H provide several commercial and recreational opportunities (hotels, restaurants, and public viewing areas).

Surrounding areas to the south on Pier F include break-bulk terminals operated by SSA Marine-Crescent and Cooper/T. Smith Stevedoring, a liquid-bulk terminal operated by Chemoil Marine Terminal, and the Koch Carbon dry-bulk terminal (petroleum coke and bulk organic compost). On Pier G, a containerized cargo terminal is operated by International Transportation Service; and dry-bulk goods terminals are operated by B.P. Wilmington Calciner (petroleum coke), Metropolitan Stevedore Company (petroleum coke, coal, and borax), and Oxbow Carbon & Mineral (petroleum coke). Container, neo-bulk, and liquid-bulk terminals to the west, on the other side of the Back Channel, include BP Pipelines North America Inc. (crude oil), Pacific Coast Recycling (scrap metal), Total Terminals International (containerized cargo), and Weyerhaeuser Co. (lumber).

1.6 ALTERNATIVES AND PROJECT DESCRIPTION

1.6.1 Background to the Alternatives

NEPA (40 C.F.R. 1502.14[a]) and CEQA Guidelines (15126.6) require that an EIS and an EIR examine alternatives to a project in order to explore a reasonable range of alternatives that meet most of the basic project objectives, while reducing the severity of potentially significant environmental impacts. This EIS/EIR compares the merits of the alternatives and determines an environmentally superior alternative.

According to the CEQ NEPA Regulations (40 C.F.R. 1502.14), the alternatives section of an EIS is required to:

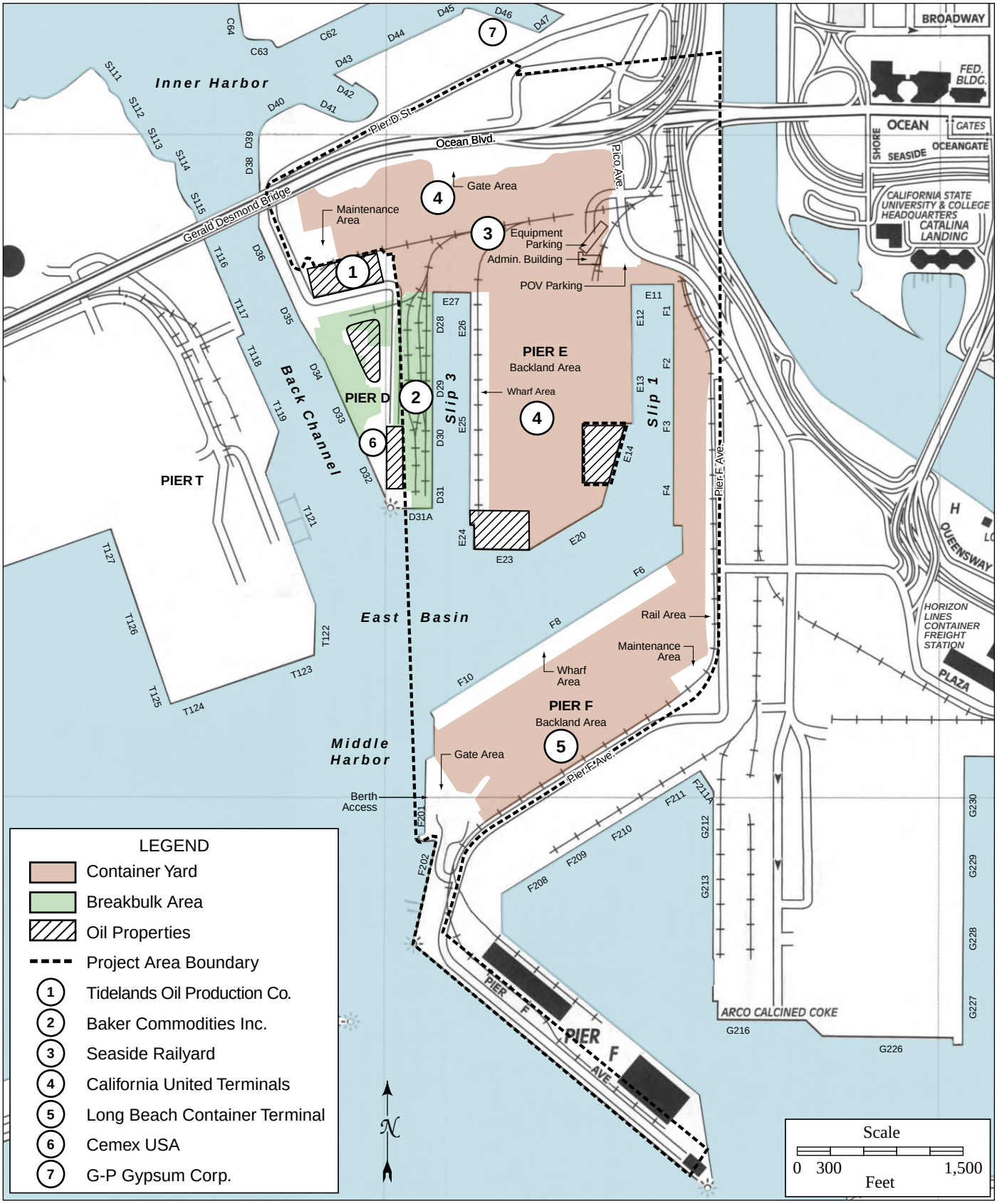
- Rigorously explore and objectively evaluate all reasonable alternatives;
- Include reasonable alternatives not within the lead agency's jurisdiction or congressional mandate, if applicable;
- Include a no-action alternative;
- Develop substantial treatment to each alternative, including the proposed action, so that reviewers can evaluate their comparative merits;
- Identify the lead agency's preferred alternative;
- Include appropriate mitigation measures (when not already part of the proposed action or alternatives); and
- Present the alternatives that were eliminated from detailed study and briefly discuss the reasons for elimination.

CEQA Guidelines Section 15126.6(b) stipulates that an EIR alternatives analysis is required to:

- Focus on potentially feasible alternatives to the project or its location which are capable of avoiding or substantially reducing any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly;
- Identify an "environmentally superior" alternative to the proposed project; and
- Include analysis of the "No Project" Alternative, assuming the reasonable future use of the project parcel if the application was not approved. If the environmentally superior alternative is the No Project Alternative, the EIR must identify an additional "environmentally superior" choice among the other project alternatives.

CEQA Guidelines Section 15126.6(a) states:

> *An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but*



Source: Moffatt & Nichol 2006

Figure 1.5-2. Existing Project Site Conditions

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would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.

The alternatives were also assessed in accordance with CEQA Guidelines Section 15126.6(f) which states:

The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the Project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project.

Ten alternatives were considered during preparation of this EIS/EIR, including alternative terminal configurations and locations. However, only four alternatives meet most of the proposed Project's objectives and have been selected to be carried forward for detailed analysis (Section1.6.3). Alternatives considered but not carried forward are addressed in Section 1.6.2.

1.6.2 Alternatives Considered but Not Carried Forward for Analysis

The screening process used in the EIS/EIR to evaluate a reasonable range of alternatives was based on the Project's purpose and need/objectives (Section 1.3). Screening criteria were also used to determine feasibility in accordance with the Port's legal mandates under the state Tidelands Trust and the Long Beach City Charter. The Port is one of only five locations in the State identified in the California Coastal Act (CCA) for the purposes of international maritime commerce. These mandates identify the Port and its facilities as an essential element of the national maritime industry. Port activities should be water dependent and give highest priority to navigation, shipping, and necessary support facilities to accommodate the demands of foreign and domestic waterborne commerce. Based on existing capacity limitations on industrial Port uses, the majority of industrial facilities adjacent to deep water are required to accommodate forecasted increases in containerized cargo.

An additional alternative was identified by the U.S. Environmental Protection Agency (EPA) during the Draft EIS/EIR public review period. The proposed alternative would not include any fill activities, but would provide deeper water (-55 feet MLLW) at berths and in basins and channels to accommodate the current and expected future generations of cargo vessels. However, under this alternative the existing terminal areas would remain insufficient to support the activities and modern equipment necessary to efficiently and safely handle the anticipated containerized cargo volumes. Furthermore, Slips 1 and 3 would remain too narrow (395 feet and 364 feet, respectively) for the current larger vessels that require a width of approximately 480 feet to maneuver safely up to and away from the existing berths; and Pier E docks and adjacent backland areas would be separated from the intermodal rail facilities on Pier F, resulting in an existing Pier E terminal that would be inadequately connected to the essential infrastructure required to handle intermodal containerized cargo. Also, as dredged material would not be reused under this alternative, the Port would need to locate new disposal locations and conduct additional sediment characterization. Therefore, this alternative was eliminated from further consideration in the Final EIS/EIR.

This section discusses the six alternatives considered but eliminated from further discussion, including the rationale for decisions to eliminate alternatives from detailed analysis. Those alternatives are:

- Construction of a new near-dock intermodal container railyard to serve multiple marine terminals;
- Use of other North American ports (i.e., those located on the West, East, and Gulf Coasts) to accommodate the Port's forecasted increases in container cargo;
- Expansion of marine terminals within southern California but outside of the Long Beach Harbor;

- Inland port (an intermodal facility for exclusive handling of international cargo);
- Marine terminal automation; and
- Offsite backlands facility alternative (i.e., using underdeveloped land outside the Port as a container storage and handling facility).

Construction of a New Near-Dock Intermodal Container Railyard

This alternative would construct a new near-dock intermodal container railyard in the vicinity of the POLB to serve multiple marine terminals. A near-dock intermodal yard is one that is located in or near the Port but outside any of the container terminals.

Constructing a near-dock intermodal yard would potentially eliminate the need for on-dock railyards in new and reconfigured terminals, thereby reducing the land requirements for those terminals. Additionally, near-dock railyards are more productive than on-dock railyards because they handle cargo from multiple terminals, thereby maximizing utilization of labor, facilities, and equipment.

On the other hand, although utilization of near-dock intermodal rail facilities represents a more efficient use of land than on-dock rail facilities, near-dock facilities generate more road congestion and air emissions than on-dock yards. For example, Moffatt and Nichol (2007) estimated that the use of a near-dock intermodal facility generates approximately twice as much local truck traffic and associated emissions as on-dock facilities. However, the use of cleaner trucks or other technology, as considered in the CAAP would reduce the difference in emissions generated by on-dock and near-dock railyards. BNSF has committed to using clean trucks at BNSF's proposed near-dock facility, Southern California International Gateway (SCIG). Furthermore, the San Pedro Bay Ports Rail Study Update (Parsons 2006) points out that near-dock rail facilities will be needed in the San Pedro Bay area in addition to, not in place of, on-dock facilities in order to meet the demand for intermodal cargo transportation. In addition, construction of a near-dock railyard would not optimize the use of available shoreline as this activity could feasibly occur at an upland and/or inland location. Finally, this alternative would not meet the Project objective of maximizing the use of existing waterways within the Port. Therefore, this alternative was eliminated from further consideration in this EIS/EIR.

Use of Other North American Ports

The majority of all containers shipped through West Coast ports flow through the Ports of Los Angeles, Long Beach, and Oakland because those ports have the specialized facilities and navigational channels and berths of sufficient depth to safely accommodate the current generation of deep draft ships (CALMITSAC 2006). Under this alternative, no new container terminals would be built at POLB and the existing terminals would not be modernized or expanded. Instead, the additional 10 million TEUs per year projected for POLB by the year 2020 would be accommodated by other North American ports, including those on the West Coast outside of southern California (e.g., Vancouver, Prince Rupert, Seattle/Tacoma, Portland, Oakland, Manzanillo, Lazaro Cardenas, and the proposed Punta Colonet), East Coast, and Gulf Coast. This would require that other ports have, or be able to create, sufficient capacity to handle the excess Long Beach cargo in addition to their own forecasted increased cargo volumes.

The West Coast ports outside of southern California, even with implementation of planned improvements, would not have enough excess capacity to accommodate the Port's forecasted increases in container cargo over the next 20 years (Moffatt and Nichol 2007). Diverting cargo to other West Coast ports would divert, not decrease, overall emissions. It would also divert the economic benefits associated with goods movement growth through POLB, including jobs, wages and salaries, and tax revenues. In addition, due to the large consumer market in the Los Angeles region, diversion to these ports would require goods to be transported back to the Los Angeles area by less efficient land based transportation, resulting in increases in air emissions.

The East and Gulf Coast ports would likely be able to accommodate a considerable portion of Long Beach's future cargo increases. However, diversion to these ports would result in large increases in vessel miles traveled and, therefore, large increases in air emissions (Moffatt and Nichol 2007). It would also reduce the economic benefits that international trade brings to southern California.

Because the use of other ports would not meet Project objectives to optimize the cargo handling efficiency and capacity of primary Port facilities, or accommodate the projected growth in containerized cargo volumes through the Port in accordance with its legal mandates, this alternative is considered infeasible and was eliminated from further consideration in this EIS/EIR.

Expansion of Marine Terminals within Southern California but Outside Long Beach Harbor

This alternative would reduce the need to expand terminal facilities in the POLB by diverting local and intermodal containerized cargo that is currently handled at Long Beach to other southern California ports (i.e., Port Hueneme, San Diego, and Los Angeles). Similarly to POLB, POLA is continually maximizing the use of their port properties to accommodate increased cargo volumes. However, even if the proposed additional 54.6 net acres of new container terminal land could be located in the POLA, given the proximity of the two ports, development would have very similar impacts to that of the Project at the POLB. Additionally, POLA could not accommodate POLB container operations because both ports expect to require container terminal development beyond planned optimization and capacity maximization in order to accommodate future cargo forecasts (Moffatt and Nichol 2007).

Other existing ports in southern California do not have the waterfront facilities and backlands necessary to accommodate large amounts of containerized cargo. Port Hueneme does not have the expansion potential, existing infrastructure capacity, or water depths to accommodate a significant increase in container throughput. The Port of San Diego does not have the terminal space, water depth, or eastbound rail capacity to support containerized cargo throughput demand beyond what it is currently accommodating (Moffatt and Nichol 2007). Using other southern California ports to accommodate future Port cargo volumes is infeasible because sufficient capacity does not exist and cannot be constructed; therefore, this alternative was eliminated from further consideration in this EIS/EIR.

Inland Port

This alternative, which is being actively studied by the Port independent of the proposed Project, would move cargo through the Port to and from an inland location (e.g., the Inland Empire or high desert area) where sorting and distribution would occur. This alternative would reduce the need for terminal expansion within the Harbor District by providing a facility outside the Port where containers would be stored, processed, and transported to and from local destinations. The alternative would modify the existing Middle Harbor container terminals, construct an intermodal railyard connected to the Alameda Corridor, and construct an inland container terminal facility with a container yard, railyard connected to a main rail line (BNSF or UP), gate complex, administration and maintenance facilities, fencing, and lighting. Depending upon cargo volumes and the capacity of existing rail lines, it is possible that the main rail lines would need to be upgraded. Implementation of the inland facility would not be within the power of the Port, but rather would have to be undertaken by a regional joint powers authority.

Implementation of an inland port alternative would reduce demands for additional land at the marine terminals because there would be no need for large container yards. Transport of cargo by rail to and from the inland container yard would reduce near-port truck traffic and Port-related air emissions (Moffatt and Nichol 2007). However, this alternative would increase truck traffic in the Inland Empire; shift Port-related air emissions to an area with already seriously degraded air quality; increase truck emissions from transporting containers back into the Los Angeles area local market; add costs and emissions associated with double handling containers prior to distribution; and transfer goods-movement jobs away from Port communities (Moffatt and Nichol 2007).

Construction of an inland port would not meet Project objectives or legal mandates to consolidate and expand marine terminal facilities on existing, under-utilized wharf and waterfront areas within the Port. Furthermore, because of the institutional constraints to implementation at this time, this alternative is considered infeasible. Therefore, this alternative was eliminated from further consideration in this EIS/EIR.

Marine Terminal Automation

Container terminal automation involves automating the three basic functions of a container terminal: loading and unloading (i.e., from ships, trucks, and trains), transportation, and stacking and unstacking. Automation of the Middle Harbor container terminals would include, among other elements, installing remotely-operated dockside and yard cranes, instituting computer control of yard hostlers, and increasing the degree of advanced technology at the gate complexes to speed gate operations. By increasing efficiency, automation of POLB terminals could in theory reduce the size of the terminal and reduce impacts of terminal operations. However, the container terminals at POLB are already some of the most efficient facilities in the world and employ a considerable degree of automation (Moffatt and Nichol 2007). Increasing the degree of automation at POLB terminals would not necessarily reduce the environmental impacts of terminal operations because efficiencies in some areas might be offset by reduced productivity, which would require additional terminal space (Moffatt and Nichol 2007). In addition, existing labor rules and capital costs are major barriers to increasing the level of automation at San Pedro Bay ports (Moffatt and Nichol 2007).

This alternative, by itself, would not meet Project objectives to replace obsolete and deteriorated wharf structures with adequate, well-equipped wharf areas along with channels and berths with sufficient width, length, and depth to allow existing and future cargo vessels access to the docks in accordance with its legal mandates. Additionally, implementation of this alternative would not ensure a reduction in cargo-handling operations at POLB. Therefore, this alternative was eliminated from further consideration in this EIS/EIR.

Offsite Backlands Facility Alternative

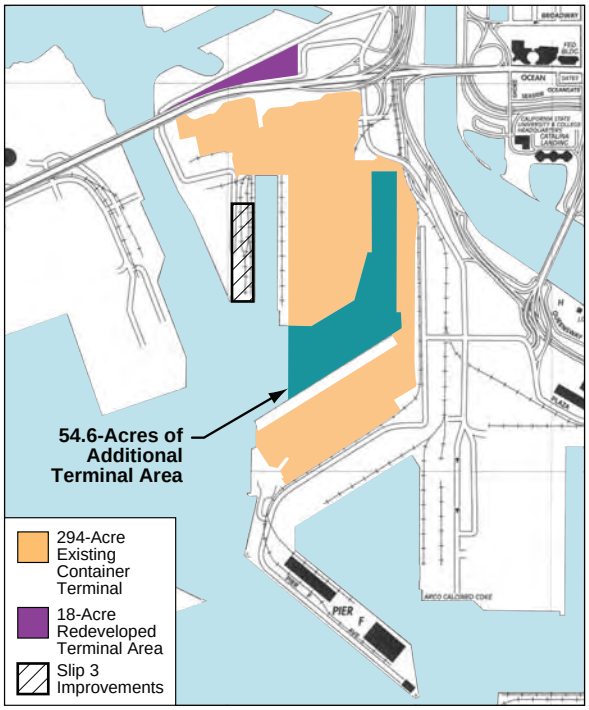
The offsite backlands facility alternative would develop a container handling facility that would function as a conventional marine terminal backlands at a distance from the vessel loading facilities. This alternative would involve development of a container storage yard on backlands either elsewhere in the Harbor District or, more likely, immediately outside the Port. The facilities would include a gate complex, heavy-duty pavement, utilities, lighting, maintenance and administration buildings, security features, and other facilities necessary for storing and processing containers. As it would be away from the waterfront, the facility would not include any berthing facilities; containers would need to be transported between waterfront facilities (the existing terminals) and the offsite facility.

The purpose of this alternative would be to reduce the need to redevelop and expand the Middle Harbor container terminals by utilizing underdeveloped land outside the Port as a container storage and handling facility that would augment the in-terminal container yards. Besides postponing the need for expanded terminals, this alternative would create an opportunity to use ultra-low-emissions technology in the draying operation (Moffatt and Nichol 2007).

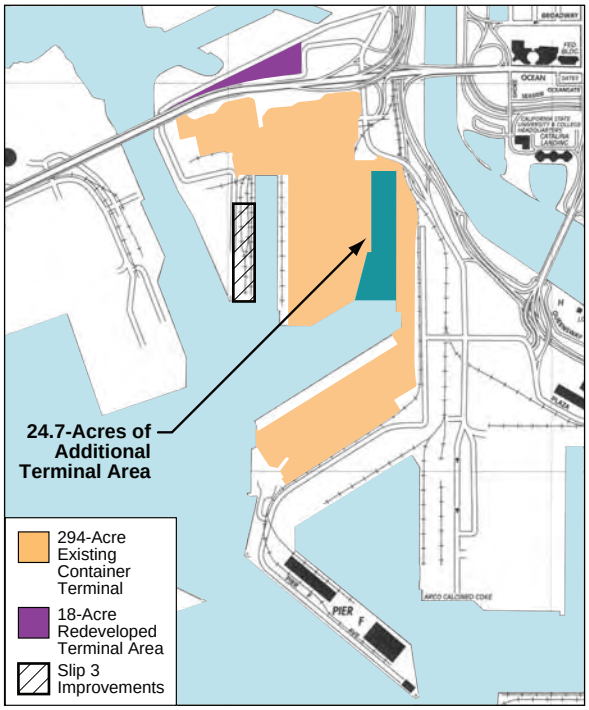
This alternative, however, would involve two vehicle trips for each local container, one between the waterfront and offsite facility and one between the offsite yard and the cargo's local destination or origin. The result would be increased congestion on local and regional roads and increased truck emissions. An additional constraint to this alternative is that it is unlikely a large tract of land outside the Port would be available in an acceptable location (i.e., sufficiently removed from residential areas) for a container storage facility (Moffatt and Nichol 2007). Furthermore, local and regional planning programs encourage the upgrading and improvement of transportation systems within the Port, and offsite alternatives would not result in such improvements. In fact, consolidating facilities and rehabilitating underdeveloped land on Piers E and F would improve operating efficiencies, thereby reducing Port-related traffic and air emissions. The offsite backland facility alternative would not be expected to provide these benefits. As the offsite backland facility alternative does not meet the objectives of the Project and could result in increased environmental impacts, this alternative was eliminated from further consideration in this EIS/EIR.

