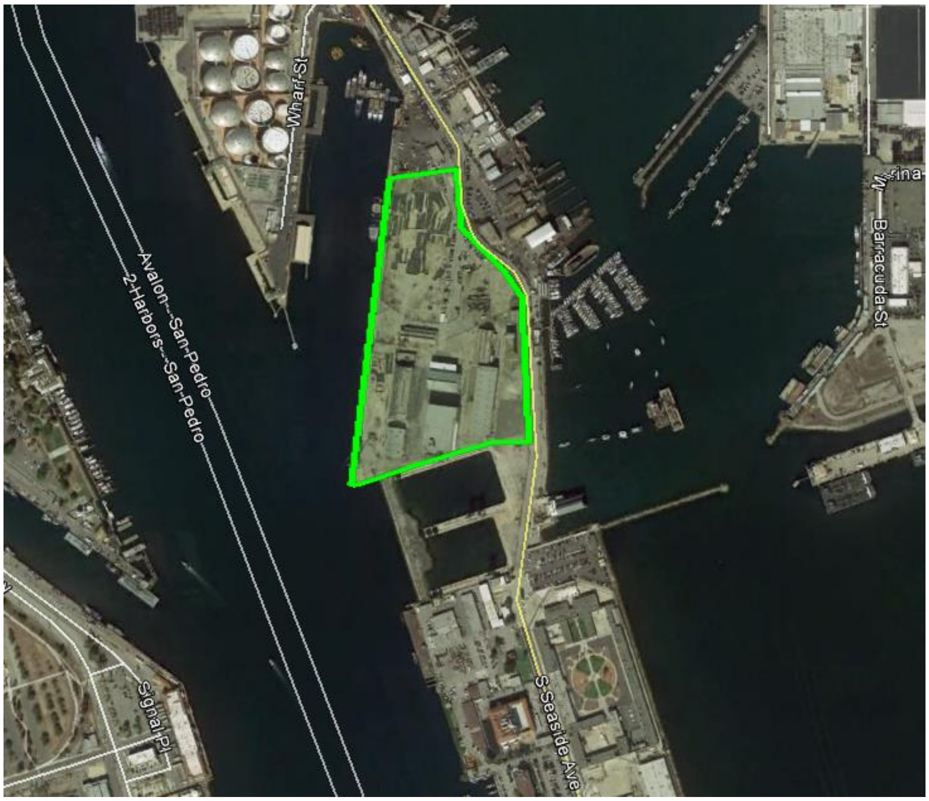
DRAFT INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION

Berth 240 Transportation Vessels Manufacturing Facility Project

APP#170117-008



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December 2017

TABLE OF CONTENTS

Section **Page**

APPENDICES

LIST OF FIGURES

LIST OF TABLES

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1.0 Introduction

The Los Angeles Harbor Department (LAHD) has received an Application for Port Permit (APP) from WW Marine Composites LLC (Applicant) for the proposed Berth 240 Transportation Vessels Manufacturing Facility Project (proposed Project) located at Berth 240 off South Seaside Avenue, Terminal Island in the Port of Los Angeles (Port). LAHD is the lead agency under the California Environmental Quality Act (CEQA) and has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) to address the environmental effects of the proposed Project.

The primary objective of the proposed Project is to issue a LAHD Engineering Permit, LAHD Coastal Development Permit, and a 10-year Lease (with up to two 10-year lease extension/renewal options for operation) for the construction and operation of a facility to manufacture large commercial transportation vessels. The approximately 10-acre proposed Project site, includes portions of the former Southwest Marine site, is entirely disturbed with abandoned industrial buildings, unused compacted dirt area, and paved areas. Construction would take approximately 16–18 months to complete and would involve the demolition of one existing structure, paving over the existing dirt area, construction of foundations and installation of the proposed prefabricated manufacturing building and ancillary tank farm, paving for parking and access driveways, and repairs to the existing wharf. Repairs to the existing wharf are expected to consist of pile capping, encasement of damaged pile areas, replacement of fender piles, removal of damage and repair with concrete and epoxy areas of the front stem column above the fender beam and the wharf deck.

The proposed Project would be constructed in two phases. Phase 1 would include the construction of a smaller building located in the northwestern portion of the site, outside of the historic district and repairs to the existing wharf within the historic district. Phase 2 would include full buildout, incorporating the smaller Phase 1 building and parking areas within the historic district immediately adjacent to some of the Southwest Marine historic buildings. Phase 2 would include demolition of an existing approximately 9,150-square-foot industrial building (identified as the Compressor House), which has been determined as a non-contributing element of the Bethlehem Shipyard Historic District.

Operations would involve development and manufacture of prototypes and first generation vessels within the proposed building. The facility would also establish the development processes prior to implementing production on a larger scale, which would not be accommodated in the proposed facility. Completed vessels would be too large for transportation by road, necessitating that the facility be adjacent to the water. Completed vessels would be transferred from the building onto a barge at the wharf for transportation to testing or delivery destinations. Though no disturbance or use of the historic buildings is proposed, the lease area would include historic buildings and the Applicant would be responsible for maintaining the historic buildings structures in compliance with the LAHD Built Environmental Historic, Architecture and Cultural Resource Policy adopted by the Harbor Commissioners Resolution 13-7479 in April 2013. Operations would also accommodate continuation of recovery operations by Space Explorations Technologies, currently occurring at a site across the Main Channel.