1.6.3 Alternatives Evaluated in this EIS/EIR

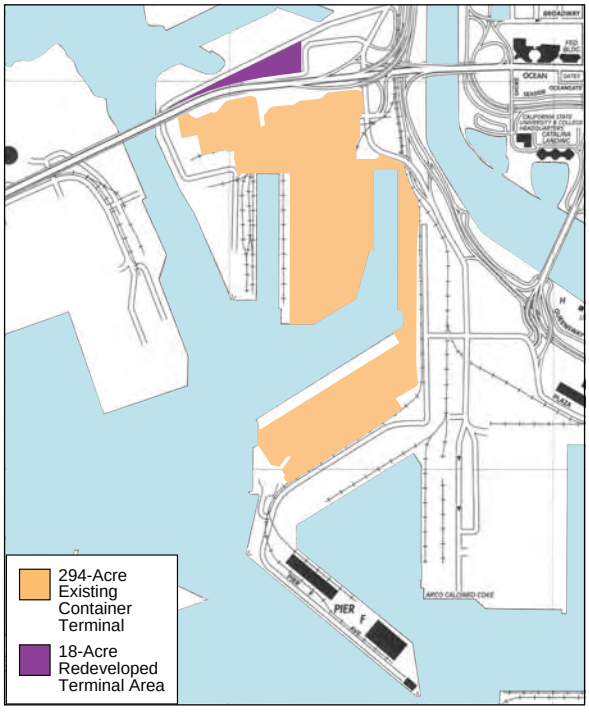
The alternatives discussed in this section include: Alternative 1 – 345-Acre Alternative (the Project); Alternative 2 – 315-Acre Alternative; Alternative 3 – Landside Improvements Alternative; and Alternative 4 – No Project Alternative (Figure 1.6-1, Table 1.6-1).



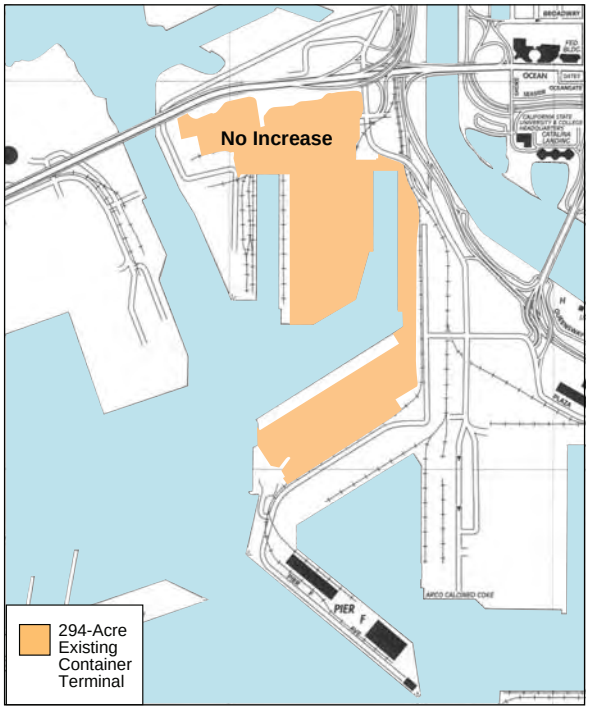
Alternative 1:
345-Acre Alternative (The Project)



Alternative 2:
315-Acre Alternative



Alternative 3:
Landside Improvements Alternative



Alternative 4:
No Project Alternative

Figure 1.6-1. Proposed Project and Alternatives Container Terminal Areas

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Table 1.6-1. Project Alternatives Operations Summary

	Project Site Gross Acreage	Total Container Terminal Acreage[1]	TEUs[2] per Acre	TOTAL TEUs	Annual Vessel Calls	Average Daily Truck Trips	Total Access Gates	Annual Trains[3]	Total Container Berth Length (LF)[4]	Joint Terminal Intermodal Yard Acreage	Employees
CEQA Baseline (2005)	294	244	5,180	1,264,021	185	6,528	2	138	4,480	0	625
NEPA Baseline											
Year 2010	294	244	6,497	1,611,260	208	6,796	2	122	4,480	25	847
Year 2015	294	267	8,043	2,165,212	260	7,170	2	1,092	4,480	25	1,931
Year 2020	294	267	9,355	2,518,396	312	8,014	2	1,412	4,480	25	2,246
Year 2030[5]	294	267	10,810	2,910,000	416	9,830	2	1,380	4,480	25	2,595
345-Acre Alternative											
Year 2010	308	244	6,776	1,666,946	208	7,032	2	126	4,590	0	876
Year 2015	328	250	8,847	2,211,751	260	6,119	2	1,648	2,900	47	1,972
Year 2020	345	322	8,836	2,845,333	312	7,911	2	2,098	4,250	47	2,537
Year 2030[5]	345	322	10,311	3,320,000	364	10,112	2	2,098	4,250	47	2,961
315-Acre Alternative											
Year 2010	308	244	6,480	1,594,083	208	6,724	2	120	4,590	0	838
Year 2015	320	275	7,946	2,185,185	260	5,996	2	1,653	2,900	47	1,949
Year 2020	315	292	8,514	2,486,157	260	6,276	2	2,114	4,250	47	2,217
Year 2030[5]	315	292	9,829	2,870,000	364	8,026	2	2,095	4,250	47	2,559
Landside Improvements Alternative											
Year 2010	294	244	6,497	1,611,260	208	6,796	2	122	4,480	25	847
Year 2015	294	267	8,043	2,165,212	260	7,170	2	1,092	4,480	25	1,931
Year 2020	294	267	9,355	2,518,396	312	8,014	2	1,412	4,480	25	2,246
Year 2030[5]	294	267	10,810	2,910,000	416	9,830	2	1,380	4,480	25	2,595
No Project Alternative											
Year 2010	294	244	5,710	1,524,550	208	6,381	2	144	4,480	0[6]	847
Year 2015	294	244	6,929	1,850,036	208	6,737	2	619	4,480	0[6]	1,931
Year 2020	294	244	8,460	2,258,739	260	8,113	2	801	4,480	0[6]	2,246
Year 2030[5]	294	244	9,738	2,600,000	312	9,594	2	786	4,480	0[6]	2,595

Notes:

1. The total container yard acreage is assumed to be slightly smaller than the Project site area due to other uses on the site (e.g., break-bulk cargo). The container yard is defined as the area dedicated to container activities, wharves, and spaces related to buildings and personal vehicles.
2. TEUs = Twenty-foot Equivalent Units. The TEU-per-acre estimates are based on the approximate size of the container yard projected for each year noted (2010, 2015, 2020, and 2030).
3. Estimate assumes 25 rail cars per train.
4. All Pier D berths and E-12-13 are break-bulk berths and are not included in container berth length. The total container berth lengths include both Pier E and Pier F berths.
5. Full-capacity level of operation would continue from 2025 to 2030.
6. Assumes the existing LBCT nine acre intermodal railyard would remain operational.

Source: Moffatt & Nichol 2006b.

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

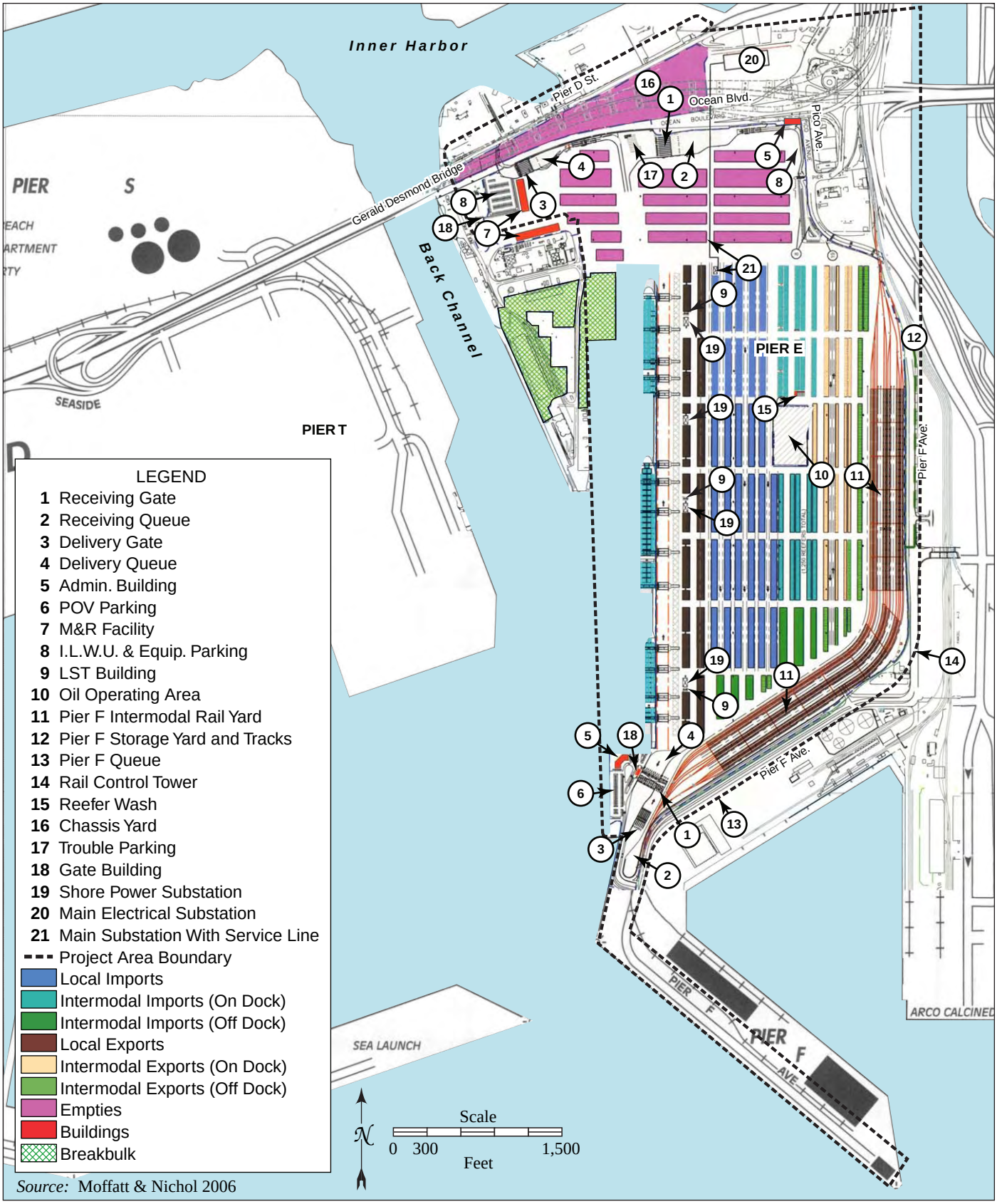
Summary of Project Elements

The Project would rehabilitate old terminal facilities; provide deeper water at berths; improve and expand rail infrastructure; create new land; modernize marine terminal facilities; and implement environmental controls, including the Port's Green Port Policy and CAAP. The Project would include construction of a 66kV substation (Pier E Substation) to provide power to support Middle Harbor container terminal operations, including supplying shore-to-ship power, and future power needs for other Port facilities. The existing 294-acre Project site would be increased to 345 acres, by creating approximately 54.6 net acres of new land (Figure 1.6-2; the net acreage estimate takes into account the proposed fill areas, new wharf construction to create three deep water berths with -55 feet MLLW depths, and the demolition of existing wharves and land that would not be replaced).

Project construction would occur in two phases, the first phase in five stages and the second phase in four stages, and is scheduled to be completed in 2019 (i.e., Project build-out year); however, the proposed Middle Harbor container terminal is forecasted to be fully optimized at maximum capacity by 2025 (Table 1.6-2). Specific construction elements of the Project, as well as operation of the Project, are described below.

Table 1.6-2. Project Construction Schedule

Project Component	Estimated Construction Schedule
CONSTRUCTION PHASE 1	
Stage 1	
Widen and Deepen Slip 3	2009-2010
Fill 25.6 acres of Slip 1 and Surcharge Northern half of Slip 1	2009-2010
Construct New Extension and Redevelop Existing Berth at Berth E24	2009-2010
Mainline Track Realignment at Ocean Boulevard/Harbor Scenic Drive	2009-2010
Construct Pier F Storage Yard and Tracks	2009-2010
Construct new 66kV Electrical Pier E Substation	2009-2010
Stage 2	
Fill Remaining 12 Acres of Slip 1	2010-2012
Redevelop Berth E25 Wharf	2010-2012
Roll Surcharge to Southern half of Slip 1 and Develop Northern half into Container Terminal Land	2010-2012
Stage 3	
Redevelop Berth E26	2012-2014
Berth E27 Wharf Improvements	2012-2014
Stage 4	
Backlands Improvements and Associated Facilities	2015-2017
Stage 5	
Container Yard Redevelopment	2015-2017
CONSTRUCTION PHASE 2	
Stage 1	
Complete Slip 1 Container Terminal Development & Associated Improvements	2011-2012
Fill 21 acres of East Basin	2011-2014
Expand Pier F Intermodal Railyard	2011-2014
Stage 2	
Fill Remaining 12 Acres of East Basin	2014-2015
Develop Container Yard on East Basin fill completed in Stage 1	2014-2015
Construct New Berth E23 Wharf	2015-2018
Stage 3	
Develop Container Yard on East Basin fill completed in Stage 2	2016-2018
Pier F Backlands Improvements and Associated Facilities	2016-2018
Stage 4	
Construct Pier F Tail Track	2018-2019



Source: Moffatt & Nichol 2006

Figure 1.6-2. Proposed Project Final Layout

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Dredging, excavation, and fill would be required during a number of the construction stages (Figure 1.6-3). Approximately 10.7 acres of existing land would be cut away and converted to water area. The Project would generate approximately 680,000 cy of dredged material and approximately 1,290,000 cy of excavated material (Table 1.6-3). All dredged and excavated materials generated by the Project would be reused onsite as fill and/or surcharge (surcharge is soil/fill material that is placed on top of the fill area to promote settling and compression of the new fill area to the desired density). Approximately 65.3 acres of water area would be filled. Import fill would be required in addition to Project generated materials to create the landfill. Approximately 6,730,000 cy of additional imported fill material from sources inside (including material dredged/excavated for the Project) and outside the Harbor District would also be required. The net result of these construction activities would be the creation of approximately 54.6 acres of new land which, when added to the existing Project site, would total approximately 345 acres of land.

When completed, the Project would consist of one consolidated container terminal (proposed Project) that would load and unload containerized cargo to and from marine vessels.

When optimized at maximum throughput capacity (by year 2025), the terminal would accommodate approximately 3,320,000 TEUs per year. The proposed expanded Pier F intermodal railyard would handle approximately 26.3 percent (872,480 TEUs per year) of the terminal's expected throughput.

Construction

Construction – Phase 1

Phase 1 construction would redevelop the existing Piers D/E container terminal area in five stages as described below (Figure 1.6-4). It is anticipated that Phase 1 construction would begin in 2009 and continue until 2017.

Stage 1: Stage 1 construction activities would widen and deepen Slip 3 by removing portions of Pier D (Berths D29-D31) and Pier E (Berths E23-E24); include demolition of existing wharf structures, backland areas, and existing facilities; and dredge portions of Slip 3 to elevation -55 MLLW. Approximately four acres on the southwest portion of Pier E (existing subsided Tideland oil area) would be raised approximately four feet to elevation +15 MLLW, and approximately 5.4 acres of new land would be created to extend the Berth E24 wharf. Stage 1 activities would also include filling the 25.6-acre Slip 1 and surcharging 10 acres at the northern end of the fill, realigning the mainline track at Ocean Boulevard/Harbor Scenic Drive, constructing the Pier F storage yard and tracks,

Table 1.6-3. Dredge and Fill Volumes[1]

Project Timeframe	Dredging[2]	Import Fill[3]	Excavation[4]	Export Fill[5]	Retention Dike[8]	Revetment[8]
CONSTRUCTION PHASE 1						
Stage 1 (2009–2010)	460,000 cy	1,840,000 cy[6]	640,000 cy	–	494,00 tons	230,000 tons
Stage 2 (2010–2012)	220,000 cy	–	30,000 cy	–	–	130,000 tons
Stage 3 (2012–2014)	–	–	40,000 cy	–	–	100,000 tons
Stage 4 (2015–2017)	–	–	–	–	–	–
Stage 5 (2015–2017)	–	–	–	–	–	–
CONSTRUCTION PHASE 2						
Stage 1 (2011–2014)	–	1,840,000 cy[7]	–	–	100,000 tons	–
Stage 2 (2014–2018)	–	3,050,000 cy[7]	580,000 cy	–	250,000 tons	105,000 tons
Stage 3 (2016–2018)	–	–	–	173,000 cy	–	–
Stage 4 (2018–2019)	–	–	–	–	–	–
TOTAL	680,000 cy	6,730,000 cy	1,290,000 cy	173,000 cy	844,000 tons	560,000 tons

Notes:

1. Approximate volumes.
2. Dredge quantities include two feet overdredge and 15 percent bulking.
3. The landfill area includes Berth E24 (5.4 acres), Slip 1 (25.6 acres), and the East Basin (34.3 acres). The amount of import fill identifies the additional quantities that would be required to create the landfills after filling these areas with structurally suitable excavated material from Slip 3.
4. Excavation quantities include a 15 percent estimate for material bulking, representing the volume of the material that expands upon excavation.
5. Remaining surcharge material to be moved to another POLB project is defined as export fill.
6. This quantity includes the total import fill required to fill Slip I (25.6 acres). Filling activities would begin in Stage 1 and be completed in Stage 2.
7. Stage volumes may vary depending on available fill sources.
8. All retention dikes and revetments would be constructed of rock, not soil fill.

and constructing a 66kV electrical substation (Pier E Substation) north of Ocean Boulevard. Stage 1 would begin in 2009 and continue through 2010, assuming all permits are secured.

The principal details of Stage 1 activities are:

- *Widen and Deepen Slip 3* – Existing wharf structures (e.g., concrete pilings, retaining structures, and rock dikes) at Berths D29-D31, E12-13, and E23-24 would be demolished. Approximately 1,100,000 cy of material would be excavated from existing Berths D29-D31 and E24-E26 to widen Slip 3 by approximately 117 feet, and dredged from Slip 3 to deepen it to a minimum depth of –55 feet MLLW. The dredging is anticipated to be accomplished with clamshell and cutter suction dredges.

  Approximately 228,000 tons of quarry-run rock dikes with armor rock revetments would be constructed along excavated Berths D29-D31 and E24. Slip 3 improvements would require removal of the existing Baker Commodities, Inc. facilities on Pier D and abandonment and relocation of the Tidelands oil well facilities and pipelines located on the southwest portion of Pier E (Figure 1.5-2). Demolition activities would be phased to avoid interfering with adjacent Port operations. Removal of structures would be conducted so as to avoid damage to surrounding structures, pavement, utilities, equipment, and property.

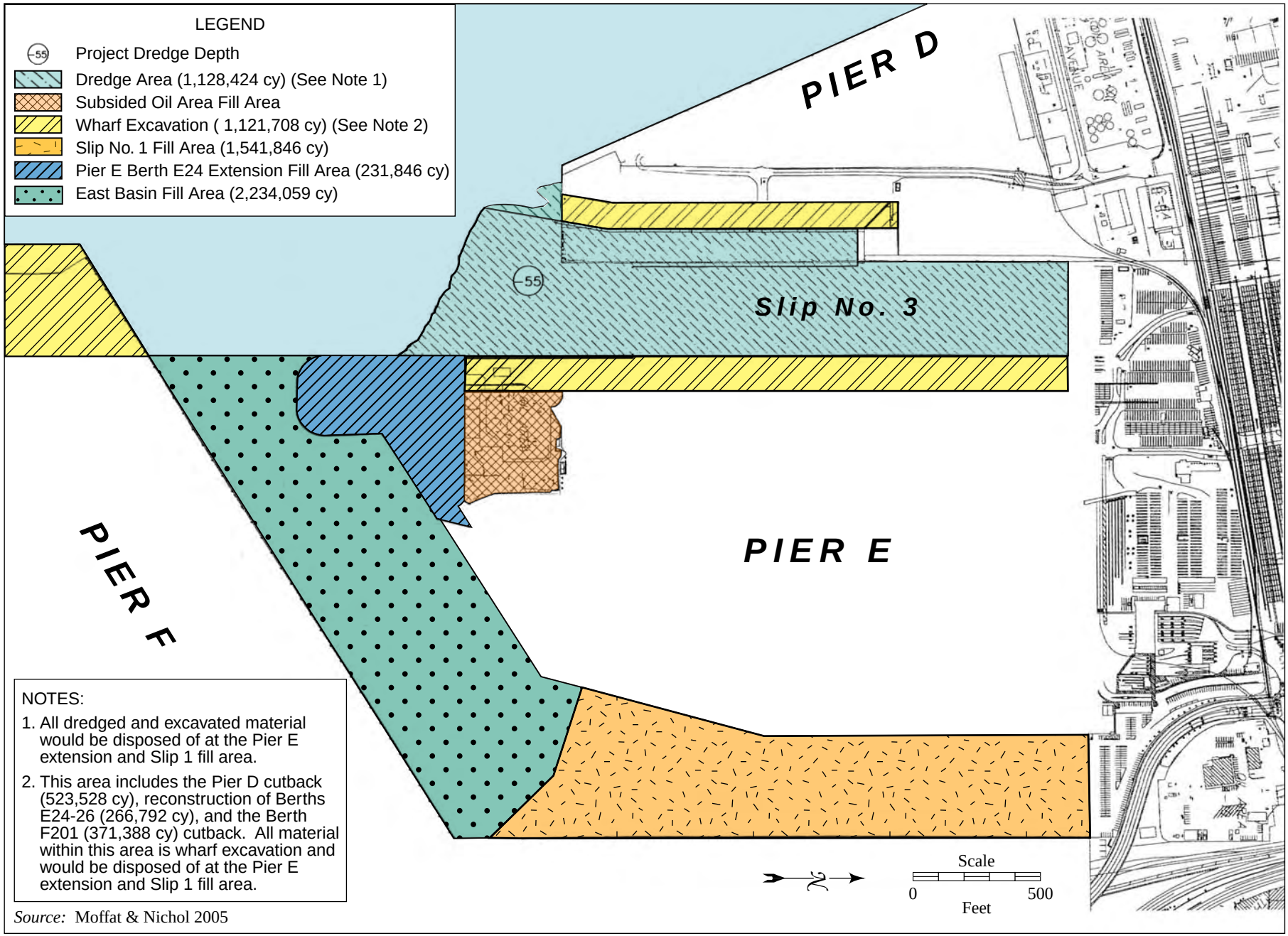
- *Fill Slip 1* – Approximately 130,000 tons of rock would be used to construct a containment dike at the southern boundary of Slip 1 to prevent silt and mud from escaping into the harbor during the fill operation. Approximately 10 acres of Slip 1 would be filled with approximately 820,000 cy of structurally suitable material dredged and excavated from Slip 3 and Pier D (Table 1.6-3). An additional 1,840,000 cy of material would be imported from sources inside and outside the Harbor District to complete the Phase 1 fill in Slip 1 (25.6 acres total) and to surcharge a portion of the fill (approximately 10 acres). Contaminated sediments would not be used as proposed landfill.

  Potential sources of fill material from inside the Harbor District include the Main Channel Project (approximately 800,000 cy), the Western Anchorage Sediment Storage Site (approximately 1,290,000 cy), and the Pier S/Back Channel Project (approximately 2,350,000 cy). Additional fill would come from currently undetermined dredge and borrow locations in the Outer Harbor. Borrowed materials could include clean or contaminated sediments from Marina del Rey, the Los Angeles River, and other projects in the Los Angeles region. If used, contaminated sediments would be capped and isolated by the placement of uncontaminated materials on top and at the sides in accordance with regulatory requirements and permits.

  The rolling (repositioning) of the surcharge and the development of the slip would continue into Stage 2. In this initial stage, the surcharge placed on the northerly portion of the slip would remain for a period of approximately six months until the underlying fill is consolidated. During Stage 2, this material would be rolled south to surcharge the next section of the Slip 1 fill. It is anticipated that the Slip 1 surcharge and subsequent development would take place over the next several construction stages. The remaining surcharge material (e.g., export fill) would be reused and rolled to subsequent fill areas throughout the construction stages.

- *Construct New Extension at Berth E24 and Redevelop Wharf* – Approximately 550 LF of wharf and bulkhead structure would be demolished at Berth E24 and approximately 38,000 tons of armor rock and 326,000 tons of rock would be used to construct a dike to extend Berth E24 south. This area would be filled and surcharged (including the subsided oil area) with the remaining approximately 280,000 cy of the Stage 1 material dredged/excavated (Table 1.6-3) from Slip 3 and Pier D. The surcharge would remain in place approximately six months before being rolled to Slip 1.

  A new concrete wharf structure 1,100 feet long would be constructed at the extension of Berth E24 and would be supported by concrete piles driven approximately 18 feet on center. Approximately 1,800 feet of existing wharf would remain to provide berthing capacity



Source: Moffat & Nichol 2005

Figure 1.6-3. Dredge and Fill Plan

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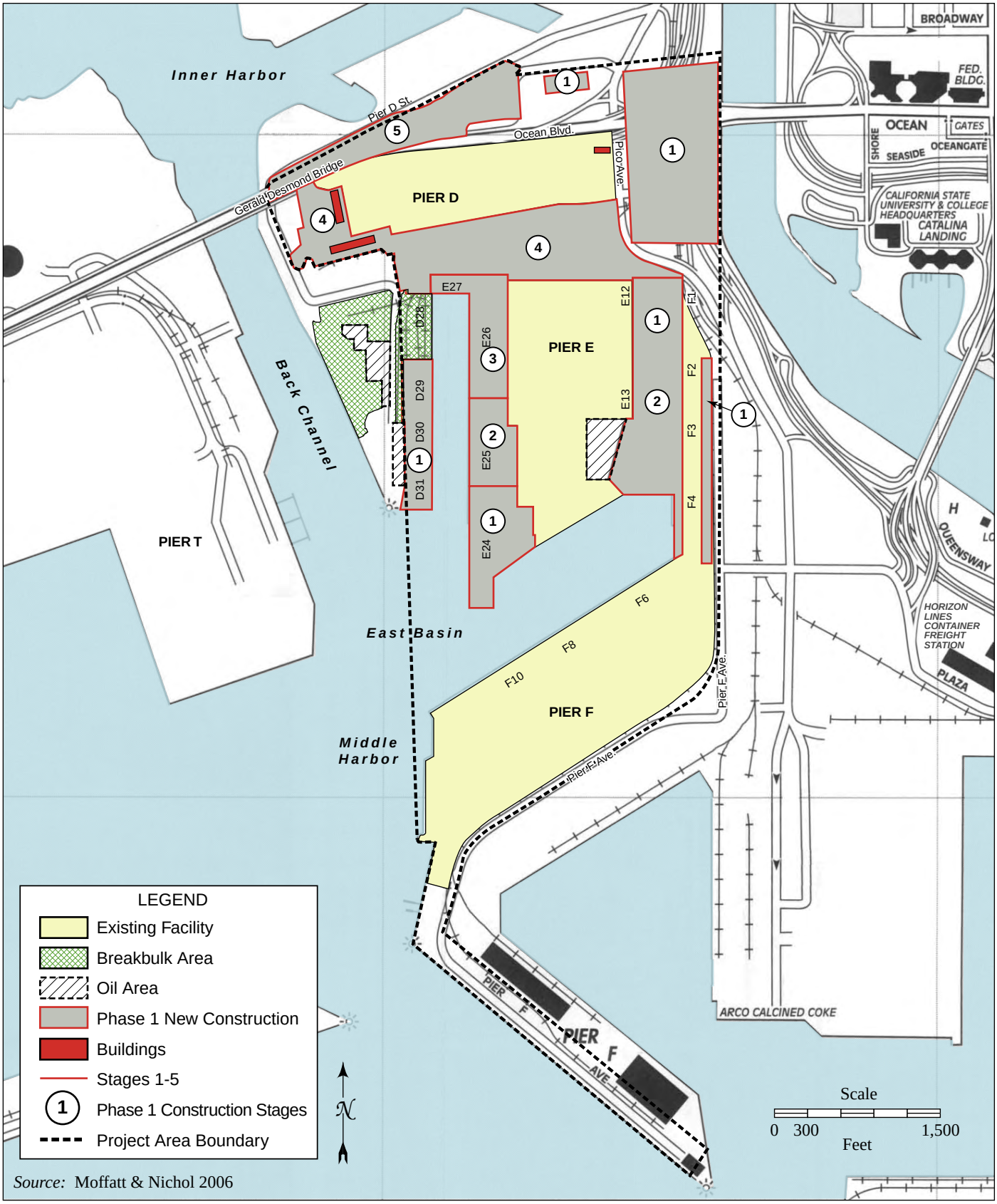

Source: Moffatt & Nichol 2006

Figure 1.6-4. Project Phase 1 Development

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for the Middle Harbor container terminal during Phase 1 and beyond. The new extended wharf at Berth E24 would include provisions for shore-to-ship power for cold-ironing ships at berth (all of the wharves constructed for this Project would include shore-to-ship power; Section 1.7.3) and have a pile-supported mooring dolphin adjacent to the south end.

- *Construct New 66kV Electrical Pier E Substation* – Southern California Edison (SCE), the Port's electrical provider, would construct a new 66kV substation (Pier E Substation) in cooperation with the Port, as well as related electrical transmission systems to provide power to the proposed Middle Harbor container terminal and future power needs for other Port facilities. This would include related terminal electrical distribution systems to provide electrical power to support proposed Middle Harbor container terminal operations, including shore-to-ship power and circuits to allow electrification of dredge equipment during construction activities. The Pier E Substation would be located north of Ocean Boulevard on the northeastern site boundary (Figure 1.6-5).

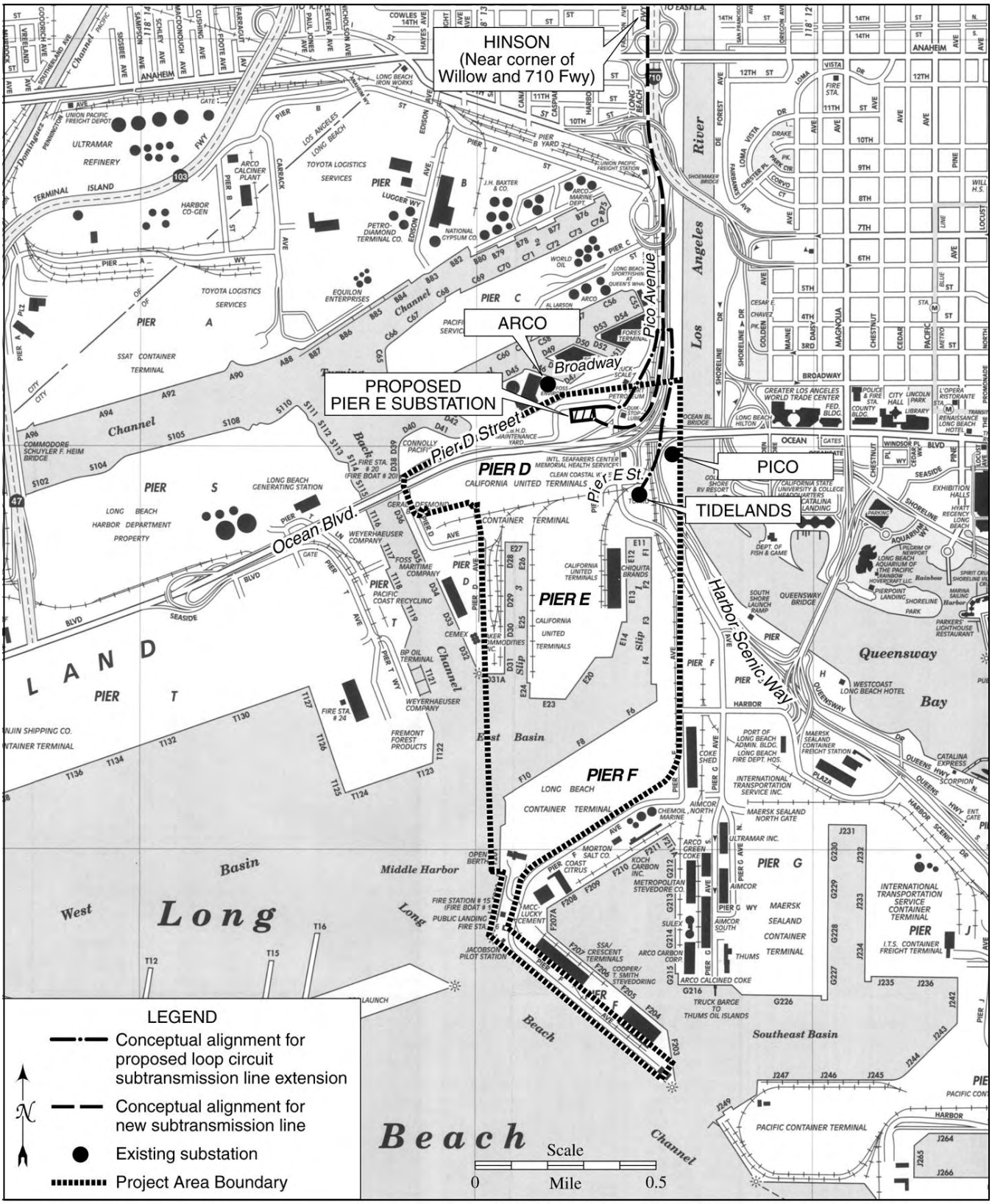
  The substation would be enclosed with an eight-foot high fence and equipped with a 20-foot (high) by 22-foot (wide) electrical switchrack. A new, 0.25-mile-long segment of 66kV subtransmission power line would be required to serve the new Pier E Substation. This would be constructed by splitting SCE's existing Hinson-ARCO-Pico-Tidelands 66kV circuit to form two new circuits: the Hinson-ARCO-Pier E 66kV circuit and the Pico-Pier E-Tidelands 66kV circuit. Subtransmission construction would require installing tubular steel and/or wood poles with pole top switches, and approximately 0.25 miles (1,320 feet) of double-circuit conductor to provide a loop electrical feed to the proposed new Pier E Substation. The subtransmission power line would be installed above-ground and would connect the proposed Pier E Substation to the existing nearby Tidelands substation on the southeast corner of the Pier E Street/Pico Avenue intersection (Figure 1.6-5). Construction of the Pier E Substation would also require improvements to SCE's existing Hinson and Pico substations.

  In the unlikely event that the Hinson-ARCO-Pico – Tidelands loop circuit extension would not provide the necessary electrical service, SCE would construct up to 6.5 circuit-miles of new sub-transmission conductor that would carry 66kV from the SCE Hinson Substation located south of the 405 freeway between South Santa Fe Avenue and South Alameda Street, to the Project. The sub-transmission line alignment would follow existing SCE overhead lines adjacent to the 710 Freeway and would be mounted on new and existing wood, steel, and concrete poles and towers. It is anticipated that a portion of the existing poles (wood and steel) would require reframing to accommodate the new conductor. Construction of the new 66kV sub-transmission line would require installation of a variety of electrical equipment at the Hinson Substation and the Pier E Substation.

- *Mainline Track Realignment at Ocean Boulevard/Harbor Scenic Drive* – The existing Pier F lead track is operated by Pacific Harbor Line (PHL) Railroad and supports railcar switching operations that connect to the Port's mainline tracks in the vicinity of the Pico Avenue overcrossing.

  In order to facilitate operations at the proposed expanded Pier F intermodal railyard (refer to Phase 2, Stage 1 discussion below), the Pier F mainline track would be realigned to accommodate construction of a long lead track between the Metropolitan Stevedore (METRO) Bulk Loading Terminal railyard and the Pier G mainline tracks in the vicinity of Ocean Boulevard and Harbor Scenic Drive (Figure 1.6-6). Track realignments and connection of a third track under Ocean Boulevard located to the west of the existing mainline tracks would allow METRO to perform switching operations safely and not interfere with mainline train traffic.

  Proposed improvements would include: (1) removal and salvage of approximately 4,000 feet of existing track; (2) realignment of the Pier G Railyard to accommodate a new lead track; (3) realignment of approximately 4,000 feet of existing track and construction of 6,000



Source: Port of Long Beach 2006

Figure 1.6-5. Location of Proposed Pier E Substation and Surrounding Substations

Figure 1.6-6. Location of Proposed Rail Improvemets

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feet of additional track adjacent to the segment of the existing double-track main line that extends under Ocean Boulevard; (4) connection of the new lead track to the proposed expanded Pier F intermodal railyard (refer to the Phase 2, Stage 1 discussion below); and (5) realignment of approximately 1,700 feet of Harbor Scenic Drive to accommodate railroad track-related work. All offsite track improvements would total approximately 8.5 acres. This work would include pipeline, utility, and oil well relocations and related activities.

Construction of the third track and realignment of the two existing mainline tracks would encroach onto Harbor Scenic Drive. Consequently, the two southbound lanes on Harbor Scenic Drive would be relocated to the east by constructing new paved roadway and retaining walls to accommodate realignment of the Port's mainline tracks. All roadway facilities are located within the Port's jurisdiction; no right-of-way acquisitions would be required.

- *Construct Pier F Storage Yard and Tracks* – Four new storage tracks totaling approximately 8,000 track feet would be constructed on the northern terminus of Pier F Avenue between the Pier G Railyard and the Project site (Figure 1.6-6). The new storage yard and tracks would support the proposed expanded Pier F intermodal railyard and METRO operations. Construction of these tracks would require roadway modifications to Pier F Avenue and reconfiguration of the existing LBCT queue lane. A retaining wall would be constructed at the Pier F Avenue/Harbor Plaza intersection, the existing Maintenance & Repair Building west of the existing LBCT rail track would be relocated, and ancillary construction activities would include pipeline, utility, and oil well abandonment and/or relocation.

Stage 2: Stage 2 construction activities would include development of Slip 1 for container yard use, and redevelopment of Berth E25. Stage 2 would begin in approximately 2010 and continue through 2012, and would include the following:

- *Redevelop Berth E25 Wharf* – Approximately 800 LF of the existing wharf structure would be demolished and soils would be dredged from Slip 3 along the berth. The side slopes would be excavated and reinforced with approximately 130,000 tons of quarry run rock and armor stone to stabilize the slope due to liquefiable soils and vessel operations at the Project site. A new wharf structure, including concrete piles and a steel-reinforced wharf deck, would be constructed. The approximately 250,000 cy of material to be dredged and excavated during this stage would be used as surcharge in Slip 1.

  A new marine operations building and longshore restroom facilities would be constructed as part of this stage. Proposed buildings and maintenance facilities would be designed in accordance with U.S. Green Building Council Leadership in Energy and Environmental Design (LEED®) standards for high-performance and sustainable buildings.

  Demolition and construction of new underground utility mains and lines would be conducted in a manner designed to ensure that services to the adjacent tenants remain uninterrupted. Demolition activities would be phased to avoid interfering with adjacent Port operations or damaging surrounding structures, pavement, utilities, equipment, and property.

- *Develop Slip 1 Container Terminal Land* – The 10 acres of Slip 1 fill that would be surcharged in Stage 1, and approximately five acres of adjacent area, would be developed into a container yard. The surcharge placed in Stage 1 would be rolled to the southern half (approximately 12 acres) of Slip 1. The 10 acres of compacted fill would be graded and paved, and improved with striping, lighting, fencing, and utilities. New underground utility mains and lines would be constructed in a manner designed to ensure that services to the adjacent tenants remain uninterrupted.

- *Surcharge Remainder of Slip 1 Fill* – The remaining 12 acres of Slip 1 that were not surcharged during Stage 1 would be surcharged during this stage by rolling the

Stage 1 surcharge onto this portion and adding more surcharge material, either from Berth E25 development or from outside sources, as necessary. This area would be developed during Phase 2.

Stage 3: Stage 3 construction activities would include wharf development at Berth E26 and Berth E27. Stage 3 would begin in 2012 and continue through 2014, and would include the following:

- *Redevelop Berth E26* – Approximately 1,000 LF of existing wharf structure would be demolished at Berth E26 to accommodate a new wharf. Demolition activities would be phased to avoid interfering with adjacent Port operations. The side slopes would be excavated and reinforced with approximately 100,000 tons of quarry run rock and armor stone to stabilize the slope at the Project site. Pre-cast concrete piles would be installed to support a new, 1,000 LF, steel-reinforced concrete wharf. Four temporary pile-supported mooring dolphins would be installed during Stages 1 through 3 to accommodate ship mooring. The approximately 250,000 cy of material dredged and excavated during this stage would be added to the surcharge in Slip 1.
- *Complete Berth E27 Wharf Improvements* – The existing Berth E27 wharf structure would be reinforced and upgraded to current wharf design standards. Improvements may include, but are not limited, to installation of sheet piles, tiebacks, and anchors, removal and replacement of concrete caps, and installation of shore-to-ship infrastructure.

Stage 4: Stage 4 construction activities would include redevelopment of the Seaside Railyard area on Pier E and construction of new terminal buildings. Stage 4 would begin in 2015 and continue through 2017, and would include the following:

- *Container Yard Redevelopment* – The existing Seaside Railyard on Pier E would be demolished (Figure 1.5-2). It and adjacent terminal area, together totaling approximately 32 acres, would be redeveloped as a container storage yard/backland area. This work would include grading, paving, striping, lighting, fencing, and utilities. A new maintenance and repair facility would also be constructed during this stage. Proposed buildings and maintenance facilities would be designed in accordance with LEED® standards for high-performance, sustainable buildings.

  Demolition and construction of new underground utility mains and lines would be conducted in a manner designed to ensure that services to the adjacent tenants remain uninterrupted. Demolition activities would be phased to avoid interfering with adjacent Port operations and damaging surrounding structures, pavement, utilities, equipment, and property.