1.1 CEQA PROCESS

This document was prepared in accordance with CEQA (California Public Resources Code, Section 21000 et seq.), the CEQA Guidelines (14 CCR 15000 et seq.), and the City of Los Angeles (City) CEQA Guidelines (2006). One of the main objectives of CEQA is to disclose the potential environmental effects of proposed activities to the public and decision makers. CEQA requires that the potential environmental effects of a project be evaluated prior to implementation. This Initial Study/Mitigated Negative Declaration (IS/MND) includes a discussion of the proposed Project's effects on the existing environment, including the identification of avoidance, minimization, and mitigation measures.

Under CEQA, the lead agency is the public agency with primary responsibility over approval of a proposed Project. Pursuant to Section 15367 of the CEQA Guidelines (14 CCR 15000 et seq.), LAHD is the lead agency for the proposed Project. LAHD has directed the preparation of an environmental document that complies with CEQA. LAHD will consider the information in this document when determining whether to approve the proposed Project.

The preparation of an IS/MND is guided by Section 15063 of the CEQA Guidelines. Where appropriate and supportive, references will be made to CEQA, the CEQA Guidelines, or the appropriate case law.

This IS/MND meets CEQA content requirements by including a project description, identification of the project location, a description of the environmental setting, identification of potential environmental impacts and mitigation measures for any significant effects, discussion of consistency with plans and policies, and names of the document preparers.

In accordance with CEQA and the CEQA Guidelines, this IS/MND will be circulated for a period of 30 days for public review and comment. The public review period for this IS/MND is scheduled to begin on December 8, 2017, and will conclude on January 8, 2018. This IS/MND has specifically been distributed to interested or involved public agencies, organizations, and private individuals for review. The IS/MND has been made available for general public review at the following locations:

- LAHD Environmental Management Division at 222 West 6th Street, San Pedro, California 90731
- Los Angeles City Library, San Pedro Branch at 931 South Gaffey Street, San Pedro, California 90731
- Los Angeles City Library, Wilmington Branch at 1300 North Avalon, Wilmington, California 90744

The document is also available online at:
https://www.portoflosangeles.org/environment/public_notices.asp.

Approximately 100 notices were mailed to community residents, stakeholders, and local agencies.

During the 30-day public review period, the public has an opportunity to provide written comments on the information contained within this IS/MND. The public comments on the IS/MND and responses to public comments will be included in the record and considered by LAHD during deliberation as to whether or not necessary approvals should be granted for the proposed Project. A project will only be approved when LAHD finds “that there is no substantial evidence that the proposed Project will have a significant effect on the environment and that the negative declaration or mitigated negative declaration reflects the lead agency’s independent judgment and analysis” (14 CCR 15070).

In reviewing the IS/MND, affected public agencies and interested members of the public should focus on the sufficiency of the document in identifying and analyzing potential project impacts on the environment and ways in which the potential significant effects of the proposed Project are proposed to be avoided or mitigated. Comments on the IS/MND should be submitted in writing prior to the end of the 30-day public review period and must be postmarked by January 8, 2018.

Please submit written comments to:

Chris Cannon, Director
City of Los Angeles Harbor Department
Environmental Management Division
425 S. Palos Verdes Street
San Pedro, California 90731

Written comments may also be sent via email to ceqacomments@portla.org. Comments sent via email should include the project title in the subject line.

For additional information, please contact the LAHD Environmental Management Division at 310.732.3675.

1.2 DOCUMENT FORMAT

This IS/MND contains the following nine sections:

Section 1.0. **Introduction.** This section provides an overview of the proposed Project and the CEQA environmental documentation process.

Section 2.0. Project Description. This section provides a detailed description of the proposed Project’s objectives and components.

Section 3.0. Initial Study Checklist. This section presents the CEQA checklist for all impact areas and mandatory findings of significance.

Section 4.0. Impacts and Mitigation Measures. This section presents the environmental analysis for each issue area identified on the environmental checklist. If the proposed Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the proposed Project could have a potentially significant impact on a resource, the issue area discussion provides a description of potential impacts, and appropriate mitigation measures and/or permit requirements that would reduce those impacts to a less-than-significant level.

Section 5.0. Mitigation Monitoring and Reporting Program. This section identifies the required mitigation measures, the timing of those measures, and the responsible party.

Section 6.0. Proposed Finding. This section presents the proposed finding regarding environmental impacts.

Section 7.0. Preparers and Contributors. This section provides a list of key personnel involved in the preparation of the IS/MND.

Section 8.0. Acronyms and Abbreviations. This section provides a list of acronyms and abbreviations used throughout the IS/MND.

Section 9.0. References. This section provides a list of reference materials used during the preparation of the IS/MND.

The environmental analysis included in Section 4.0, Impacts and Mitigation Measures, is consistent with the CEQA IS format presented in Section 3.0, Initial Study Checklist. Impacts are separated into the following categories:

Potentially Significant Impact. This category is only applicable if there is substantial evidence that an effect may be significant and no feasible mitigation measures can be identified to reduce impacts to a less-than-significant level. Given that this is an IS/MND, no impacts were identified that fall into this category.