Stage 5: Stage 5 construction activities would redevelop 18 acres north of the Gerald Desmond Bridge and Ocean Boulevard. Stage 5 would begin in 2015 and continue through 2017, and would include the following:

- *Container Yard Redevelopment* – Approximately 18 acres of underutilized land north of the Gerald Desmond Bridge and Ocean Boulevard would be redeveloped as additional container yard. This work would include grading and paving; and improvement with striping, lighting, fencing, utilities, and maintenance and storage buildings. Construction of new underground utility mains and lines would be conducted so as to ensure that services to the adjacent tenants remain uninterrupted. Demolition of existing structures, pavement, and utilities is not evaluated as part of the Project. The removal and demolition of existing structures and infrastructure, including the Port's Maintenance Yard, is being evaluated under a separate environmental review process conducted for the Gerald Desmond Bridge Replacement Project. This redevelopment stage would include minor improvements to Pier D Street and potential relocation of on-street parking to adjacent Port land to improve circulation.

Construction – Phase 2

Proposed Phase 2 improvements would fill the East Basin to connect the existing Pier E terminal to the existing Pier F container terminal, develop this newly created land for container terminal use, and extend the wharf constructed in Phase 1 by 1,350 LF (Figure 1.6-7).

It is anticipated that Phase 2 construction activities would begin in 2011 and continue through 2019, and would consist of four stages.

Stage 1: Stage 1 construction yard activities would involve developing the remaining 12 acres of the Slip 1 fill as container yard, filling in 12 acres of the 34.3-acre East Basin area, and constructing an expanded intermodal railyard. This stage would begin in 2011 and continue through 2014, and would include the following:

- *Complete Slip 1 Container Terminal Development* – Existing wharf structures at Berths F1–F6 would be demolished. The surcharge on the remaining undeveloped 12 acres of Slip 1 would be rolled and used as fill in the East Basin and along Berths F1-F6. The fill along Berths F1-F6 would be compacted and the area between the wharf face and the existing intermodal yard would be developed with the remaining 12 acres of Slip 1. Slip 1 container terminal development would include grading, paving, striping, lighting, fencing, utilities, and maintenance and storage buildings. Construction of new underground utility mains and lines would be conducted to ensure that services to the adjacent tenants remain uninterrupted.
- *Fill a Portion of the East Basin* – The existing Pier F, Berth F6 wharf structure, and a portion of the Berth F8 wharf structure, would be demolished. Approximately 100,000 tons of quarry-run rock would be used to form a containment dike running from Pier E to Pier F. Twelve acres of the East Basin would be filled and surcharged with approximately 1,840,000 cy of structurally suitable material rolled from Slip 1 and imported from sources inside and outside the Harbor District. Potential sources of fill material are the same as in Phase 1. Contaminated sediments would not be used as proposed landfill. If excavated materials included contaminated sediments, those materials would be capped and sequestered in an engineered fill by the placement of uncontaminated materials on top and at the sides in accordance with regulatory requirements and permits.
- *Expand Pier F Intermodal Railyard* – The existing LBCT railyard on Pier F occupies 15.4 acres and is comprised of four tracks totaling 10,400 feet and a side/passing track that is approximately 7,000 feet long (Figure 1.5-2). That railyard would be expanded from 10,000 track feet to approximately 75,000 track feet. The new railyard would provide twelve tracks (working and storage), ranging between 4,800 and 6,500 feet long.

Stage 2: Stage 2 construction activities would demolish the remaining Berths F6-F10 wharf structures, fill the remaining 21 acres of the East Basin between Piers E and F and construct a new connecting wharf (Berth E23). Stage 2 would begin in 2014 and continue through 2018, and would include the following:

- *Fill Remainder of East Basin* – The remaining wharf structures at Berths F6-F10 would be demolished and 350,000 tons of quarry-run rock revetment and armor rock would be used to form a containment dike between Berth E24 and Berth F10. The remaining 21 acres of the East Basin would be filled and surcharged with approximately 580,000 cy of material excavated from Berth F201 (Figure 1.5-2) and approximately 3,630,000 cy of additional fill imported from sources in the Outer Harbor as described in Phase 1, and surcharge material from the previous stage. Subsequent to consolidation, the excess surcharge material would remain in place approximately six months before being transported by truck for use in other Harbor District projects.
- *Construct New Berth E23 Wharf* – A new concrete, pile-supported wharf structure, Berth E23, would be constructed to extend the Pier E wharf 1,350 LF to Pier F, for a total wharf length of 4,250 LF. The new wharf running from Berth E23 to Berth E26 would consist of three deep-water (-55 feet MLLW depth) berths. Twenty-four inch diameter, pre-cast octagonal concrete piles would be installed to support the new wharf. The new Berth E23 wharf would also include provisions for shore-to-ship electrical infrastructure.

Stage 3: Stage 3 construction activities would redevelop the existing Pier F container yard. Stage 3 would begin in 2016 and continue through 2018, and would include the following:

- *Redevelop Existing Pier F* – The Pier F container yard area would be cleared, graded, paved, and improved with striping, lighting, fencing, utilities, maintenance and storage buildings, and additional backland elements, including a new Administration Building and ancillary infrastructure to support entry and delivery gates. Removal of structures would be conducted so as to avoid damage to surrounding structures, pavement, utilities, equipment, and property. New buildings and maintenance facilities would be designed in accordance with LEED® standards for high-performance and sustainable buildings.

Stage 4: Stage 4 construction would build a tail track and a loop road around the track on Pier F. Stage 4 would begin in 2018 and continue through 2019. It would include the following:

- *Pier F Tail Track* – Approximately 3,500 feet of tail track and a loop road around the track would be constructed on Pier F to support the expanded Pier F intermodal railyard and to facilitate switching operations (i.e., assemblage of a full train approximately 8,000 feet long). The proposed trail track would extend to the southeast along Pier F to its southern tip (Figure 1.6-8). The proposed roadway would also provide an alternate vehicular emergency access route.
- This railroad improvement would affect the existing leases for Crescent Terminals, Inc. and Cooper/T. Smith. Due to lease arrangements with these tenants, construction of these improvements would begin after 2018. An at-grade crossing, with signals and rail crossing gates, would also be constructed adjacent to the south gate and Security Command and Control Center (SCCC) entrances (Section 3.8.1.2).

Operations

When completed, the Project would consist of one consolidated container terminal (Figure 1.6-2) that would load and offload containerized cargo from marine vessels.

Terminal Security

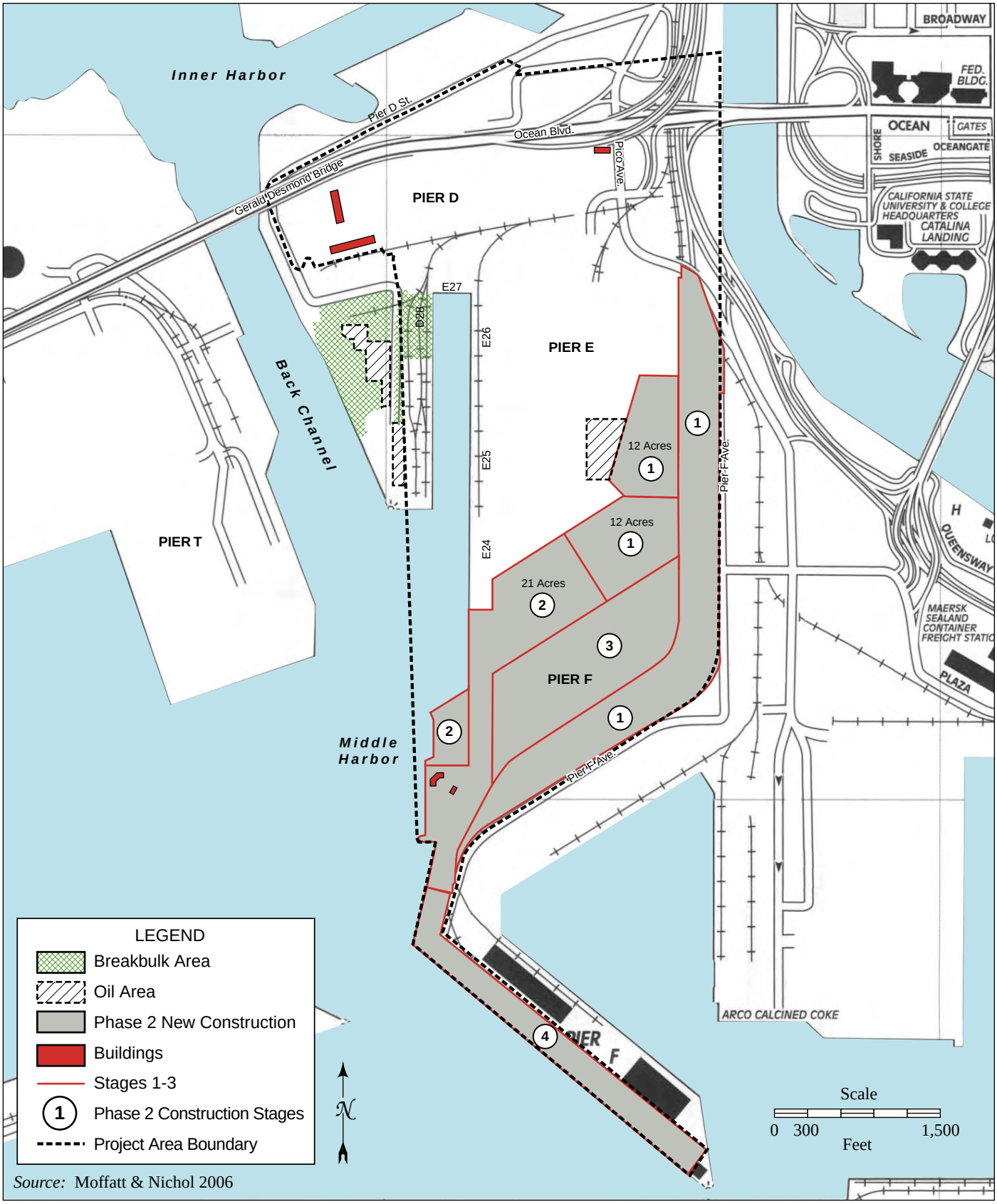
Containers would be screened and protected by a number of safety and security features including, but not necessarily limited to:

- *Radiation Portal Monitors (RPM)* — The Project site would incorporate RPM equipment at the exit gate area for the initial automated inspection of the contents of containers prior to exiting the marine terminal.
- *Customs Radiation Inspection Facility* — A secondary RPM facility inside the marine terminal would be installed and used for detailed inspection of container contents where radiation was detected in the initial RPM inspection. U.S. Customs Border Patrol would operate this facility and provide the inspection service.
- *Project Site Fencing* — Existing fencing would be modified to provide adequate security for the marine terminal as required by U.S. Customs Border Patrol.

Terminal Operations

At full operation (anticipated in approximately year 2025), the proposed container terminal would operate approximately 21 hours per day, 365 days per year, and would accommodate approximately 3,320,000 TEUs per year (Table 1.6-4). The new combined terminal would operate under a new lease between the terminal operator and the Port that would include environmental controls imposed pursuant to the Port's Green Port Policy (Section 1.7.1) and the CAAP (Section 1.7.2). This EIS/EIR assumes the proposed Project includes participation in the POLB/POLA Vessel Speed Reduction Program (VSRP) (CAAP measure OGV1) and compliance with applicable EPA, California Air Resource Board (ARB), and South Coast Air Quality Management District (SCAQMD) regulations.

Middle Harbor container terminal operations would include stevedoring (loading/unloading ships), container storage activities, intermodal railyard operations, and trucking to offsite locations such as warehouses and railyards. Once containers have been off-loaded from the ship or received through the gates on trucks and trains, they would be stored and moved around the container terminal storage yard using one of three systems: 1) a grounded or "stacked" system (where containers are stacked); 2) a



Source: Moffatt & Nichol 2006

Figure 1.6-7. Project Phase 2 Development

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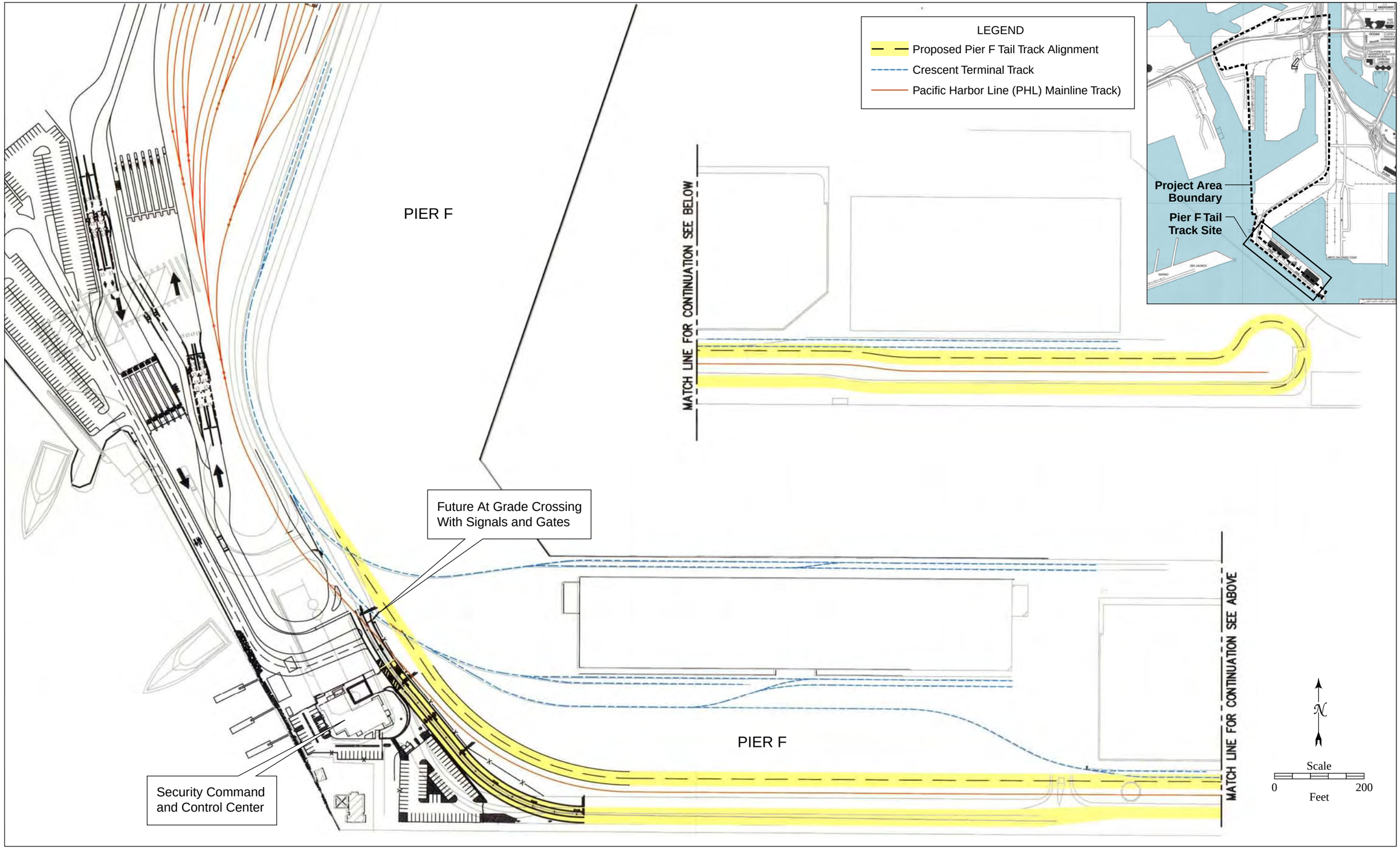

Figure 1.6-8. Proposed Pier F Tail Track

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Table 1.6-4. Project Operations Summary

Middle Harbor	CEQA Baseline (2005)	NEPA Baseline				345-Acre Alternative (Project)			
		Year 2010	*Year 2015*	*Year 2020*	*Year 2030*[4]	*Year 2010*	*Year 2015*	*Year 2020*	*Year 2030*[4]
Project Site Gross Acreage	294	294	294	294	294	308	328	345	345
Total Container Terminal Acreage[1]	244	244	267	267	267	244	250	322	322
TEUs[2] per Acre	5,180	6,497	8,043	9,355	10,810	6,776	8,847	8,836	10,311
TOTAL TEUs	1,264,021	1,611,260	2,165,212	2,518,396	2,910,000	1,666,946	2,211,751	2,845,333	3,320,000
Annual Vessel Calls	185	208	260	312	416	208	260	312	364
Average Daily Truck Trips	6,528	6,796	7,170	8,014	9,830	7,032	6,119	7,911	10,112
Total Access Gates	2	2	2	2	2	2	2	2	2
Annual Trains[3]	138	122	1,092	1,412	1,380	126	1,648	2,098	2,098
Operating Berths	E24, E25, E26, D28-31, F6, F10	E24, E25, E26, D28-31, F6, F10	E24, E25, E26, D28-31, F6, F10	E24, E25, E26, D28-31, F6, F10	E24, E25, E26, D28-31, F6, F10	E24, E26, D28, F6, F10	E24, E25, E26, D28,	E23, E24, E25, E26, D28	E23, E24, E25, E26, D28
Total Container Berth Length (LF)[5]	4,480	4,480	4,480	4,480	4,480	4,590	2,900	4,250	4,250
Joint Terminal Intermodal Yard Acreage	0	25	25	25	25	0	47	47	47
Employees	625	847	1,931	2,246	2,595	876	1,972	2,537	2,961

Notes:

1. The total container yard acreage is assumed to be slightly smaller than the Project site area due to other uses on the site (e.g., break-bulk cargo). The container yard is defined as the area dedicated to container activities, wharves, and spaces related to buildings and personal vehicles.
2. TEUs = Twenty-foot Equivalent Units. The TEU-per-acre estimates are based on the approximate size of the container yard projected for each year noted (2010, 2015, and 2020).
3. Estimate assumes 25 rail cars per train.
4. Full-capacity level of operation would continue from 2025 to 2030.
5. All Pier D berths and E-12-13 are break-bulk berths and are not included in container berth length. The total container berth lengths include both Pier E and Pier F berths.

Source: Moffatt & Nichol 2006b.

chassis or "wheeled" system (where the containers are stored on a single, wheeled chassis and are not stacked); 3) or a combination grounded/chassis system.

Electric gantry cranes would load and unload cargo containers between vessels and the terminal. Yard tractors would transport the cargo containers to and from the container storage areas within the terminal and to and from railcars at the intermodal railyard. Offloaded (import) containers would either be stored temporarily in the container terminal storage yard or immediately shipped out of the terminal via truck or rail. Loaded (export) cargo would be imported to the Middle Harbor container terminal by truck or rail; export cargo shipped via rail would either arrive directly at the proposed expanded Pier F intermodal railyard or would arrive at another local railyard and then be trucked to the terminal gate for receiving. Export cargo containers would be transferred by "toppick" or Rubber Tired Gantry (RTG) cranes from the rail cars to chassis hauled by yard tractors, and the tractors would then transport the cargo to the container terminal storage yard where the cargo would be lifted to grounded locations by toppicks or RTG cranes.

Vessel Operations

The proposed Middle Harbor container terminal operations would result in a maximum of approximately 364 vessel calls per year (Table 1.6-4). All vessel unloading/loading activities associated with the Project would occur at proposed Berths E23-E27 and F6-F10. Due to scheduling constraints and U.S. Coast Guard (USCG) Captain of the Port (COTP) regulations,

the schedules used to estimate future berth activity/capacity predict that a maximum of four vessels could be berthed at one time.

Vessels accessing the Middle Harbor container terminal would be required to use a Port Pilot for transit in and out of San Pedro Bay (except for U.S. vessels that have a federally licensed pilot onboard), and have tug assistance within the POLB harbor. Vessels calling at the new terminal would be required to slow to 12 knots within 40 nm of Point Fermin. Once at berth, the off-loading/loading process begins; the vessels typically "hotel" or stay at the terminal for approximately 36 hours (1.5 days), but the largest ships may stay as long as three days. While at berth, all vessels would be required to utilize shore-to-ship power to provide electrical power for vessel functions. In addition, all vessels calling at the Middle Harbor container terminal would be required to use 0.2 percent or lower sulfur Marine Gas Oil (MGO) fuel in auxiliary and main engines at berth and out to a distance of 40 nm from Point Fermin,

Truck Operations

Preliminary estimates indicate that the total number of truck trips to and from the Middle Harbor container terminal would increase from the 2005 baseline average of 6,528 trips per day to an average of approximately 10,112 trips per day in the year 2030 as a result of increased import and export of containerized cargo (Table 1.6-4). At maximum terminal capacity in 2025, approximately 2,523,200 TEUs would be moved to and from the terminal via truck. About 10 percent of those truck movements would transport containers to and from off-dock and near-dock railyards. The remaining truck-hauled containers would be transported to and from warehouses and distribution centers in the Los Angeles Basin, southern California, and nearby western states. Middle Harbor container terminal operations include use of an automated appointment system that would enable trucks to reschedule their trips to avoid peak hour traffic and congestion.