Less-Than-Significant Impact After Mitigation Incorporated. This category applies where the incorporation of mitigation measures would reduce an effect from a "Potentially Significant Impact" to a "Less-than-Significant Impact." The lead agency must describe the mitigation measure(s) and briefly explain how they would reduce the effect to a less-than-significant level (mitigation measures from earlier analyses may be cross-referenced).

Less-Than-Significant Impact. This category is identified when the proposed Project would result in impacts below the threshold of significance, and no mitigation measures are required.

No Impact. This category applies when a proposed project would not create an impact in the specific environmental issue area. "No Impact" answers do not require a detailed explanation if they are adequately supported by the information sources cited by the lead agency that show that the impact does not apply to the specific project (e.g., the project falls outside of a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors and general standards (e.g., the proposed project would not expose sensitive receptors to pollutants based on a project-specific screening analysis).

2.0 Project Description

This IS/MND is being prepared to evaluate the potential environmental impacts that may result from the proposed Project. The proposed Project consists of constructing an industrial manufacturing facility to manufacture prototypes and first generation transportation vessels, at Berth 240 off South Seaside Avenue on Terminal Island. Details regarding the proposed Project are provided in Section 2.4. As required by Section 15124 of the CEQA Guidelines, this section contains the precise location and boundaries of the proposed project, a statement of objectives sought by the proposed project, a general description of proposed project's technical, economic, and environmental characteristics and its environmental setting, and a statement briefly describing the intended uses of the IS/MND. This document has been prepared in accordance with CEQA (California Public Resources Code, Section 21000 et seq.) and the CEQA Guidelines (14 CCR 15000 et seq.).

2.1 PROJECT LOCATION

2.1.1 Regional Setting

The Port is located in San Pedro Bay, 20 miles south of downtown Los Angeles. The Port encompasses 7,500 acres and 43 miles of waterfront, and features approximately 270 commercial berths and 24 passenger and cargo terminals. Port operations are predominantly centered on shipping activities, including containerized, breakbulk, dry bulk, liquid bulk, automotive, and intermodal rail shipping. In addition to the large shipping industry, the Port also supports a cruise ship industry and a commercial fishing fleet. The Port also accommodates boat repair yards and provides slips for approximately 3,800 recreational vessels, 150 commercial fishing boats, 35 miscellaneous small-service crafts, and 15 charter vessels that handle sport fishing and harbor cruises. The Port has retail shops and restaurants primarily located along the western side of the main channel. It also accommodates recreation, community, and educational facilities, such as a public swimming beach, Cabrillo Beach Youth Waterfront Sports Center, the Cabrillo Marine Aquarium, the Los Angeles Maritime Museum, 22nd Street Park, and the Wilmington Waterfront Park.

The LAHD is a proprietary (self-funded) department of the City charged with the operation, maintenance, and protection of the Port. The LAHD is a landlord port that leases properties to more than 300 tenants, including private terminal, tug, and marine cargo and cruise industry entities. The LAHD administers the Port under the California Tidelands Trust Act of 1911 and the Los Angeles City Charter. The LAHD is chartered to develop and operate the Port to benefit maritime uses.

2.1.2 Project Setting

The proposed Project is located at Berth 240, off South Seaside Avenue on Terminal Island in Master Plan Area 4 (Figures 2.1-1, 2.1-2, and 2.1-3). The proposed Project site is bounded to the north and east by South Seaside Avenue, across which is the Al Larson boatyard, to the south by the former dry docks now used as a permitted confined disposal facility (CDF), and beyond that, further south, is a US Coast

Guard and a US Federal Correctional Institution, and to the west by the Port's Main Channel. Access to the proposed Project is provided via South Seaside Avenue, State Route 47 (SR-47), the Harbor Freeway (Interstate (I-110)), the Long Beach Freeway (I-710), and the San Diego Freeway (I-405). Figures 2.1-1 and 2.1-2 show the regional location and local vicinity, respectively.

2.1.3 Land Use and Zoning

The proposed Project is located within the Port of Los Angeles Community Plan Area. The site is zoned as Z1-2130 Harbor Gateway State Enterprise Zone, with a General Plan Land Use designation of General/Bulk Cargo (Non Hazardous Industrial and Commercial) (City of Los Angeles 2016a). The Port Master Plan (PMP) (LAHD 2014) establishes policies and guidelines to direct the future development of the Port. The original plan became effective in April 1980 after it was approved by the Board of Harbor Commissioners and certified by the California Coastal Commission. The 2014 Port Master Plan (LAHD 2014) is a comprehensive update and is the 28th amendment to the 1980 Port Master Plan.

The updated Port Master Plan (LAHD 2014) includes five planning areas. The proposed Project is located in Planning Area 4, Fish Harbor. Planning Area 4 is the smallest planning area, consisting of approximately 92 acres. This planning area focuses on commercial fishing and breakbulk cargo and/or maritime support uses as well as some institutional uses. Future projects will provide additional space for expanding commercial fishing and boatyard facilities (LAHD 2014). The proposed Project site is identified as having mixed land use for Maritime Support/Breakbulk in the PMP.