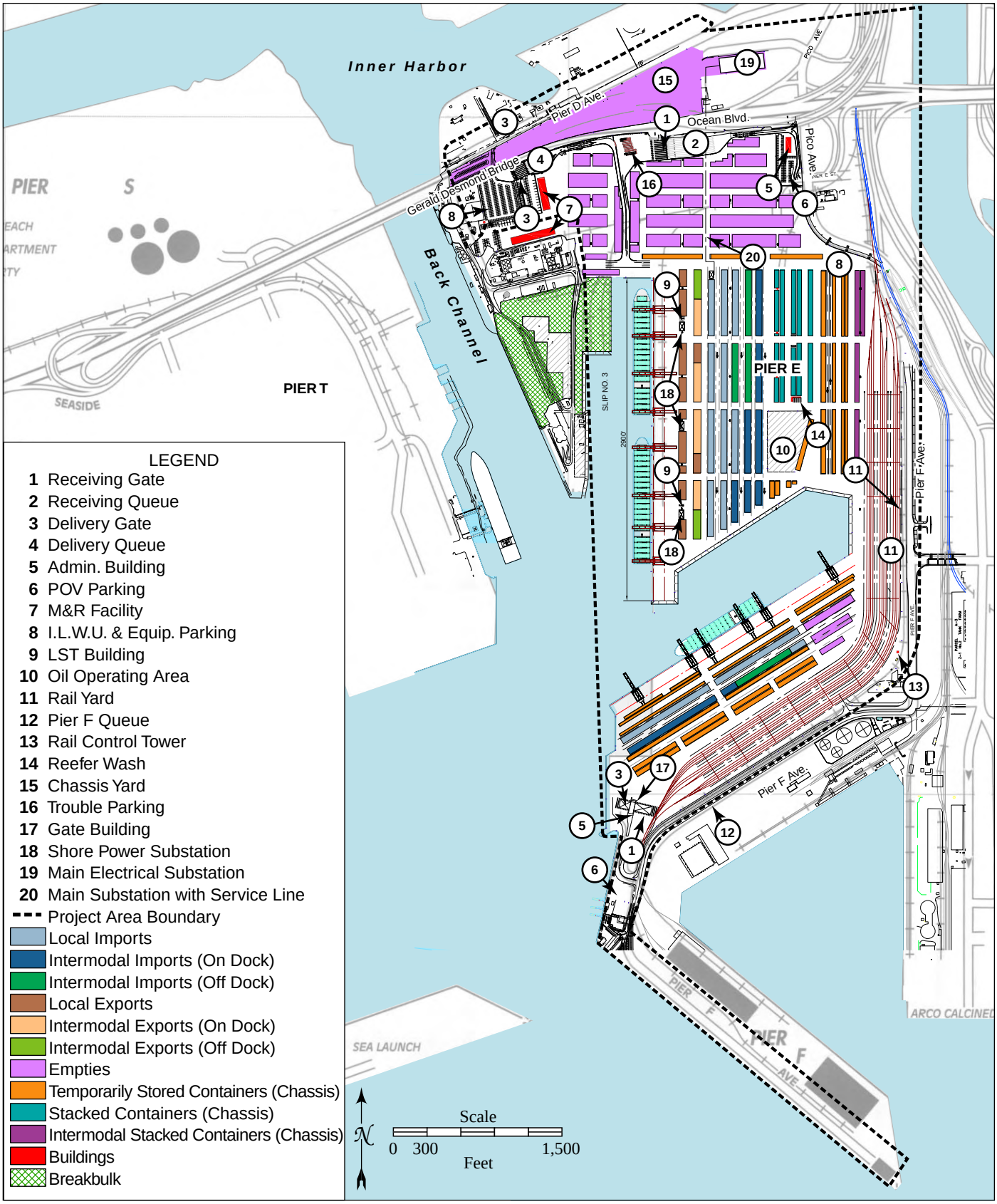
Rail Operations

When the Project terminal is fully optimized at maximum throughput capacity in 2025, the railyard would operate approximately 21 hours per day, 365 days per year, and handle approximately 872,480 TEUs per year, which would represent approximately 26.3 percent of the terminal's expected throughput. Preliminary estimates indicate that annual train trips would increase from the 2005 baseline average of 138 trips per year to an average of approximately 2,098 trips per year at maximum capacity in 2025. Rail operations assume three line haul locomotives per train for each inbound/outbound trip and one switch locomotive in operation within the expanded Pier F intermodal railyard for each inbound/outbound trip. Intermodal export cargo would arrive either directly at the expanded Pier F intermodal railyard or at another local railyard (e.g., the Intermodal Container Transfer Facility [ICTF] in Carson, BNSF's yards at Hobart and City of Industry, or UP's East L.A. and Los Angeles Transportation Center [LATC] yards) and then be trucked to the terminal gate for receiving.

1.6.3.2 Alternative 2 – 315-Acre Alternative

This alternative is the same as the proposed Project except that the East Basin area would not be filled and the berth E23 wharf would not be constructed. Elimination of the East Basin fill and berth E23 wharf would result in decreased container movement efficiency compared to the Project. However, the 315-Acre Alternative would at least in part meet Project purpose and need/objectives of maximizing the use of existing waterways and available shorelines within the Port and would improve cargo handling efficiency necessary to accommodate the projected growth in containerized cargo. Therefore, this alternative was carried forward for detailed analysis in the EIS/EIR.

The 315-Acre Alternative would add 24.7 net acres of newly created land to the existing 294-acre Project site by filling Slip 1 between Piers E and F (Berths E12-E14 and F1-F4) (Figure 1.6-9). This alternative would include dredge and fill operations to create new land and deeper berths, terminal expansion on adjacent existing land and newly created land, and new wharf construction. The alternative would include the rail improvements identified for the Project (i.e., expanded Pier F intermodal railyard, Mainline Track Realignment at Ocean Boulevard/Harbor Scenic Drive, Pier F tail track, and Pier F storage yard and tracks; refer to Section 1.6.3.1 for additional details). The proposed 66kV Pier E Substation would also be constructed.



Source: Moffatt & Nichol 2006

Figure 1.6-9. 315-Acre Alternative Final Layout

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When completed, the 315-Acre Alternative would consist of one consolidated container terminal that would load and unload containerized cargo to and from marine vessels. When optimized at maximum throughput capacity (anticipated in approximately year 2025), the consolidated terminal would handle approximately 2,870,000 TEUs per year (Table 1.6-5). The proposed expanded Pier F intermodal railyard would handle approximately 30.4 percent (872,480 TEUs per year) of the terminal's expected throughput.

Dredging and excavation would be required to: deepen Slip 3 to a minimum of -55 feet MLLW; widen Slip 3 by 116 feet to accommodate two deep-water berths; fill the 25.6-acre Slip 1; and fill approximately four acres of the existing Tidelands subsided oil area located at Berth E24 with suitable materials dredged and excavated from Slip 3. The net result of these construction activities would be to create approximately 24.7 acres of new land which, when added to the existing 294-acre Project site, would total 315 acres.

Construction would generate approximately 680,000 cy of dredged material and approximately 710,000 cy of excavated material (Table 1.6-6). All dredged and excavated materials generated by this alternative would be reused as fill for the Slip 1 fill area and the subsided Tidelands oil area (located at the southeast end of existing Pier E). As described for the Project, remaining surcharge material would be removed and transported to another location within the Port (Section 1.6.3.1). Approximately 1,840,000 cy of imported fill

Table 1.6-5. 315-Acre Alternative Operations Summary

Middle Harbor	CEQA Baseline (2005)	NEPA Baseline				315-Acre Alternative			
		Year 2010	*Year 2015*	*Year 2020*	*Year 2030*[4]	*Year 2010*	*Year 2015*	*Year 2020*	*Year 2030*[4]
Project Site Gross Acreage	294	294	294	294	294	308	320	315	315
Total Container Terminal Acreage[1]	244	244	267	267	267	244	275	292	292
TEUs[2] per Acre	5,180	6,497	8,043	9,355	10,810	6,480	7,946	8,514	9,829
TOTAL TEUs	1,264,021	1,611,260	2,165,212	2,518,396	2,910,000	1,594,083	2,185,185	2,486,157	2,870,000
Annual Vessel Calls	185	208	260	312	416	208	260	260	364
Average Daily Truck Trips	6,528	6,796	7,170	8,014	9,830	6,724	5,996	6,276	8,026
Total Access Gates	2	2	2	2	2	2	2	2	2
Annual Trains[3]	138	122	1,092	1,412	1,380	120	1,653	2,114	2,095
Operating Berths	E24, E25, E26, D28-31, F6, F10	E24, E25, E26, D28-31, F6, F10	E24, E25, E26, D28-31, F6, F10	E24, E25, E26, D28-31, F6, F10	E24, E25, E26, D28-31, F6, F10	E24, E26, D28, F6, F10	E24, E25, E26, D28,	E23, E24, E25, E26, D28	E23, E24, E25, E26, D28, F6-F10
Total Container Berth Length (LF)[5]	4,480	4,480	4,480	4,480	4,480	4,590	2,900	4,250	4,250
Joint Terminal Intermodal Yard Acreage	0	25	25	25	25	0	47	47	47
Employees	625	847	1,931	2,246	2,595	838	1,949	2,217	2,559

Notes:

1. The total container yard acreage is assumed to be slightly smaller than the Project site area due to other uses on the site (e.g., break-bulk cargo). The container yard is defined as the area dedicated to container activities, wharves, and spaces related to buildings and personal vehicles.
2. TEUs = Twenty-foot Equivalent Units. The TEU-per-acre estimates are based on the approximate size of the container yard projected for each year noted (2010, 2015, 2020, and 2030).
3. Estimate assumes 25 rail cars per train.
4. Full-capacity level of operation would continue from 2025 to 2030.
5. All Pier D berths and E-12-13 are break-bulk berths and are not included in container berth length. The total container berth lengths include both Pier E and Pier F berths.

Source: Moffatt & Nichol 2006b.

Table 1.6-6. 315-Acre Alternative Dredge and Fill Volumes

Project Timeframe	Dredging[1]	Import Fill[2]	Excavation[3]	Export Fill[4]	Retention Dike (armor rock)	Revetment (quarry-run rock)
CONSTRUCTION PHASE 1						
Stage 1 (2009-2010)	460,000 cy	1,840,000 cy	640,000 cy	-	590,00 tons	215,000 tons
Stage 2 (2010-2012)	220,000 cy	-	30,000 cy	-	-	100,000 tons
Stage 3 (2012-2014)	-	-	40,000 cy	-	-	130,000 tons
TOTAL	680,000 cy	1,840,000 cy	710,000 cy	N/A	590,000 tons	445,000 tons

Notes:

1. Dredge quantities include two-foot overdredge and 15 percent bulking.
2. The landfill area includes Berth E24 (4 acres) and Slip 1 (25.6 acres).
3. Excavation quantities include 15 percent bulking.
4. Remaining surcharge material to be moved to another POLB project is defined as export fill.

material from sources inside and outside the Harbor District would also be required, as described for the Project.

Construction

Construction of the 315-Acre Alternative would consist of the five Phase 1 construction stages described for the Project plus one additional stage. None of the Phase 2 activities described for the Project would occur. It is anticipated that construction would begin in 2009 and continue until 2018 (Table 1.6-7).

Details of the primary construction activities of the five stages that would be the same as for the Project are as follows:

- *Widen and Deepen Slip 3* – same as described for the 345-Acre Alternative (the Project) under Section 1.6.3.1;
- *Fill 25.6 Acres of Slip 1* – same as described for the Project under Section 1.6.3.1;
- *Redevelop and Construct New Extension at Berth E24 Wharf* – same as described for the Project under Section 1.6.3.1;

Table 1.6-7. 315-Acre Alternative Construction Schedule

Project Component	Estimated Construction Schedule
CONSTRUCTION PHASE 1	
Stage 1	
Widen and Deepen Slip 3	2009-2010
Fill 25.6 acres of Slip 1 and Surcharge Northern half of Slip 1	2009-2010
Construct New Extension and Redevelop Existing Berth at Berth E24	2009-2010
Mainline Track Realignment at Ocean Boulevard/Harbor Scenic Drive	2009-2010
Construct Pier F Storage Yard and Tracks	2009-2010
Construct new 66kV Electrical Pier E Substation	2009-2010
Stage 2	
Fill Remaining 12 Acres of Slip 1	2010-2012
Redevelop Berth E25 Wharf	2010-2012
Roll Surcharge to Southern half of Slip 1 and Develop Northern half into Container Terminal Land	2010-2012
Stage 3	
Redevelop Berth E26	2012-2014
Berth E27 Wharf Improvements	2012-2014
Stage 4	
Backlands Improvements and Associated Facilities	2015-2017
Stage 5	
Container Yard Redevelopment	2015-2017
Stage 6	
Redevelop Berths F1-F4	2012-2013
Berths F6-F10 Wharf Improvements	2012-2013
Expand Pier F Intermodal Railyard	2012-2013

- *Construct New 66kV Electrical Substation* – same as described for the Project under Section 1.6.3.1;
- Mainline Track Realignment at Ocean Boulevard/Harbor Scenic Drive – same as described for the Project under Section 1.6.3.1;
- *Construct Pier F Storage Yard and Tracks* – same as described for the Project under Section 1.6.3.1;
- *Redevelop Berth E25 and Berth E26 Wharves* – same as described for the Project under Section 1.6.3.1;
- *Complete Berth E27 Wharf Improvements* – same as described for the Project under Section 1.6.3.1;
- *Develop Slip 1 Container Terminal Land* – same as described for the Project under Section 1.6.3.1; and
- *Container Yard Redevelopment* – This construction component would redevelop the site of the Seaside Railyard on Pier E and the land on Pier D north of the existing terminal as described in stages 4 and 5 of the Project under Section 1.6.3.1.

Stage 6: The 315-Acre Alternative would include an additional construction stage that would redevelop existing underdeveloped areas, provide Pier F wharf improvements (e.g., shore-to-ship power), and expand the existing Pier F intermodal railyard. Stage 6 construction activities would begin in 2012 and continue until 2013, and would include the following:

- *Redevelop Berths F1-F4* – The existing backland at Berths F1-F4 would be demolished and the area brought up to grade with imported material and developed as additional Pier F container yard area;
- *Berths F6-F10 Wharf Improvements* – The existing Berths F6-F10 wharf structure would be improved and upgraded to support shore-to-ship power for ships at berth; and
- *Expand Existing Intermodal Railyard* – The existing Pier F intermodal railyard would be expanded from 10,000 track feet to approximately 75,000 track feet.

Operations

The 315-Acre Alternative would consist of one consolidated container terminal (Figure 1.6-9) which would load and unload containerized cargo to and from marine vessels using the same operational procedures and equipment described for the proposed Project. Under the 315-Acre Alternative, Pier E terminal operations would include use of wharves/berths, gantry cranes, yard tractors (hostlers), container terminal backland areas (storage yards), entrance and exit gates, and maintenance and administrative buildings. This alternative would include the proposed safety and security features of the Project, including RPM and fencing. The terminal would operate under a new lease between the terminal operator and the Port that would include environmental controls imposed pursuant to the Port's Green Port Policy (Section 1.7.1) and the CAAP (Section 1.7.2). Similar to the Project, this EIS/EIR assumes Alternative 2 would include participation in the POLB/POLA VSRP (CAAP measure OGV1) and compliance with applicable EPA, ARB, and SCAQMD regulations.

Terminal Operations

Middle Harbor container terminal operations would include the same activities proposed for the Project (Section 1.6.3.1). Under the 315-Acre Alternative, the Middle Harbor container terminal would operate approximately 21 hours per day, 365 days per year. The terminal could handle approximately 2,870,000 TEUs per year when operating at maximum throughput capacity in 2025 (Table 1.6-5).

Vessel Operations

The proposed Middle Harbor container terminal operations would result in approximately 364 maximum vessel calls per year (Table 1.6-5). All vessel offloading/loading activities associated with the 315-Acre Alternative would occur at proposed Berths E24-E26 and F6-F10. Due to scheduling constraints and USCG COTP regulations, the schedules used to estimate future berth activity/capacity predict that a maximum of four vessels could be berthed at one time. Vessels accessing the Middle Harbor container terminal would be required to adhere to the same operating procedures as required for the Project (Section 1.6.3.1).

Truck Operations

Preliminary estimates indicate the total truck trips to and from the Middle Harbor container terminal would increase from the 2005 baseline average of 6,528 trips per day to an average of approximately 8,026 trips per day in 2030 as a result of increased import and export of containerized cargo under proposed operations. When operating at maximum throughput capacity in 2025, approximately 2,080,750 TEUs would be moved to and from the terminal via truck. About six percent of the truck movements would represent the transport of offloaded and loaded containers via truck to and from off-dock and near-dock railyards. The remaining containers would be hauled via truck to and from warehouses, distribution centers, and container freight stations in the Los Angeles Basin, southern California, and nearby states. Middle Harbor container terminal operations include use of an automated appointment system that would enable trucks to reschedule their trips to avoid peak hour traffic and congestion.

Rail Operations

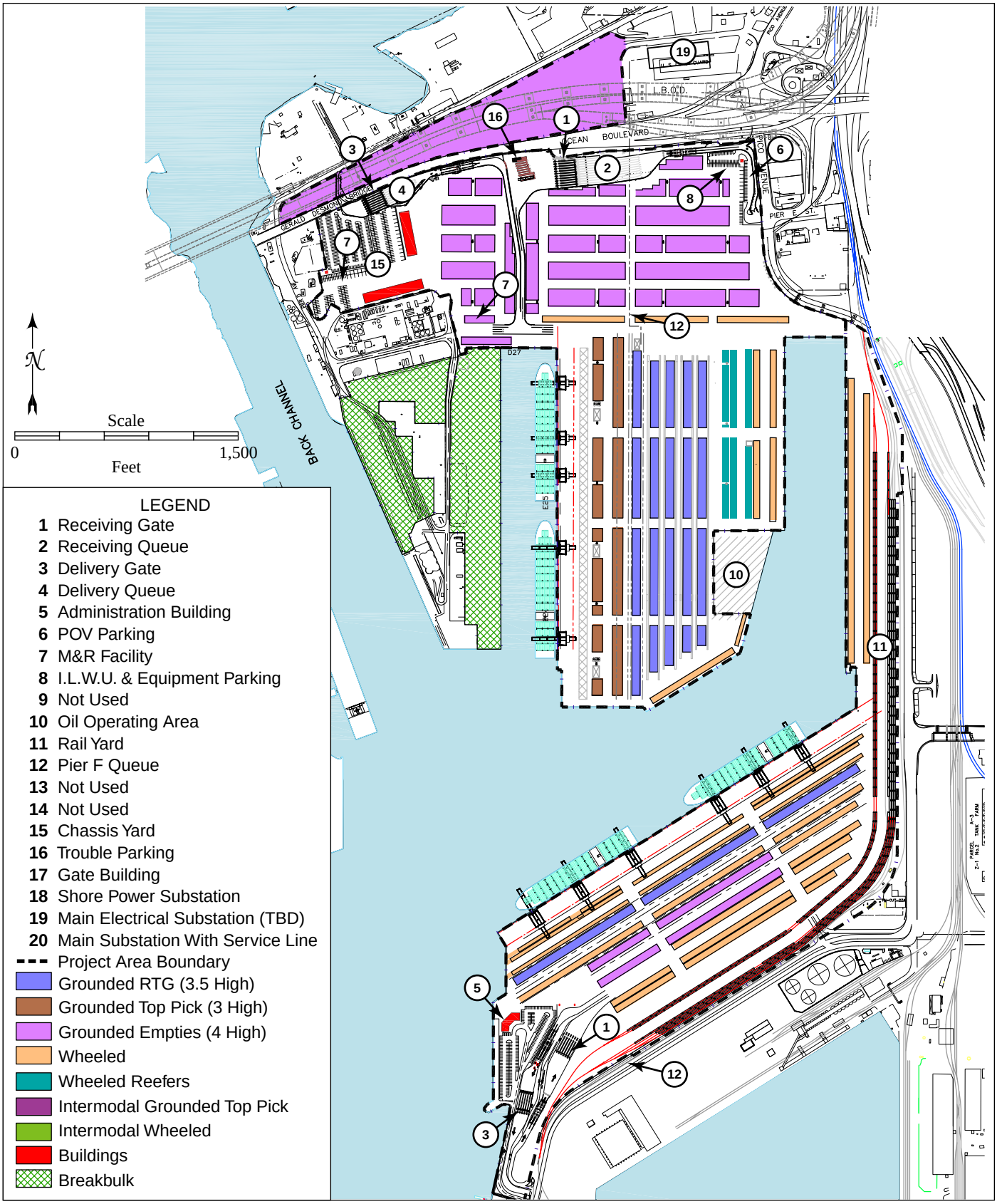
The railyard would be planned for operation approximately 21 hours per day, 365 days per year. Preliminary estimates indicate that annual train trips would increase from the 2005 baseline average of 138 trips per year to an average of approximately 2,095 trips per year at the maximum capacity in 2025. When the Middle Harbor container terminal is fully optimized at maximum throughput capacity in 2025, preliminary estimates indicate the proposed expanded Pier F intermodal railyard would transport approximately 872,480 TEUs. Middle Harbor rail operations would include the same assumptions proposed for the Project (Section 1.6.3.1).