The proposed Project site is designated as a Heavy Industrial Zone (M3) and ZI-2130 Harbor Gateway State Enterprise Zone (City of Los Angeles 2016a). Figure 2.1-3 shows the land use designations of the proposed Project site and the surrounding area.

SOURCE: ESRI Basemaps

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FIGURE 2.1-1

Regional Map

Transportation Vessels Manufacturing Facility Project Draft IS/MND

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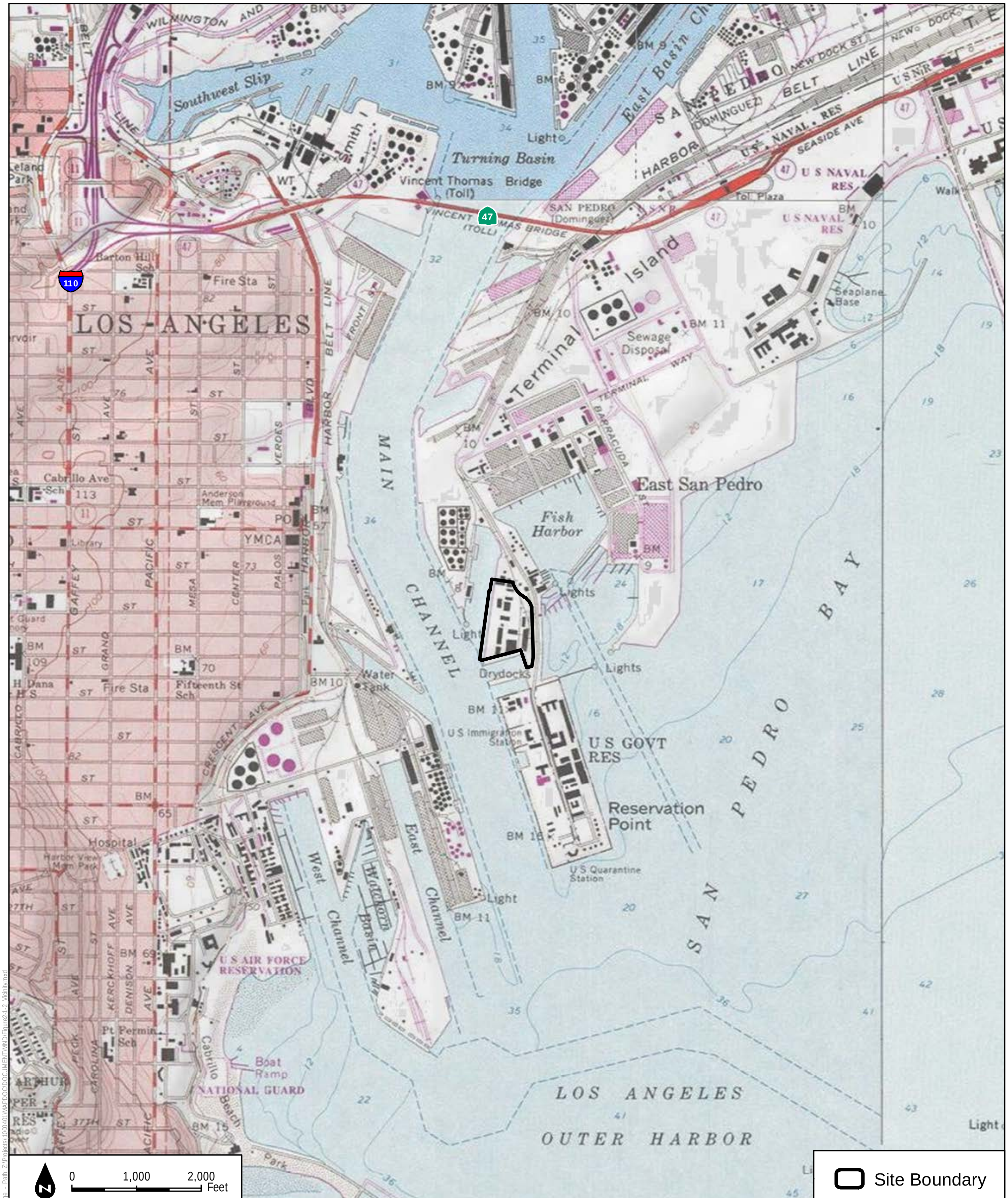

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SOURCE: USGS 7.5-Minute Series San Pedro Quadrangle
Township 5S, Range 13W, Section 20