1.6.3.3 Alternative 3 – Landside Improvements Alternative

The Landside Improvements Alternative would redevelop existing terminal areas on Piers E and F and convert underutilized land north of the Gerald Desmond Bridge and Ocean Boulevard within the Project site to a container yard (Figure 1.6-10). The alternative would include construction of the following upland site improvements: redevelopment and backland expansion on existing lands within the Project site (the Berth E23 oil area would be abandoned and redeveloped as container yard area); construction of a new 66kV Pier E Substation; and construction of shore-to-ship infrastructure at Piers E and F to cold-iron vessels while at berth. This alternative would also include construction of a Mainline Track Realignment at Ocean Boulevard/ Harbor Scenic Drive and the Pier F storage yard and tracks. The alternative would expand the existing Pier F intermodal railyard to six tracks. Construction of the Landside Improvements Alternative would consist of five construction stages that would begin in 2009 and continue until 2018 (Table 1.6-8):

- Mainline Track Realignment at Ocean Boulevard/Harbor Scenic Drive – Same as described for the Project under Section 1.6.3.1;
- *Construct Pier F Storage Yard and Tracks* – Same as described for the Project under Section 1.6.3.1;
- *Construct new 66kV Electrical Pier E Substation* – Same as described for the Project under Section 1.6.3.1;
- *Expand Pier F Intermodal Railyard* – Same as described for the Project under Section 1.6.3.1;
- Wharf Improvements for the Installation of Shore-to-Ship Power – Same as described for the Project under Section 1.6.3.1;
- *Container Yard Redevelopment* – This construction component would redevelop the existing Seaside Railyard on Pier E and the land on Pier D north of the existing terminal as described in stages 4 and 5 of the Project under Section 1.6.3.1; and
- *Pier F Backlands Improvements and Associated Facilities* – Same as described for the Project under Section 1.6.3.1.

When completed, the Landside Improvements Alternative would consist of a consolidated container terminal that would be operated by one terminal operator. The terminal would be operated under a new lease between the terminal operator and the Port that would include environmental controls imposed pursuant to the Port's Green Port Policy (Section 1.7.1) and the CAAP (Section 1.7.2). In addition to compliance with applicable EPA, ARB, and SCAQMD regulations assumed for the Project, this EIS/EIR assumes Alternative 3 would implement



Source: Moffatt & Nichol 2007

Figure 1.6-10. Landside Improvements Alternative Final Layout

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Table 1.6-8. Landside Improvements Alternative Construction Schedule	
Project Component	**Estimated Construction Schedule**
Stage 1	
Mainline Track Realignment at Ocean Boulevard/Harbor Scenic Drive	2009-2010
Construct Pier F Storage Yard and Tracks	2009-2010
Construct new 66kV Electrical Pier E Substation	2009-2010
Stage 2	
Expand Pier F Intermodal Railyard	2011-2014
Stage 3	
Wharf Improvements(1)	2012-2014
Stage 4	
Backlands Improvements and Associated Facilities	2015-2017
Container Yard Redevelopment	2015-2017
Stage 5	
Pier F Backlands Improvements and Associated Facilities	2016-2018

Note:
1. Wharf Improvements would only include construction of shore-to-ship infrastructure at Piers E (Berths E24-E26) and F (Berths F6 and F10) to cold-iron vessels while at berth. Proposed activities would be confined to the wharf deck; temporary/permanent structures would not be required and no in-water work would occur.

all applicable CAAP measures and regulations, including emission standards for terminal equipment (CAAP measure CHE1), the VSRP (CAAP measure OGV1), low-sulfur fuel requirements for vessels (CAAP measures OGV3 and OGV4), OGV cold-ironing (CAAP measure OGV2), and the POLA/POLB CTP (CAAP measure HDV1).

The container terminals would be designed to load and unload containerized cargo to and from marine vessels. When optimized at maximum throughput capacity (anticipated by approximately 2025), the terminal would be designed to accommodate a combined total of about 2,910,000 TEUs per year. Approximately 416 vessel calls per year would be expected by 2025. This alternative would result in 9,830 average daily truck trips to and from Middle Harbor container terminals (Table 1.6-9) in 2030. Preliminary estimates indicate that annual train trips would increase from the 2005 baseline average of 138 trips per year to an average of approximately 1,380 trips per year at the maximum capacity in 2025.

Under this alternative, there would be no in-water activities (e.g., dredging, filling Slip 1 and the East Basin, new wharf construction) as proposed for the Project, no wharf upgrades would occur (except the provisions for shore-to-ship power), and channel and berth deepening would not occur. The Landside Improvements Alternative is equivalent to a No Federal Action Alternative because it only includes construction and operational activities that would not require issuance of federal permits. As no federal action or permit would be required, there would be no significance determination under NEPA for this alternative.

1.6.3.4 Alternative 4 – No Project Alternative

This alternative considers what would reasonably be expected to occur on the site if no Port or federal action were to occur. The Port would take no further action to construct additional backlands or redevelop the 294 acres that currently exist. The USACE would not issue permits for dredge and fill or wharf construction activities. This alternative would not allow implementation of the proposed Project or other physical improvements at Middle Harbor. The No Project Alternative would maintain the current CUT and LBCT container terminals at a combined size of 294 acres and in their current configuration. Forecasted increases in cargo would still occur as greater operational efficiencies were implemented (Table 1.6-10).

Under this alternative no construction and, consequently, no construction-related impacts would occur. However, the two terminals would continue to generate operational impacts: cargo ships that currently berth and load/unload at the terminal would continue to do so; terminal equipment would continue to handle cargo containers; and trucks would continue to transport containers to outlying distribution facilities. Because no rail improvements would be constructed under this alternative, the majority of the intermodal cargo to and from the two terminals would continue to be hauled by truck to and from near-dock and off-dock railyards. In

Table 1.6-9. Landside Improvements Alternative Operations Summary

Middle Harbor	CEQA Baseline (2005)	NEPA Baseline				Landside Improvements Alternative			
		Year 2010	*Year 2015*	*Year 2020*	*Year 2030*[4]	*Year 2010*	*Year 2015*	*Year 2020*	*Year 2030*[4]
Project Site Gross Acreage	294	294	294	294	294	294	294	294	294
Total Container Terminal Acreage[1]	244	244	267	267	267	244	267	267	267
TEUs[2] per Acre	5,180	6,497	8,043	9,355	10,810	6,497	8,043	9,355	10,810
TOTAL TEUs	1,264,021	1,611,260	2,165,212	2,518,396	2,910,000	1,611,260	2,165,212	2,518,396	2,910,000
Annual Vessel Calls	185	208	260	312	416	208	260	312	416
Average Daily Truck Trips	6,528	6,796	7,170	8,014	9,830	6,796	7,170	8,014	9,830
Total Access Gates	2	2	2	2	2	2	2	2	2
Annual Trains[3]	138	122	1,092	1,412	1,380	122	1,092	1,412	1,380
Operating Berths	E24, E25, E26, D28-31, F6, F10	E24, E25, E26, D28-31, F6, F10	E24, E25, E26, D28-31, F6, F10	E24, E25, E26, D28-31, F6, F10	E24, E25, E26, D28-31, F6, F10	E24, E25, E26, D28-31, F6, F10	E24, E25, E26, D28-31, F6, F10	E24, E25, E26, D28-31, F6, F10	E24, E25, E26, D28-31, F6, F10
Total Container Berth Length (LF)[5]	4,480	4,480	4,480	4,480	4,480	4,480	4,480	4,480	4,480
Joint Terminal Intermodal Yard Acreage	0	25	25	25	25	25	25	25	25
Employees	625	847	1,931	2,246	2,595	847	1,931	2,246	2,595

Notes:

1. The total container yard acreage is assumed to be slightly smaller than the Project site area due to other uses on the site (e.g., break-bulk cargo). The container yard is defined as the area dedicated to container activities, wharves, and spaces related to buildings and personal vehicles.
2. TEUs = Twenty-foot Equivalent Units. The TEU-per-acre estimates are based on the approximate size of the container yard projected for each year noted (2010, 2015, 2020, and 2030).
3. Estimate assumes 25 rail cars per train.
4. Full-capacity level of operation would continue from 2025 to 2030.
5. All Pier D berths and E-12-13 are break-bulk berths and are not included in container berth length. The total container berth lengths include both Pier E and Pier F berths.

Source: Moffatt & Nichol 2006b.

addition, the Pier E Substation would not be constructed, which would eliminate the potential for vessels to cold-iron under this alternative. However, in addition to environmental controls imposed by federal, state, and local regulatory agencies, the terminal would implement the POLB/POLA VSRP (CAAP measure OGV1) under this alternative. No other CAAP measures would be implemented under this alternative.

The No Project Alternative would result in a maximum throughput of about 2,600,000 TEUs per year (Table 1.6-10). Approximately 312 vessel calls per year would be expected by 2025.

As the existing Pier F intermodal railyard would remain operational, proposed terminal operations would result in approximately 786 annual train trips. This alternative would result in 9,594 average daily truck trips to and from Middle Harbor container terminals in 2030.

Under this alternative, existing site conditions would constrain the ability of Middle Harbor to function as modern and efficient primary Port facilities. The lack of waterside and upland improvements would mean that the current inefficiency of cargo movement through the site's existing marine terminals would continue. As Pier E has minimal rail capability (i.e., Slip 1 separates Pier E docks and backlands from existing intermodal rail facilities) and the existing intermodal Pier F railyard is too small to accommodate regular service of modern intermodal trains, this alternative would not provide sufficient rail infrastructure to handle intermodal containerized cargo. Additionally, without the necessary dredging to deepen the channels and berths in the Middle Harbor to the planned -55 foot MLLW depth, the existing marine terminals would be limited in their ability to service modern, large, deep-draft cargo ships.

Table 1.6-10 – No Project Alternative Operations Summary

Middle Harbor	CEQA Baseline (2005)	NEPA Baseline				No Project Alternative			
		Year 2010	*Year 2015*	*Year 2020*	*Year 2030*[4]	*Year 2010*	*Year 2015*	*Year 2020*	*Year 2030*[4]
Project Site Gross Acreage	294	294	294	294	294	294	294	294	294
Total Container Terminal Acreage [1]	244	244	267	267	267	244	244	244	244
TEUs[2] per Acre	5,180	6,497	8,043	9,355	10,810	5,710	6,929	8,460	9,738
TOTAL TEUs	1,264,021	1,611,260	2,165,212	2,518,396	2,910,000	1,524,550	1,850,036	2,258,739	2,600,000
Annual Vessel Calls	185	208	260	312	416	208	208	260	312
Average Daily Truck Trips	6,528	6,796	7,170	8,014	9,830	6,381	6,737	8,113	9,594
Total Access Gates	2	2	2	2	2	2	2	2	2
Annual Trains [3]	138	122	1,092	1,412	1,380	144	619	801	786
Operating Berths	E24, E25, E26, D28-31,F6,F10	E24, E25, E26, D28-31, F6, F10	E24, E25, E26, D28-31, F6, F10	E24, E25, E26, D28-31, F6, F10	E24, E25, E26, D28-31, F6, F10	E24, E25, E26, D28-31, F6, F10	E24, E25, E26, D28-31, F6, F10	E24, E25, E26, D28-31, F6, F10	E24, E25, E26, D28-31, F6, F10
Total Container Berth Length (LF) [5]	4,480	4,480	4,480	4,480	4,480	4,480	4,480	4,480	4,480
Joint Terminal Intermodal Yard Acreage	0	0	25	25	25	0	0	0	0
Employees	625	847	1,931	2,246	2,595	847	1,931	2,246	2,595

Notes:

1. The total container yard acreage is assumed to be slightly smaller than the Project site area due to other uses on the site (e.g., break-bulk cargo). The container yard is defined as the area dedicated to container activities, wharves, and spaces related to buildings and personal vehicles.
2. TEUs = Twenty-foot Equivalent Units. The TEU-per-acre estimates are based on the approximate size of the container yard projected for each year noted (2005, 2010, 2015, 2020, and 2030).
3. Estimate assumes 25 rail cars per train.
4. Full-capacity level of operation would continue from 2025 to 2030.
5. All Pier D berths and E-12-13 are break-bulk berths and are not included in container berth length. The total container berth lengths include both Pier E and Pier F berths.

Source: Moffatt & Nichol 2006b.

1.7 ENVIRONMENTAL PLANS AND POLICIES

The Port has implemented a variety of plans and policies to reduce the environmental effects associated with Port operations.

1.7.1 Green Port Policy

The Green Port Policy, which was approved by the Board of Harbor Commissioners in January 2005, serves as a guide for decision making and establishes a framework for reducing environmental impacts associated with Port operations. The policy contains specific environmental principles that govern all Port activities and has established a series of goals for each element of the policy. The Green Port Policy includes specific metrics to measure progress toward meeting the policy's goals and identifies new environmental programs that are designed to achieve progress toward the goals. Additionally, the policy identifies specific incentives to promote program participation among tenants.

The principles of the Green Port Policy include the following: 1) protect the community from harmful environmental impacts of Port operations; 2) distinguish the Port as a leader in environmental stewardship and compliance; 3) promote sustainability; 4) employ best available technology to avoid or reduce environmental impacts; and 5) engage and educate the community. The Green Port Policy includes six basic program elements, each with an overall goal:

- *Wildlife* – Protect, maintain, and restore aquatic ecosystems and marine habitats;
- *Air* – Reduce harmful air emissions from Port activities;
- *Water* – Improve the quality of Long Beach Harbor waters;
- *Soils/Sediments* – Remove, treat, or render suitable for beneficial reuse contaminated soils and sediments in the Harbor District;
- *Community Engagement* – Interact with and educate the community regarding Port operations and environmental programs; and
- *Sustainability* – Implement sustainable practices in design, construction, operations, and administrative practices throughout the Port.

The Port has negotiated and signed new leases with two Port tenants that incorporate environmental measures. These leases require strict environmental compliance that exceed federal and state law requirements. As a landlord Port, leases are one of the primary mechanisms for the Port to implement its environmental initiatives. The Port will continue to incorporate environmental provisions into all new and renegotiated leases.

1.7.2 Clean Air Action Plan

The Port, in conjunction with POLA, and with guidance from SCAQMD, ARB, and EPA, adopted the SPBP CAAP on November 20, 2006. The CAAP is a comprehensive strategy that is designed to develop mitigation measures and incentive programs necessary to reduce air pollution and health risks associated with Port activities. The CAAP focuses on reducing emissions with two main goals: 1) reduce Port-related air emissions in the interest of public health, and 2) accommodate growth in trade. The CAAP is based on the following principles:

- The Ports will work cooperatively to implement these changes;
- The CAAP will be continually updated and improved;
- The Ports will be open to new technologies and other advancements to accelerate meeting the CAAP's goals; and
- The Ports will achieve an appropriate fair share of necessary pollutant emission reductions that are cost effective and feasible.

The CAAP includes control measures for all Port emission sources, including OGV, trains, trucks, terminal equipment, and harbor craft (Table 1.7-1). The CAAP proposes to implement near-term measures largely through new lease agreements, the NEPA/CEQA process, and tariffs. This EIS/EIR analysis requires Project compliance with the CAAP. Project mitigation measures applied to reduce air emissions and public health impacts are consistent with, and in some cases exceed, the emission-reduction strategies stipulated in the CAAP. Project mitigation measures would also extend beyond the five-year CAAP time frame to the end of the lease period in 2030.

Table 1.7-1 – SPBP CAAP Control Measures and Initiatives	
SPBP Measure Number	**New Control Measure/Program Name**
SPBP-HDV1	Performance Standards for On-Road Heavy Duty Vehicles
SPBP-HDV2	Alternative Fuel Infrastructure for On-Road HDVs
SPBP-OGV1	Vessel Speed Reduction
SPBP-OGV2	Reduction of At-Berth OGV Emissions
SPBP-OGV3	OGV Auxiliary Engine Fuel Improvements Standards
SPBP-OGV4	OGV Main Engine Fuel Improvement Standards
SPBP-OGV5	OGV Main Engine Emissions Improvements
SPBP-CHE1	Repower or Retrofit Existing Harbor Craft
SPBP-HC1	Performance Standards for Harbor Craft
SPBP-RL1	Rail Switch Engine Modernization
SPBP-RL2	Operational Controls for Line Haul Railroads
SPBP-RL3	Clean Railyard Standards
	Technology Advancement Program
Source: POLA/POLB 2006.	

1.7.3 Proposed Environmental Controls

The following environmental controls would be included in all the alternatives (i.e., 345-Acre Alternative [the Project], the 315-Acre Alternative, and the Landside Improvements Alternative). As part of the Port's commitment to promote the Green Port Policy and implement the CAAP, the following environmental controls include all applicable control measures included in these plans and policies as well as those proposed by regulatory agencies including the EPA, ARB, SCAQMD, and the Los Angeles Regional Water Quality Control Board (RWQCB).

Clean Air Technology

- *Shore-to-Ship Power ("Cold Ironing") (CAAP measure OGV2)* – A new 66kV Pier E Substation and new transmission infrastructure would be constructed by SCE in cooperation with the Port to support shore-side facilities for supplying shore-to-ship power during periods when vessels are at berth (Section 1.6.3.1 and Figure 1.5-2). The Project would include lease stipulations that would require 100 percent of the OGV serviced by the terminal to utilize shore-to-ship power while at proposed reconstructed Berths E24-E27 and F6-F10. Lease stipulations would include consideration of alternative technologies that achieve 90 percent of the emission reductions of cold-ironing.
- *Vessel Speed Reduction Program (CAAP measure OGV1)* – Vessels calling at the new terminal would be required to slow to 12 knots within 40 nm of Point Fermin; and
- *Clean Vessel Fuels (CAAP measures OGV3 and OGV4)* – Vessels calling at the new terminal would be required to use 0.2 percent or lower sulfur MGO fuel in auxiliary and main engines at berth and out to a distance of 40 nm from Point Fermin, or to achieve equivalent emissions reductions through another technology approved by the Port.

Implementation: Lease Agreement.

Estimated Timing: Prior to 2010.

- *Electrification of Dredge Equipment* – Contractors would be required to use electrically-powered dredges during project construction. An existing Port substation would be used to provide the power

Implementation: Construction Bid Documents.

Estimated Timing: Construction Phase 1, 2009; Construction Phase 2, 2011.

- *Construction Equipment* – Construction contractors would be required to use ultra low sulfur fuel, install diesel oxidation catalysts in construction equipment, or to use construction equipment meeting EPA off-road Tier 3 specifications, which is equivalent to best available emission control technologies (BAECT).

Implementation: Construction Bid Documents.

Estimated Timing: Construction Phase 1, 2009; Construction Phase 2, 2011.

- *Container Handling Equipment (CHE)* – Consistent with the CAAP, all CHE would be required to meet the following performance standards:
  - By the end of 2010, all yard tractors operating at the Port would meet, at a minimum, the EPA 2007 on-road or Tier 4 engine standards;
  - By the end of 2012, all pre-2007 on-road or pre Tier 4 off-road top picks, forklifts, reach stackers, RTGs, and straddle carriers <750 hp would meet, at a minimum, the EPA 2007 on-road engine standards or Tier 4 off-road engine standards; and
  - By the end of 2014, all CHE with engines >750 hp would meet, at a minimum, the EPA Tier 4 off-road standards. Starting in 2009 (until equipment is replaced with Tier 4), all CHE with engines >750hp would be equipped with the cleanest available Verified Diesel Emission Control System (VDEC) verified by ARB.

Implementation: Lease Agreement.

Estimated Timing: Prior to 2010 through 2014.

- *Rail-Locomotives (CAAP measure RL1)* – Under the PHL agreement with the POLB, only hybrid-technology switching engines (e.g., "Green Goat" engines), or locomotives that meet a minimum Tier 2 standard, or equivalent would be used for switching in the terminal. Locomotives used for switching operations in the Project area would be equipped with 15 minute idling limitation devices. The expanded Pier F intermodal railyard would be designed to operate the cleanest locomotive technologies currently available (i.e., alternative fueled locomotives, hybrid, electric, or multi-engine generator set).

Implementation: Lease Agreement, Existing PHL Agreement.

Estimated Timing: Prior to 2010.

- *Heavy-Duty Trucks (CAAP measure HDV1)* – As part of the Clean Trucks Program, the Port would require by the end of 2011, that all trucks calling at Middle Harbor meet or be cleaner than the EPA 2007 on-road emissions standards.
- All new leases would require the following:
  - Gate appointment system;
  - Extended gate hours; and
  - Participation in virtual container yard, when available.

Implementation: Lease Agreement.

Estimated Timing: During Operations.

- *Terminal Gate* – The truck in/out gates would be equipped with technology options to maximize operational efficiency, such as radio frequency identification (RFID) or optical character recognition (OCR) to identify containers, chassis, and trucks as they pass through the gate.

Implementation: CTP Tariff.

Estimated Timing: During Operations.

Water Resources Protection

- *Construction Stormwater Pollution Prevention* – The Project would conform to the requirements of the General Stormwater Permit for Construction Activities. A Stormwater Pollution Prevention Plan (SWPPP) would be prepared in conformance with the permit and include site inspections, employee training, and Best Management Practices (BMPs). BMPs would include, but not be limited to, the following features:
  - Erosion control;
  - Inlet protection;
  - Waste and material management; and
  - Equipment management and fueling.