FIGURE 2.1-2

Vicinity Map

Transportation Vessels Manufacturing Facility Project Draft IS/MND

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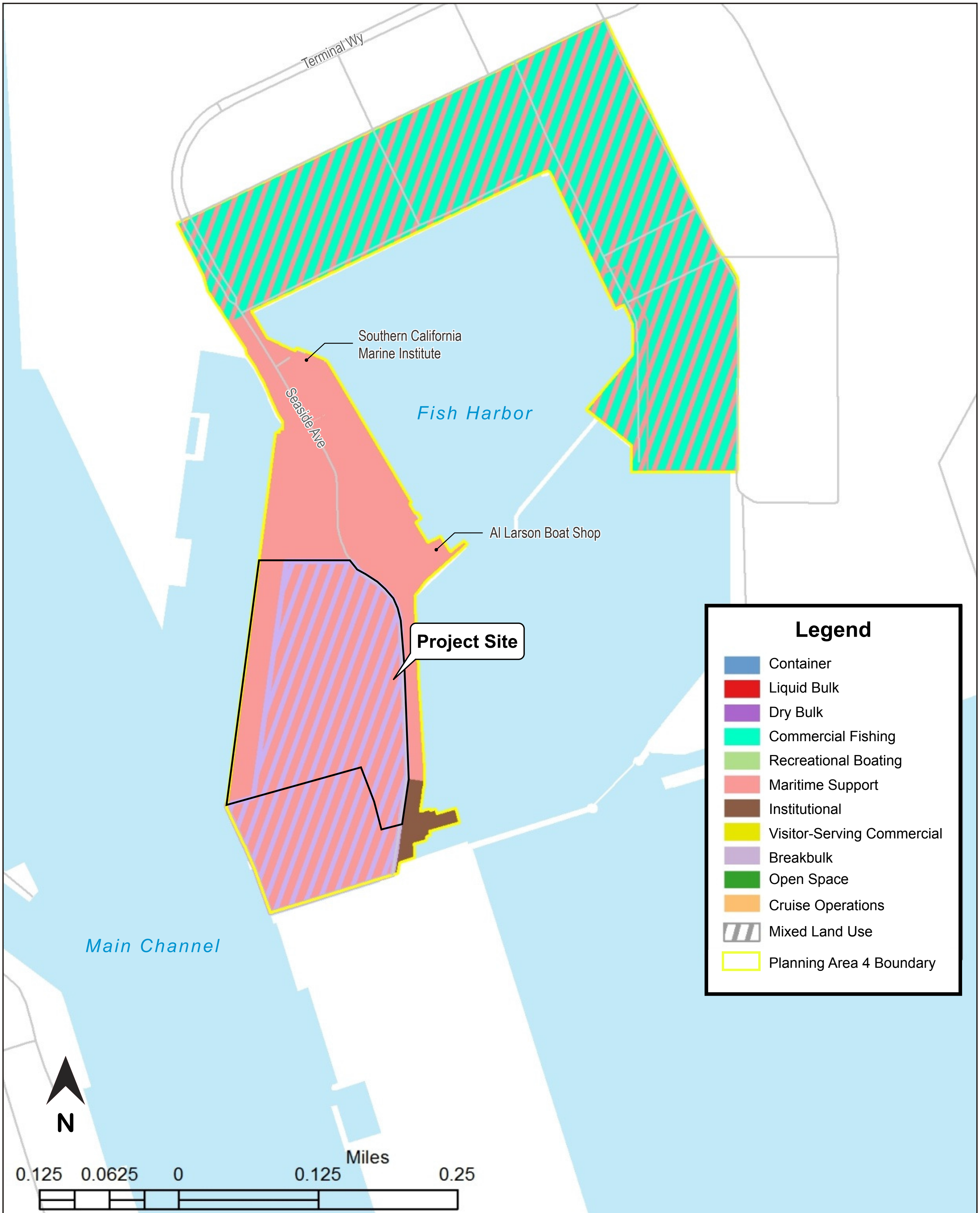

SOURCE: Port of Los Angeles (2014)

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FIGURE 2.1-3
Land Use Map

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2.2 PROJECT BACKGROUND

The Applicant has identified the vacant site at Berth 240 as suitable for the development of a new industrial manufacturing facility to design, develop, and manufacture prototypes and first-generation models of specialized commercial transportation vessels. The vessels, once complete, would be too large for delivery by road and thus must be taken via barge, necessitating the facility be located adjacent to the water.

Existing Conditions

The proposed Project site is owned by the City of Los Angeles. From approximately 1981 to 2006, Southwest Marine operated ship repair, retrofit, and demolition operations at Berth 240, as the Southwest Marine Terminal Island Facility. Southwest Marine is now known as BAE Systems Ship Repair, Inc. (BAE). The site is currently unoccupied with the exception of the SoCal Ship Services area in the northern portion. All manufacturing equipment and supplies associated with former Southwest Marine's operations have been removed. Only the vacant buildings remain, and the site is frequently used as a filming location for television and motion picture production.

The proposed Project site has been inactive since 2006 except for temporary filming uses, and is disturbed consisting of abandoned industrial buildings, unused compacted dirt area, and an unused wharf. Approximately one third (4 acres) of the Project site is paved, and the remainder consists of dirt with minimal ruderal vegetation. South Seaside Avenue is located immediately north and east of the proposed Project site, across which is the Al Larson Boatyard and the Al Larson Marina. Fish Harbor is located further eastward of the proposed Project. South of the proposed Project site is a U.S. Coast Guard facility, and beyond that is the Federal Correctional Institute located at 1299 South Seaside Avenue. The Port's main channel is located west of the proposed Project site, which is across from Ports O'Call. The site is currently located on a Department of Toxic Substance Control (DTSC) cleanup site (Remedial Action Order No. HAS-RAO 08/09-056), as identified using Envirostor and Geotracker. The environmental remediation outlined in the 2016 Remedial Action Plan (RAP) is under way by LAHD and would be completed by LAHD prior to any construction activities associated with the proposed Project (The Source Group, Inc. 2016). Routine groundwater monitoring is conducted by LAHD at the site.