Implementation: Construction Bid Documents.

Estimated Timing: Construction Phase 1, 2009; Construction Phase 2, 2011.

- *Dredge Monitoring* – Dredge operations would be conducted in accordance with a USACE Permit and RWQCB Waste Discharge Requirements (WDR) and Monitoring Program. WDR-specified water quality data would be collected during

dredge operations to ensure conformance with these requirements.

Implementation: During Construction.

Estimated Timing: Phase 1, 2009; Phase 2, 2014.

- *Wharf Face Drainage* – The wharf deck drainage would be directed landward to a trench drain and water collection area where it would undergo treatment by any one or a combination of settlement, filtration, clarification, and/or oil/water separation.

Implementation: During Operations.

Estimated Timing: After 2019.

- *Standard Urban Stormwater Mitigation Plan (SUSMP)* – Consistent with the City of Long Beach municipal stormwater NPDES permit requirements, the Project would prepare and implement a SUSMP. The SUSMP would contain a list of the minimum required BMPs that would be implemented throughout the Project. The SUSMP would be designed to ensure that post-development peak stormwater runoff discharge rates would not exceed predevelopment rates; but would conserve natural areas; minimize stormwater pollutants of concern; provide storm drain system signage; properly design outdoor material storage areas; properly design trash storage areas; provide proof of ongoing BMP maintenance; and include design standards for structural or treatment control BMPS.

Implementation: Lease Agreement.

Estimated Timing: 2009.

- *Operational SWPPP* – The Project would be included in the Port-wide Master Stormwater Program. Under the Program, the Project would develop a SWPPP that would include employee training, inspections, annual certifications, and BMPs. BMPs for operational activities would include, but not necessarily be limited to, the following features:
  - Stormwater treatment;
  - Erosion control;
  - Spill prevention; and
  - Waste collection practices.

Implementation: Lease Agreement.

Estimated Timing: 2010.

Biological Resources Protection

- The construction contractor would use sound abatement techniques to reduce both noise and vibrations from pile driving activities. Sound abatement techniques would include, but are not limited to, vibration or hydraulic insertion techniques, drilled or augured holes for cast-in-place piles, bubble curtain technology, and sound aprons where feasible. At the initiation of each pile driving event, and after breaks of more than 15 minutes the pile driving shall also employ a "soft-start" in which the hammer is operated at less than full capacity (i.e., approximately 40–60 percent energy levels) with no less than a 1-minute interval between each strike for a 5-minute period.

Implementation: Construction Bid Documents.

Estimated Timing: Phase 1, 2009; Phase 2, 2014.

- A qualified biologist hired by the Port would be required to monitor the area in the vicinity of pile driving activities for any fish kills during pile driving. If there are any reported fish kills, pile driving shall be halted and the USACE and NMFS shall be notified via the Port. The biological monitor would also note (surface scan only) whether marine mammals are present within 100 meters of the pile driving, and if any are observed, temporarily halt pile driving until the observed mammals move beyond this distance.

Implementation: Construction Bid Documents.

Estimated Timing: Phase 1, 2009; Phase 2, 2014.

Sustainable Development

The Los Angeles Regional Contaminated Sediments Task Force (CSTF), comprised of the USACE, EPA, California Coastal Commission (CCC), RWQCB, California Department of Fish and Game (CDFG), POLB, POLA, City of Long Beach, Los Angeles County Beaches and Harbors, Heal the Bay, and other interested parties, prepared a long-term sediment management strategy (2005) to minimize

potential adverse environmental impacts associated with the dredging and disposal of contaminated sediments. The management strategy's long-term goal is to beneficially reuse 100 percent of contaminated sediments, including the disposal of these sediments in sequestered landfills. Implementation of the following environmental control, requiring beneficial reuse of contaminated sediments from other parts of Long Beach Harbor, would ensure that the Project would meet the goals of the sediment management strategy.

- *Beneficial Reuse of Construction-Generated Materials* – To the extent feasible, the Project would reuse suitable dredge and excavated materials from the Project site and other sites within the Harbor District as fill material. Material reuse would be consistent with the Port's Import Soil-Material Quality Requirements (dated March 29, 2006). Pursuant to City of Long Beach ordinance, recyclable waste materials (i.e., concrete and asphalt) would be processed for reuse by the Project within the Harbor District. The asphalt and concrete would be recycled at the Port's crusher site and other recyclable waste would be taken to accredited recycling centers, thereby diverting waste from landfills. Materials would be separated onsite for reuse, recycling, or proper disposal. During construction, separate bins for recycling of construction materials would be provided onsite.

Implementation: Construction Bid Documents.

Estimated Timing: Construction Phase 1, 2009; Construction Phase 2, 2011.

- *LEED® Standards* – Marine terminal buildings would be designed and constructed to LEED® standards for high-performance, sustainable buildings.

Implementation: Design and Construction Documents.

Estimated Timing: Construction Phase 1, 2009; Construction Phase 2, 2011.

- *Xeriscape Landscaping* – Water conservation features including drought-tolerant planting materials would be incorporated into the Project landscaping, consistent with the Master Landscape Plan for the Port of Long Beach (POLB 1994).

Implementation: Design and Construction Documents.

Estimated Timing: Construction Phase 1, 2009; Construction Phase 2, 2011.

- *Lighting Control* – The Project would incorporate use of photo cells/timers, low energy fixtures, and light-spillover reduction features into new and existing terminal lighting and new electrical equipment.

Implementation: Design and Construction Documents.

Estimated Timing: Construction Phase 1, 2009; Construction Phase 2, 2011.

Noise

- *Construction Equipment – A*ll construction equipment powered by internal combustion engines would be properly muffled and maintained.
- *Idling Prohibitions* – The idling of internal combustion engines near noise-sensitive areas would be prohibited during Project construction.
- *Equipment Location* – All stationary noise-generating construction equipment, such as air compressors and portable power generators, would be located as far as practical from existing noise-sensitive land uses.
- *Quiet Equipment Selection* – Quiet construction equipment would be used during Project construction to the extent feasible.
- *Notification* – The Port would publish notices in the Press Telegram and all property managers adjacent to the Project site would be notified in advance of the construction schedule. The Port would coordinate with schools and other affected agencies to ensure construction activities would not substantially interfere with facility operations.

Implementation: Construction Bid Documents.

Estimated Timing: Construction Phase 1, 2009; Construction Phase 2, 2011.

Ground Transportation

- *Traffic Management Plan* – The Port would prepare a Traffic Management Plan

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

Implementation: Construction Bid Documents.

Estimated Timing: Construction Phase 1, 2009; Construction Phase 2, 2011.

1.8 INTENDED USES OF THE EIS/EIR

This Draft EIS/EIR has been prepared in accordance with applicable federal and state environmental regulations, policy, and law. It is being provided to the public for review, comment, and participation in the planning process. After public review and comment, a Final EIS/EIR will be prepared, including responses to comments received from agencies, organizations, and individuals on the Draft EIS/EIR. The Final EIS/EIR will be distributed to provide the basis for decision-making by responsible agencies.

1.8.1 Intended Uses by USACE

This EIS/EIR will support a decision regarding the proposed federal action. The USACE Record of Decision (ROD) will document the decision of the USACE on the proposed action, including any required environmental mitigation commitments.

The USACE has jurisdictional authority over the Project pursuant to Section 404 of the CWA and Section 10 of the RHA. The USACE will consider this document in any permits it may issue for actions that the Port may undertake to implement the Project.

1.8.2 Intended Uses by POLB and Other Agencies

The primary intended use of this EIS/EIR by the Port is to support the permit application and other actions required to implement the Project. In the event that the Project or an alternative is approved, the Board of Harbor Commissioners would approve a lease and issue a Harbor Development Permit. POLB would use this document in compliance with CEQA to make decisions regarding discretionary actions associated with constructing and operating all or part of the Project. Uses of this EIS/EIR by other agencies are described in Table 1.8-1.

Table 1.8-1. Agencies Expected to Use this EIS/EIR	
Agency	**Responsibilities, Permits, and Approvals**
Federal	
U.S. DEPARTMENT OF COMMERCE	
National Oceanic and Atmospheric Association (NOAA) Fisheries/National Marine Fisheries Service	NOAA reviews and submits recommendations to USACE related to federal construction actions and issuance of permits in accordance with the Fish and Wildlife Coordination Act. Also responsible for Essential Fish Habitat (EFH) under the Magnuson Stevens Act. Provides EFH information, reviews federal action potential effects on EFH, and provides conservation recommendations to USACE.
U.S. DEPARTMENT OF THE INTERIOR	
U.S. Fish and Wildlife Service (USFWS)	USFWS reviews and submits recommendations to USACE related to federal construction actions and issuance of permits in accordance with the Fish and Wildlife Coordination Act and consultations pursuant to Section 7 of the Endangered Species Act (ESA).
U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)	
EPA	EPA has primary responsibility for implementing the Clean Air Act (CAA) and works with other federal agencies to implement conformity requirements. Regulatory authority for determining suitability of dredged sediments for ocean disposal. Reviews and submits recommendations to USACE related to federal construction actions and issuance of permits.
State	
California Coastal Commission (CCC)	The CCC reviews environmental documentation to assure compliance with the Coastal Zone Management Act (CZMA) and consistency with the California Coastal Act; also performs a federal Consistency Determination.
California State Lands Commission (CSLC)	The CSLC has oversight responsibility for tidal and submerged lands legislatively granted in trust to local jurisdictions, and has adopted regulations for the inspection and monitoring of marine terminals. The CSLC inspects and monitors all marine facilities, which would include the proposed Middle Harbor Marine Terminal, for potential effects on public health, safety, and the environment.
California Department of Fish and Game (CDFG)	CDFG reviews and submits recommendations in accordance with CEQA and provides consultation in accordance with the Fish and Wildlife Coordination Act.
California Department of Transportation (Caltrans)	Caltrans is the permitting authority for road crossings and signage on transportation routes affected by project construction activities.
California Division of Oil, Gas, and Geothermal Resources	This division is the state's permitting authority for oil well abandonment and relocation activities.
California Office of Historic Preservation	This State office provides consultation under Section 106 of the National Historic Preservation Act regarding impacts on cultural resources (e.g., demolition of buildings and structures) which are either listed, or eligible for listing on the National Register of Historic Places.
Los Angeles Regional Water Quality Control Board (RWQCB)	The RWQCB is the permitting authority for Waste Discharge Requirements for discharges that may affect groundwater, National Pollutant Discharge Elimination System (NPDES) permits for discharge of wastewater and dredge material into surface waters, and 401 Certifications under Section 401 of the Clean Water Act.
South Coast Air Quality Management District (SCAQMD)	SCAQMD is the permitting authority for construction and operation of pump stations, storage tanks, and terminal facilities; activities involving hydrocarbon-containing soils (Rule 1166); and new or modified sources of air emissions (New Source Review).
Local	
City of Long Beach Planning & Building Department	This department is the City's permitting authority for building and grading permits.
City of Long Beach Public Works Department	This department is the City's permitting authority for storm drain connections and stormwater discharges.
City of Long Beach Water Department	This department is the City's permitting authority for Industrial Waste Permit for discharges of industrial wastewater to the City sewer system.
City of Long Beach Fire Department (LBFD)	This City department provides Approval of Business Plan and Risk Management Program. Reviews and submits recommendations regarding design for building permit.
City of Long Beach Public Works Department, Bureau of Traffic & Transportation	This City bureau provides review and approves changes in City street design, construction, signalization, signage, and traffic counts.

Chapter 2
RELATED PROJECTS AND RELATIONSHIP TO LOCAL AND REGIONAL PLANS

This section describes the projects considered in the cumulative impact analysis and presents a synopsis of the local and regional plans, programs, and requirements presented in subsequent sections of the EIS/EIR.

2.1 RELATED PROJECTS CONTRIBUTING TO CUMULATIVE EFFECTS

2.1.1 Requirements for Cumulative Impact Analysis

NEPA (40 CFR 1508.7 and 40 CFR 1508.25(a)(2)) and CEQA Guidelines (Section 15130) require an analysis of the significant cumulative impacts of a proposed project. Cumulative impact is referred to as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines Section 15355).

Potential cumulative impacts are further described below.

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

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

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

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

In addition, as stated in the CEQA Guidelines Section 15064(i)(5), it should be noted that:

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

The USACE, as part of its cumulative impacts analysis, is responsible for identifying area(s) in which the effects of the proposed action will be felt; the effects that are expected in the area(s) from the proposed action; past, present, and reasonably foreseeable future actions that have or that are expected to have impacts in the same area; impacts or expected impacts from these other actions; and the overall impact(s) that can be expected if the individual impacts are allowed to accumulate.

For this EIS/EIR, cumulative impacts were analyzed using one of two methodologies: the "list" methodology or the "projection" methodology. Most of the resource areas were analyzed using a list of existing or reasonably foreseeable projects that would be constructed in the Project region, including the San Pedro Bay port harbor districts and areas south of Willow Street/Sepulveda Boulevard, between I-110 on the west and Long Beach Boulevard on the east. In addition, several reasonably foreseeable public agency projects within counties that may be affected by Port-industry operations were also used to assess the proposed Project's contribution to regional cumulative impacts.

The Air Quality and Health Risk (Section 3.2), Ground Transportation (Section 3.5), and Noise (Section 3.8) cumulative impact analyses use a projection or a combined list and projection approach that is based on annual regional growth and development rates. This approach uses a summary of projections contained in adopted plans that encompass the regional conditions contributing to a project's cumulative region of influence (CEQA Guidelines Section 15130[b][1]). Regional projects have been

integrated into this cumulative analysis through incorporation into regional plan (i.e., State Implementation Plan [SIP], Air Quality Management Plan [AQMP], and Regional Transportation Plan [RTP]) projections that are used to formulate annual regional growth rates.

2.1.2 Projects Considered in the Cumulative Impact Analysis

For the purposes of this EIS/EIR, the timeframe of current and/or reasonably foreseeable projects extends from 2005 to 2030, and the Project vicinity is defined as the area over which effects of the proposed Project could contribute to cumulative effects. The projects identified in the cumulative analysis occur within the cumulative region of influence, including projects associated with San Pedro Bay Port projects and regional transportation corridors. The cumulative regions of influence for individual resources are discussed further in Section 3.1 through Section 3.16. Including the proposed Project, a total of 36 approved or pending projects were identified within the general Project vicinity that could contribute to cumulative impacts (Table 2.1-1, Figure 2.1-1). As discussed in Section 2.1.1, some resource analyses use a projection approach encompassing a larger cumulative geographic scope in order to adequately address regional conditions that would be potentially affected by the proposed Project. For these resources, a larger set of past, present, and reasonably foreseeable future projects was included for analysis of cumulative impacts. The Project's potential to contribute to a cumulative significant impact in conjunction with these other approved or proposed projects is assessed within each of the resource sections.

Table 2.1-1. Related and Cumulative Projects

No. in Figure 2.1-1	Project Title	Project Description	Project Status	Relevant Cumulative Environmental Factors
Port of Long Beach				
1	Middle Harbor Redevelopment Project, (Proposed Project)	Expansion of an existing marine container terminal in the Middle Harbor area. The Project would consolidate two existing container terminals into one 345-acre terminal. Construction would include creation of approximately 54.6 acres of land, dredging, and wharf construction; construction of an intermodal railyard; and reconstruction of terminal buildings. The Initial Study prepared for this project identified potentially significant air, public health, transportation, biological, and water quality impacts.	EIS/EIR under preparation. NOI/NOP released in 2005. (2009-2030)	Analyzed in this document
2	Piers G & J Terminal Redevelopment Project	Redevelopment of two existing marine container terminals into one terminal in the Southeast Harbor Planning District area. The project will develop a marine terminal of up to 315 acres by consolidating portions of two existing terminals on Piers G and J and several surrounding parcels. Construction is now underway and will occur in four phases; it will include creation of approximately 53 acres of land, dredging, concrete wharves, rock dikes, and road and railway improvements. The EIR prepared for this project identified potentially significant impacts on air quality, geology, groundwater, and soils.	Approved project. Construction underway. (2005-2015)	Geology, Groundwater and Soils Air Quality Biological Resources
3	Pier S Marine Terminal	Development of a 150-acre container terminal and construction of navigational safety improvements to the Back Channel.	EIS/EIR to be prepared. (2008-2012)	Transportation Air Quality

Table 2.1-1. Related and Cumulative Projects (continued)

No. in Figure 2.1-1	Project Title	Project Description	Project Status	Relevant Cumulative Environmental Factors
Port of Long Beach (continued)				
4	Pier T, Long Beach LNG Import Terminal	Construction of a 25-acre liquefied natural gas (LNG) import terminal facility including pipeline and wharf construction on a portion of Pier T. *This project was not included in determining cumulative impacts because the project cannot proceed without BHC approval.	Project disapproved by BHC January 2007*.	Transportation Air Quality Hazards
5	Pier A East	Redevelopment of 32 acres of existing auto storage area into container terminal backlands.	EIR to be prepared.	Transportation Air Quality
6	Chemoil Marine Terminal, Tank Installation	Construction of two petroleum storage tanks and associated relocation of utilities and reconfiguration of adjoining marine terminal uses between Berths F210 and F211 on Pier F.	EIR to be prepared. 2008-2009	Transportation Air Quality Hazards
7	Gerald Desmond Bridge Replacement Project, POLB/ Caltrans/FHWA	Replacement of the existing four-lane bridge with a new six-to eight-lane bridge.	EIR/EA being prepared. (2008-2012)	Transportation Air Quality
8	Administration Building Replacement Project	Replacement of the existing Port Administration Building with a new facility on an adjacent site.	EIR being prepared. (2008-2010)	Transportation Air Quality
9	Pier A West Interim/Source Removal POLB, DTSC	Removal and offsite disposal of contaminated soil from 19 sumps including oil wells, filling, and paving.	Cleanup and Abatement Order. (2008-2009)	Hazards Geology
10	Rail Enhancement Project	Multiple rail transportation projects in and around Harbor District.	EIR to be prepared.	Transportation Air Quality
City of Long Beach				
11	Shoreline Gateway Project	Mixed-use development of a 22-story residential tower with retail, commercial, and office uses located north of Ocean Boulevard, between Atlantic Avenue and Alamitos Avenue.	EIR certified in 2006.	Transportation Air Quality
Port of Los Angeles				
12	Berths 136-147 Marine Terminal, West Basin	Reconfiguration of wharves and backland, expansion and redevelopment of the TraPac Terminal.	EIS/EIR released July 2007. (2008-2015)	Transportation Air Quality Biological Resources Noise
13	Evergreen Redevelopment/YTI Wharf Upgrade Terminal Island	Expansion of the Evergreen Marine Terminal. Lease boundary changes, gate improvements, wharf modifications, cranes, and new buildings.	EIR/EIS to be prepared 2008.	Transportation
14	Berths 97-109 Container Terminal Project, West Basin	Development and operation of a container terminal at Berths 97-109.	Recirculated Draft EIR/EIS released in April 2008. Construction expected 2009-2015.	Transportation Air Quality

Table 2.1-1. Related and Cumulative Projects (continued)

No. in Figure 2.1-1	Project Title	Project Description	Project Status	Relevant Cumulative Environmental Factors
Port of Los Angeles (continued)				
15	Channel Deepening Project/Additional Disposal Capacity	Dredging and soil disposal to deepen the Port of Los Angeles Main Channel to a maximum depth of -53 feet MLLW (lesser depths are considered as project alternatives) by removing between 3.9 million and 8.5 million cubic yards of soils. The soils would be disposed of at several sites. The SEIS/EIR is being prepared to evaluate dredging an additional four million cy of material and creating 151 acres of new lands from the soils.	Approved project; construction underway. SEIS/EIR for additional disposal capacity being prepared. (2008-2009)	Biological Resources Hydrology and Water Quality Transportation Air Quality
16	Berths 171-181, Pasha Marine Terminal	Redevelopment of existing facilities at Berths 171-181 as an omni (multi-use) facility.	Draft EIR being prepared. (2006-2010)	Transportation Air Quality
17	Pacific Los Angeles Marine Terminal (formerly Pacific Energy), Pier 400	Proposal to construct a crude oil receiving facility on Pier 400 with tanks on Terminal Island and pipelines between berth, tanks, and refineries.	EIS/EIR being prepared. (2008-2011)	Transportation Air Quality Biological Resources
18	Berth 206-209 Interim Container Terminal Reuse Project	Interim reuse of former Matson Terminal.	Final EIR certified. Construction on hold.	Hydrology and Water Quality
19	Ultramar Lease Renewal Project	Lease renewal for liquid-bulk (petroleum) terminal.	Draft EIR being prepared. (2008-2010)	Air Quality Hazards
20	SSA Outer Harbor Fruit Facility Relocation	Relocate the existing fruit import facility at 22nd and Miner to Berth 153.	Project on hold. (2008-2010)	Transportation Air Quality
21	Port of Los Angeles Charter School and Port Police Headquarters, San Pedro	Develop a Port of Los Angeles Charter School and Port Police Headquarters.	EIR Certified August 2005. Construction anticipated 2008-2009.	Transportation Air Quality
22	San Pedro Waterfront Enhancement Project	Surface and landscaping upgrades to improve pedestrian and vehicular connections.	Mitigated Negative Declaration approved April 2006. Anticipated construction completion in 2009.	Transportation Air Quality
23	Southern California International Gateway Project	Construction and operation of an intermodal container transfer facility and various associated components, including the relocation of an existing rail operation.	Supplemental NOP released October 2005.	Transportation Air Quality
24	Cabrillo Way Marina, Phase II	Redevelop the old marinas in the Watchorn Basin and develop the backland areas for a variety of commercial and recreational uses.	Construction underway. (2006-2008)	Transportation Air Quality
25	Artificial Reef, San Pedro Breakwater	Development of an artificial reef site south of the San Pedro Breakwater. Provides opportunity for suitable reuse of clean construction materials, and to create bottom topography to promote local sport fishing.	Negative Declaration issued and certified. Project proceeding. (2006-2010)	Biological Resources Hydrology and Water Quality