2.3 PROJECT OBJECTIVES

The proposed Project objectives are as follows:

- Improve terminal facilities to accommodate the development and manufacture of specialized large commercial transportation vessels; and
- Optimize the use of existing land at the terminal to accommodate direct transportation of products via water in a manner consistent with LAHD's tidelands trust obligations

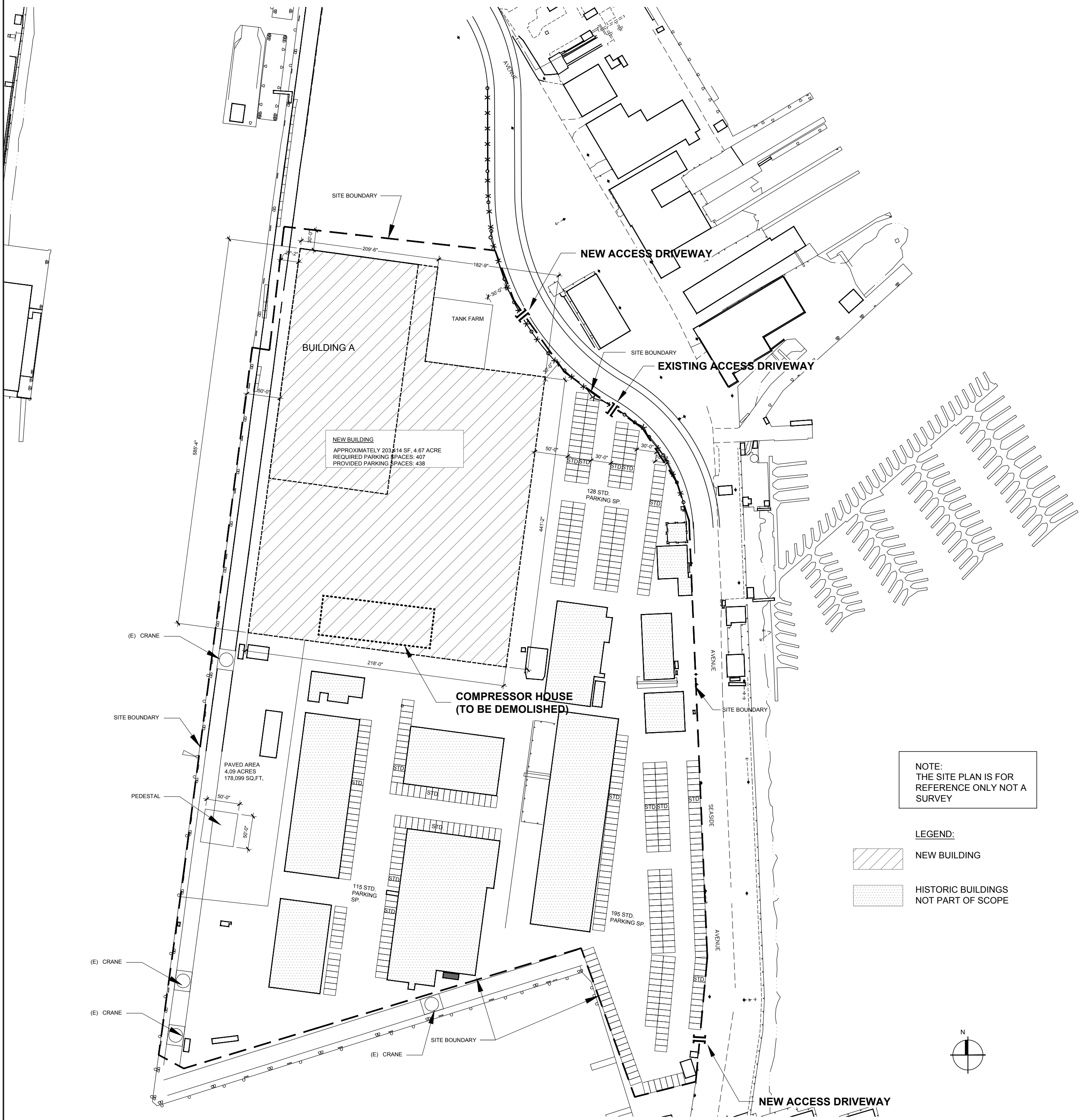
2.4 PROJECT ELEMENTS

The proposed Project consists of constructing a facility to manufacture prototypes and first generation transportation vessels, at Berth 240 off South Seaside Avenue on Terminal Island. The site is located along the Harbor's Main Channel and includes portions of the former Southwest Marine shipyard that is currently vacant. The site has been vacant since 2006 with occasional miscellaneous temporary uses exercised on the site since then. No alterations or use of existing historic buildings of the Southwest Marine Shipyard are included in the scope of the proposed Project. This facility is intended to be a state-of-the-art industrial manufacturing facility serving to prototype new ideas and technologies needed to advance specialized transportation vessels. This approximately 10-acre site would be used to develop and manufacture prototypes and first-generation vessels and develop the manufacturing processes prior to implementing production on a larger scale.

Operations would likely include general manufacturing procedures such as welding, composite curing, cleaning, painting, and assembly operations. The majority of operations would take place inside the facility, with exterior operations limited to transit of vehicles, forklift traffic, and mobilization of manufactured products onto a barge at the dockside for testing or delivery. Finished vessels would need to be transported via water due to their size; thus, there is the need to locate the facility immediately adjacent to the water. A barge would depart to transport vessels for testing or delivery up to three times a month. The facility would likely have up to 750 employees (maximum shift would be 500 employees) with up to 50 customers or visitors daily and approximately 10 truck deliveries daily. There are 438 parking spaces within the proposed lease area including portions adjacent to vacant areas around the former Southwest Marine Shipyard buildings (see Figures 2.4-1, 2.4-2, and 2.4-3). Though no disturbance or use of the historic buildings is proposed, the lease area would include historic buildings and the Applicant would be responsible for maintaining the historic buildings in compliance with the LAHD Built Environmental Historic, Architecture and Cultural Resource Policy adopted by the Harbor Commissioners Resolution 13-7479 in April 2013.

In addition, the lease would accommodate recovery operations undertaken by Space Exploration Technologies to bring to shore vehicles returning from space that are retrieved by an autonomous drone ship offshore. Retrieved vehicles would then be transported via ground transportation to the company's facility in Hawthorne for reuse. The barge used for these recovery operations would be stored along the berth associated with the proposed Project lease area. These activities are ongoing with the Port and would be relocated to the proposed Project site to reduce shipping constraints at the current location. The recovery operations would be accommodated at the southern end of the existing wharf. Recovery activities would not occur on the same day(s) as export activities associated with the proposed Project.

The proposed Project construction is anticipated to include repairs to the existing wharf at the facility to allow for transfer of completed products, as well as recovery operations by Space Exploration Technologies. Repairs to the existing wharf would consist of pile capping, encasement of damaged pile areas, replacement of fender piles, removal of damage and repair with concrete and epoxy areas of the front stem column above the fender beam and the wharf deck (see Figures 2.4-4 and 2.4-5).



SOURCE: Mulder & Katkov Architecture (2017)

FIGURE 2.4-1

Proposed Project Site Plan

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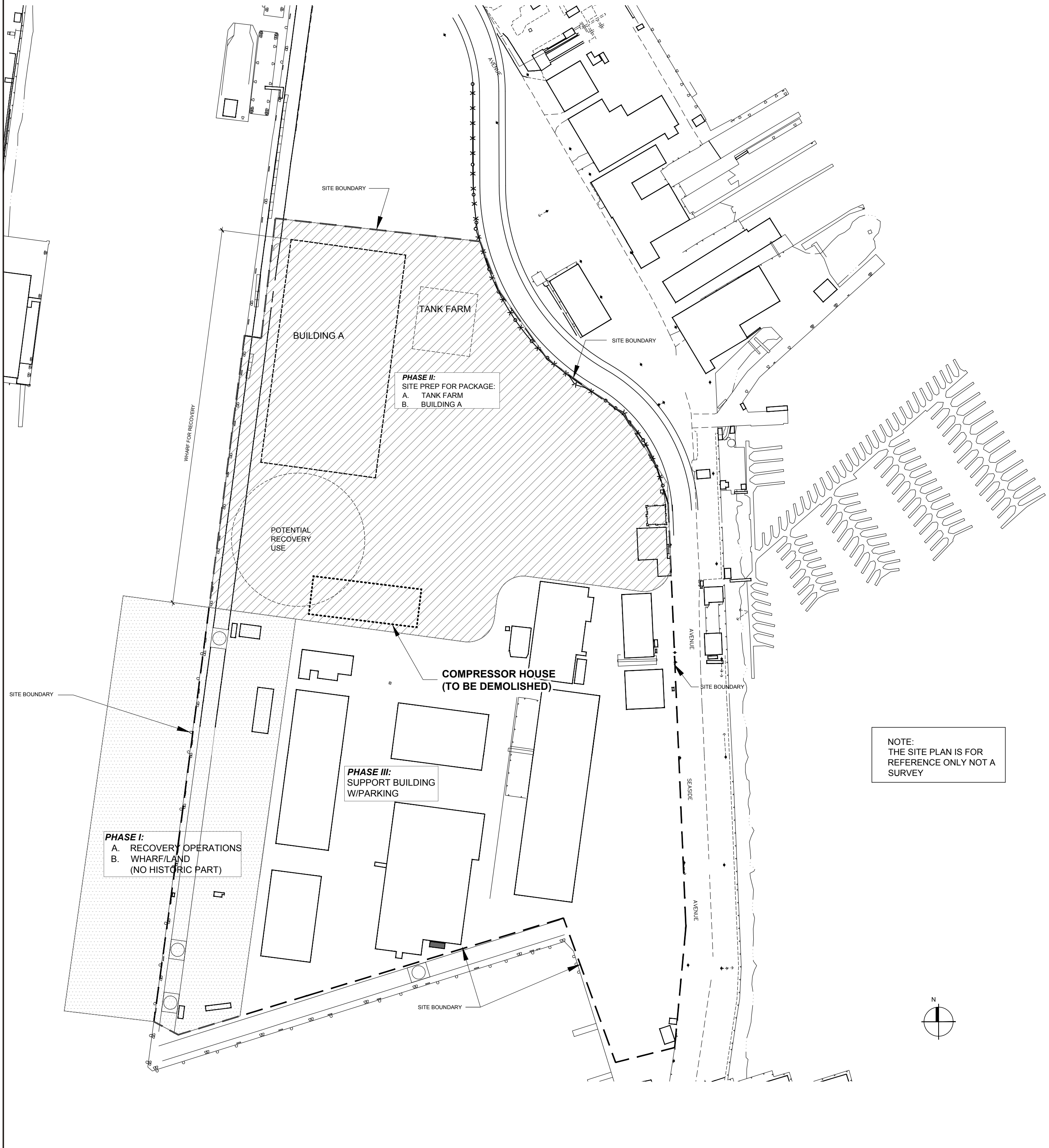