Table 2.1-1. Related and Cumulative Projects (continued)

No. in Figure 2.1-1	Project Title	Project Description	Project Status	Relevant Cumulative Environmental Factors
Port of Los Angeles (continued)				
26	Waterfront Gateway	This is part of the San Pedro Waterfront Enhancement Project (see Item No.22). Development initiated for waterfront promenade between Vincent Thomas Bridge and Fire Station 112.	Construction of Phase I underway. (2007-2012)	Transportation Air Quality
27	Pan-Pacific Cannery Complex Demolition Project	Demolition of two unused buildings and other small accessory structures at the former Pan-Pacific Cannery in the Fish Harbor area.	Draft EIR released October 2006.	Transportation Air Quality
28	Pier 300 APL Container Terminal Expansion Project	Construction and operation of a new, 40-acre container terminal expansion area on the east side of Pier 300. An additional 40 acres of fill will be evaluated in the Channel Deepening Supplemental EIS/EIR.	Project under development.	Transportation Air Quality Biological Resources
29	Fries Avenue Grade Separation	Construction of an elevated grade separation along a portion of Fries Avenue over the existing rail line tracks, to eliminate vehicular traffic delays that would otherwise be caused by trains using the existing rail line and the new ICTF railyard.	Conceptual Planning.	Transportation Air Quality
30	"C" Street/Figueroa Street Interchange	Reconfiguration of the "C" Street/ Figueroa Street interchange to include an elevated ramp from Harry Bridges Boulevard to the I-110 Freeway, over John S. Gibson Blvd., and an additional extension connecting Figueroa Street to the new elevated ramp, over Harry Bridges Blvd.	Conceptual Planning.	Transportation Air Quality
31	Port Transportation Master Plan	Construction and reconfiguration of roadways in and around POLA facilities. Some improvements under consideration include: I-110/SR-47/Harbor Blvd. interchange improvements; south Wilmington grade separations; and additional traffic capacity analysis for the Vincent Thomas Bridge.	Conceptual planning stages.	Transportation Air Quality
32	Berths 212-224 YTI Wharf Upgrades	Modifications at the YTI Marine Terminal including wharf upgrades and backland reconfiguration.	NOP/NOI anticipated in 2008.	Transportation Air Quality
33	Berths 121-131 Yang Ming Container Terminal	Reconfiguration of wharves and backlands. Expansion and redevelopment of the APL Terminal.	NOP/NOI anticipated in 2008.	Transportation Air Quality
Community of San Pedro				
34	Pacific Corridors Redevelopment Project	Development of commercial/retail, manufacturing, and residential components.	Construction underway. Expected completion year is 2032.	Transportation Air Quality
California Department of Transportation				
35	Schuyler Heim Bridge Replacement and SR 47 Expressway	Replace the Schuyler Heim Bridge with a fixed structure and improve the SR 47/Henry Ford Avenue/Alameda Street transportation corridor by constructing an elevated expressway from the Heim Bridge to SR 1 (Pacific Coast Highway).	Draft EIS/EIR released August 2007. Final EIS/EIR expected spring 2008.	Transportation Air Quality
36	I-710 (Long Beach Freeway) Major Corridor Study	Develop multi-modal, timely, cost-effective transportation solutions to traffic congestion and other mobility problems along approximately 18 miles of the I-710, between the San Pedro Bay ports and SR 60.	Conceptual Planning and Analysis Stage.	Transportation Air Quality

2.2 RELATIONSHIP TO STATUTES, PLANS, AND OTHER REQUIREMENTS

One of the primary objectives of the NEPA/ CEQA process is to ensure that the Project is consistent with applicable statutes, plans, policies, and other regulatory requirements. The following existing statutes, plans, policies, and other regulatory requirements are applicable to the proposed Project and alternatives.

2.2.1 Statutes

National Environmental Policy Act of 1969

NEPA and the implementing CEQ regulations (40 CFR Section 1500 *et seq*.) ensure that federal agencies:

- Fully consider the environmental consequences of their proposed actions before they make any decisions to undertake those actions; and
- Involve any interested or affected members of the public in the NEPA process.

NEPA is a process-oriented law that encourages agencies to incorporate detailed and scientifically valid analysis of impacts and alternatives, and appropriate public input in making decisions. The lead agency is the federal agency in charge of preparing the NEPA compliance document for the action and alternatives under consideration.

There are several NEPA processes, the selection of which is triggered by the proposed action and its potential impacts on the environment. The NEPA lead agency determines the type of NEPA document for the project (e.g., Categorical Exclusion, Environmental Assessment, or EIS).

The primary federal action associated with the Project is the issuance of permits authorizing work and structures in navigable waters of the U.S. and the discharge of fill in waters of the U.S. This action may result in significant effects on the environment, therefore constituting a major federal action requiring NEPA review (42 USC 4341 *et seq*.). The proposed action and a reasonable range of alternatives (i.e., alternatives that are economically and technically feasible and could achieve the stated purpose of the project) are evaluated in terms of their environmental impacts.

The CEQ has published NEPA implementation regulations in 40 CFR, Parts 1500 to 1508. The USACE regulations for implementation of NEPA are published in 33 CFR 325, Appendix B. The EPA NEPA implementation regulations are published in 40 CFR, Part 6.

Endangered Species Act

The ESA of 1973 (16 USC 1531-1543), as amended, provides for the conservation of endangered and threatened species and the ecosystems they inhabit. The USFWS and NOAA Fisheries share responsibilities for administering the ESA. Section 9 prohibits taking of species federally listed as threatened or endangered. A take is defined as to harm, harass, pursue, hunt, shoot, wound, kill, trap, capture, or collect or to attempt to engage in any such conduct, and includes habitat modification or degradation that could potentially kill or injure wildlife by impairing essential behavioral patterns, including breeding, feeding, or sheltering. A take incidental to otherwise lawful activities can be authorized under Section 7 when there is federal involvement and under Section 10 when there is no federal involvement.

Section 7 of the ESA requires federal agencies to consult with and seek the assistance of the Secretary of the Interior or Secretary of Commerce to ensure that actions authorized, funded, or carried out by federal agencies do not jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. A Biological Opinion would be issued for the Project subsequent to consultation. Depending on the outcome of the consultation, an incidental take statement authorizing take incidental to permitted activities and required terms and conditions for minimizing take would be issued for the proposed Project.

Clean Air Act

The federal Clean Air Act (CAA) of 1969 and its subsequent amendments form the basis for the nation's air pollution control effort. The EPA is responsible for implementing most aspects of the CAA. Basic elements of the act include the National Ambient Air Quality Standards (NAAQS) for major air pollutants, hazardous air pollutant standards, attainment plans, motor

LEGEND

Port of Long Beach Projects

1. **Middle Harbor Terminal Redevelopment (Proposed Project)**
2. Piers G & J Terminal Redevelopment Project
3. Pier S Marine Terminal
4. Pier T, Long Beach LNG Terminal
5. Pier A East
6. Chemoil Marine Terminal, Tank Installation
7. Gerald Desmond Bridge Replacement Project
8. Administration Building Replacement Project
9. Pier A West Remediation Project
10. San Pedro Bay Rail Study

City of Long Beach Projects

11. Shoreline Gateway Project

Port of Los Angeles Projects

12. Berths 136-147 Marine Terminal, West Basin
13. Evergreen Redevelopment, Terminal Island
14. Berths 97-109 Container Terminal Project
15. Channel Deepening Project
16. Berths 171-181, Pasha Marine Terminal
17. Pacific Los Angeles Marine Terminal, Pier 400
18. Berth 206-209 Interim Container Terminal Reuse Project
19. Ultramar Lease Renewal Project
20. SSA Outer Harbor Fruit Facility Relocation
21. Port of Los Angeles Charter School and Port Police Headquarters, San Pedro
22. San Pedro Waterfront Enhancement Project
23. Southern California International Gateway Project
24. Cabrillo Way Marina, Phase II
25. Artificial Reef, San Pedro Breakwater

Port of Los Angeles Projects (cont.)

26. Waterfront Gateway
27. Pan-Pacific Cannery Complex Demolition Project
28. Pier 300 APL Container Terminal Expansion Project
29. Fries Avenue Grade Separation
30. "C" Street/Figueroa Street Interchange
31. Port Transportation Master Plaln
32. Berths 212-224 YTI Wharf Upgrades
33. Berths 121-131 Yang Ming Container Terminal

Community of San Pedro Projects

34. Pacific Corridors Redevelopment Project

Caltrans Projects

35. Schuyler Heim Bridge Replacement and SR 47/ Expressway
36. I-710 (Long Beach Freeway) Major Corridor Study

Figure 2.1-1. Related and Cumulative Projects Location Map

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vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The CAA delegates the enforcement of the federal standards to the states. In California, the ARB is responsible for enforcing air pollution regulations. In the South Coast Air Basin (SCAB), the South Coast Air Quality Management District (SCAQMD) has this responsibility. As the Project is located within the SCAB, proposed construction and operations are subject to SCAQMD rules and regulations.

California Environmental Quality Act

The purposes of CEQA are to:

- Inform agency decisionmakers and the public about the potential, significant environmental effects of a proposed project;
- Identify the ways that environmental damage can be avoided or significantly reduced;
- Prevent significant, avoidable environmental damage by requiring changes in the project through the use of alternatives or mitigation measures when the agency finds the changes to be feasible; and
- Disclose the reasons for the governmental decision (14 CCR Section 15002).

An EIR is prepared if a lead agency determines that the project may have a significant impact on the environment. The substantive provisions of CEQA require agencies, to the extent feasible, to avoid or mitigate adverse impacts that the proposed project would have on the environment. The Port's implementation of CEQA is guided by CEQA Guidelines, and impact thresholds established by pertinent resource agencies. Because the Project may have a significant effect on the environment, the Port is preparing an EIR.

California Tidelands Trust

The CSLC has authority over California's granted public trust lands and ungranted public trust lands (i.e., tidelands, submerged lands, and navigable waters). The Tidelands Trust also conveyed public trust lands, in trust, to several cities, counties, and governmental agencies, including five major ports. Pursuant to the Tidelands Trust, state and local tidelands grantees are administrators of their respective public trust lands and are required to manage tidelands through statute and implementation of the Public Trust Doctrine. According to the Tidelands Trust, public trust uses are generally limited to water dependent activities including commerce, fisheries, navigation, ecological preservation, and recreation.

The Port is operated under legal mandates of the Tidelands Trust, which identify the Port and its facilities as a primary economic/coastal resource of the State and an essential element of the national maritime industry for promotion of commerce, navigation, fisheries, and harbor operations. According to the Tidelands Trust, Port-related activities should be water dependent and should give highest priority to navigation, shipping, and necessary support and access facilities to accommodate the demands of foreign and domestic waterborne commerce. The POLB PMP provides the official planning policies, consistent with the Public Trust Doctrine, for the physical development of the tidelands and submerged lands conveyed and granted in trust to the POLB. The proposed Project is evaluated for consistency with the PMP (Section 3.7.2) to ensure compliance with the Tidelands Trust.

Coastal Zone Management Act

Section 307 of CZMA requires that all federal agencies with activities directly affecting the coastal zone, or with development projects within that zone, comply with the state coastal acts (in this case, the CCA of 1976) to ensure that those activities or projects are consistent, to the maximum extent practicable. Accordingly, the USACE is preparing an EIS to disclose potential impacts associated with conducting dredge and fill activities, wharf construction, and wharf improvements within the coastal zone. The CCC would use this EIS/EIR in their federal Coastal Zone Consistency Review to determine if the Project is in compliance with the CZMA.

California Coastal Act of 1976

The CCA of 1976 recognizes the Port, as well as other California ports, as primary economic and coastal resources and as essential elements of the national maritime industry. Decisions to undertake specific development projects, where feasible, would be based on consideration of alternative locations and design to minimize any adverse environmental impacts.

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

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

To comply with Section 30706(a) of the CCA, the water area proposed to be filled must be the minimum necessary to achieve the purpose of the fill and minimize harmful effects to coastal resources, such as water quality, fish or wildlife resources, recreational resources, sand transport systems, and reduction of the volume, surface area or circulation of water. The landfills proposed for the Project were previously approved by the CCC (March 2001) in PMP Amendment #16. Accordingly, the Port would not need to obtain CCC approval for the proposed Project; however, the USACE would still be subject to a federal Coastal Zone Consistency Review by the CCC.

2.2.2 Plans, Policies, and Other Regulatory Requirements

Port of Long Beach Port Master Plan

The PMP addresses environmental, recreational, economic, and cargo-related issues in accordance with the CCA. Because of the dynamic nature of world commerce, many trade and transportation practices change quickly. Accordingly, the PMP has been written to encompass broad Port goals and specific projects, while recognizing and planning for change in cargo transport and requirements, throughput demand, available technology and equipment, and available lands for primary Port terminal development. The Port goals, objectives, policies, and statement of permitted uses guide future development within each Harbor Planning District. A finding of consistency with the PMP is required prior to any development within the Harbor District. The Harbor Development Permit (HDP) is the primary vehicle for evaluating Port projects and determining PMP compliance.

City of Long Beach General Plan

In the City of Long Beach General Plan, the Long Beach Harbor area falls within Land Use District (LUD) Number 12. This district is composed of the existing freeways, Long Beach Harbor, and Long Beach Airport. The General Plan assumes the water and land use designations within the harbor area are separately formulated and adopted as the Specific Plan of the Long Beach Harbor (also known as the PMP, as amended). The General Plan indicates that the responsibilities for planning within legal boundaries of the harbor lie with the Harbor Commission.

San Pedro Bay Ports Clean Air Action Plan

The SPBP CAAP describes the measures that the Ports of Long Beach and Los Angeles will take toward reducing emissions related to port operations. The CAAP consists of the following eight elements: 1) Standards and Goals; 2) Implementation Strategies; 3) Control Measures; 4) Technology Advancement Program; 5) Infrastructure and Operational Efficiency Improvements Initiative; 6) Estimated Emissions Reductions; 7) Estimated Budget Requirements; and 8) Recommendations. The Plan was approved by the two harbor commissions in November 2006.

Green Port Policy

Adopted on January 31, 2006, the Green Port Policy formalizes five guiding principles for the Port's environmental-protection efforts: (1) protect the local community and environment from harmful Port impacts; (2) employ the best available technology to minimize port impacts and explore advanced technology solutions; (3) promote sustainability in terminal design, development, and operations; (4) distinguish the Port as a leader in environmental stewardship and regulatory compliance; and (5) engage and educate the community about Port development and environmental programs.

City of Long Beach Municipal Code

The Long Beach Municipal Code (LBMC), as amended, codifies and publishes in consolidated form those ordinances of the city governing the establishment of certain offices and boards; the

conduct of city government; organization to cope with disasters; fire prevention; police and traffic regulation; public safety; public welfare; public works; buildings and signs; prohibition of certain defined acts, and punishment for violation of code provisions; regulation, control, and licensing of businesses, trades, professions and other occupations; health and sanitation regulations; oil production; use of land in the city; municipal gas service and rates; regulation of city streets; operation of public facilities; and other matters of general interest (Ordinance C-5831 § 1 (part) 1982).

Los Angeles County Congestion Management Program

The Congestion Management Program (CMP) for Los Angeles County was adopted by the Metropolitan Transportation Authority (MTA) in 1992 and is updated biannually. The program was developed in conformance with Proposition 111, the gas tax initiative approved by California voters in 1990. The 1993 program update includes a new element called the Countywide Deficiency Plan that establishes a partnership between the 88 cities in the County and the MTA. Every year, each jurisdiction is responsible for monitoring building permit activity and then deciding how to offset the potential impacts of that development by choosing from a series of transportation mitigation strategies. The CMP also includes a series of monitoring programs that measure the level of service on critical transportation systems, including major intersections, freeways, and major transit routes. Since 1994, jurisdictions have been required to track new development activity and report it to the MTA. All development activity in the Port must be included in the City of Long Beach development activity report.

The CMP defines a backbone highway system called the CMP system that includes all state highways and other major arterial routes as determined by the cities in conjunction with the MTA. A total of 160 intersections are included in the highway system for periodic monitoring of service levels.

Air Quality Management Plan

The EPA, in enforcing the mandates of the federal CAA, requires each state that does not attain NAAQS to prepare a plan detailing how these air quality standards will be attained. The State of California requires each air quality district to prepare an AQMP specific for its region. The most recently approved AQMP was adopted by the SCAQMD Governing Board of Directors on June 1, 2007.

Southern California Association of Governments Regional Plans

The Southern California Association of Governments (SCAG) serves as the area-wide planning agency responsible for regional transportation planning, growth, and land use planning within southern California, as well as for developing the growth factors used in forecasting air emissions within the SCAB. SCAG prepares and maintains a Growth Management Plan (GMP), a Regional Housing Needs Assessment, and a Regional Mobility Plan, and contributes to the AQMP in cooperation with the SCAQMD. SCAG has developed a Regional Comprehensive Plan and Guide (RCPG), the 2004 RTP and, in cooperation with SCAQMD, the AQMP.

Water Quality Control Plan – Los Angeles River Basin

The Water Quality Control Plan for the Los Angeles River Basin (Region 4) was adopted by RWQCB in 1978 and updated in 1994. The Basin Plan designates beneficial uses of the water resources of the basin and describes water quality objectives, implementation plans, and surveillance programs to protect or restore designated beneficial uses.

Water Quality Control Policy – Enclosed Bays and Estuaries of California

In 1974, the California State Water Resources Control Board (SWRCB) adopted a water quality control policy that provides principles and guidelines to prevent degradation, and to protect the beneficial uses of waters of enclosed bays and estuaries. Long Beach Harbor is considered to be an enclosed bay under this policy. Activities, such as the discharge of effluent, thermal wastes, radiological waste, dredge materials, and other materials that adversely affect beneficial uses of the bay and estuarine waters are addressed. Waste discharge requirements developed by the RWQCB, among other requirements, must be consistent with this policy.

California Toxics Rule

This rule, as found in 40 CFR Part 131, establishes numeric criteria for priority toxic pollutants in inland waters as well as enclosed bays and estuaries.

2.2.3 Additional Regulations

Additional regulations applicable to the proposed Project are listed in Table 2.2-1.

Table 2.2-1. Additional Regulations

Resource Area	Applicable Regulations
Air Quality	Clean Air Act, Title 40 CFR Parts 50 and 51 as amended; Prevention of Significant Deterioration, Titles 40 CFR Part 51.24 and 40 CFR Part 52.21; California Clean Air Act; SCAQMD Regulations IX (Standards of Performance for New Stationary Sources) and XIII (New Source Review); AB 32 (California Global Warming Solutions Act of 2006).
Biological Resources	Endangered Species Act of 1973, as amended; Marine Mammal Protection Act; Migratory Bird Treaty Act; Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972; California Endangered Species Act; U.S. Fish and Wildlife Act of 1965 (16 USC 742a *et seq*.); Fish and Wildlife Coordination Act (16 USC 661 *et seq.*); Magnuson-Stevens Fishery Conservation and Management Act, as amended through 1996; Executive Order 13112, Invasive Species; Non-indigenous Aquatic Nuisance Prevention and Control Act of 1990 (PL 101-646), as amended by the National Invasive Species Act of 1996; California Ballast Water Management for Control of Nonindigenous Species Act of 1999 (California Public Resources Code [PRC] Sections 71200-71271).
Cultural Resources	National Historic Preservation Act of 1966, as amended, and implementing regulations (36 CFR 800); the Archaeological and Historical Preservation Act and Executive Order 11593 Protection and Enhancement of the Cultural Environment; U.S. Army Corps of Engineers regulations (ER) 1105-2-100.
Environmental Justice	Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.
Noise	LBMC Section 8.80.150 (Exterior Noise Limits), and LBMC Section 8.80.202 (Construction Noise Activity Regulations).
Transportation	California Public Utilities Commission Guidelines; Federal Railroad Administration Guidelines; Federal Highway Administration Guidelines; California Transportation Guidelines; California Administrative Code Section 65302; Federal Aid Highway Program Manual 7-7-3; National Environmental Compliance, 91-190; U.S. Coast Guard Regulations Pertaining to Navigation Safety and Waterfront Facilities; and State and Federal Department of Transportation Requirements Regarding Truck and Rail Transportation of Hazardous Materials.
Water Quality	The Rivers and Harbors Act of 1899, Section 10; Federal Water Pollution Control Act (as amended by the Clean Water Act of 1977), Section 404; California Hazardous Waste Control Act; Sections 401 and 402 of the Clean Water Act of 1977; and Porter-Cologne Act.