SOURCE: Mulder & Katkov Architecture (2017)

FIGURE 2.4-2
Phase 1 Site Plan

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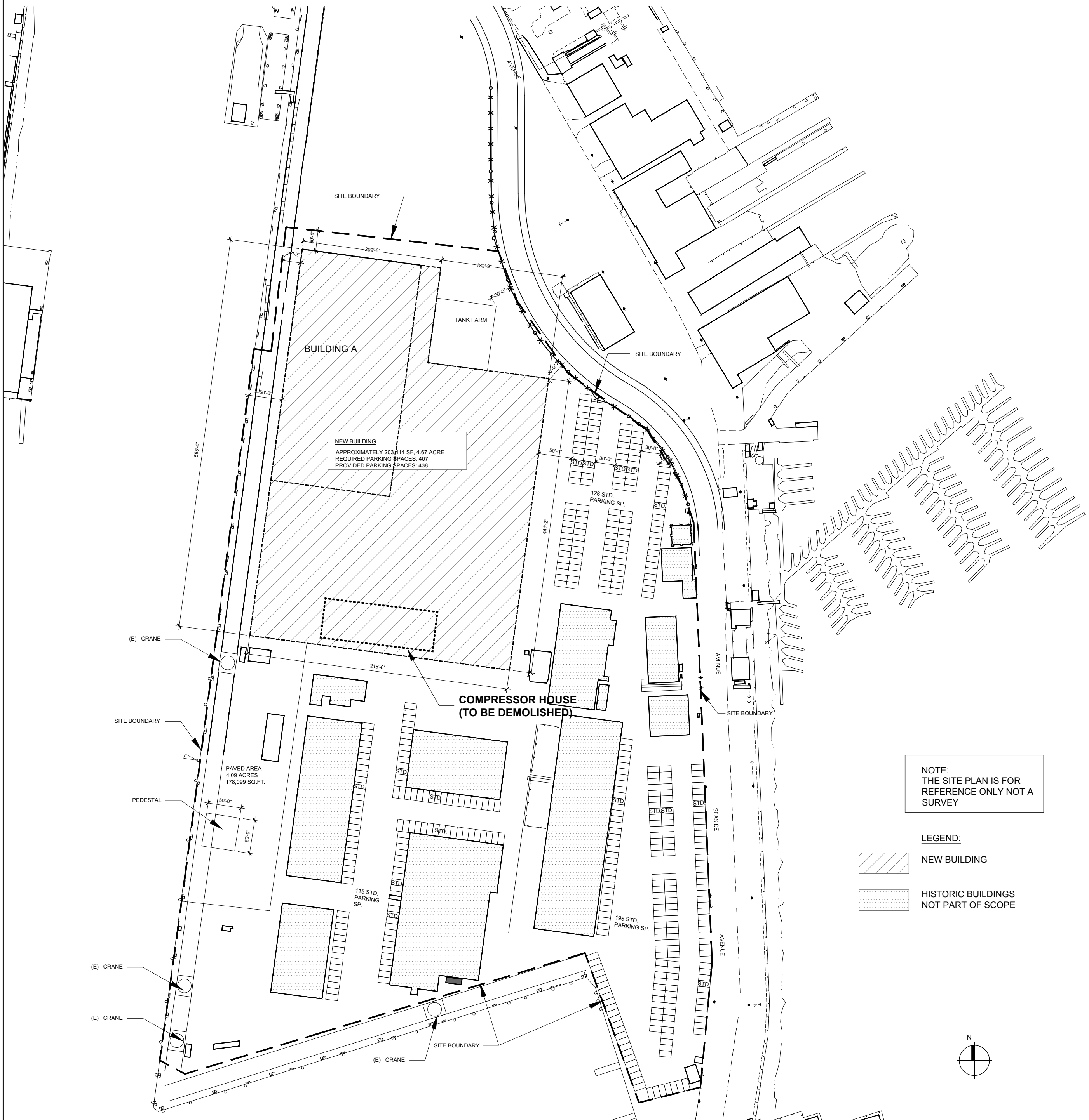

SOURCE: Mulder & Katkov Architecture (2017)

FIGURE 2.4-3
Phase 2 Site Plan

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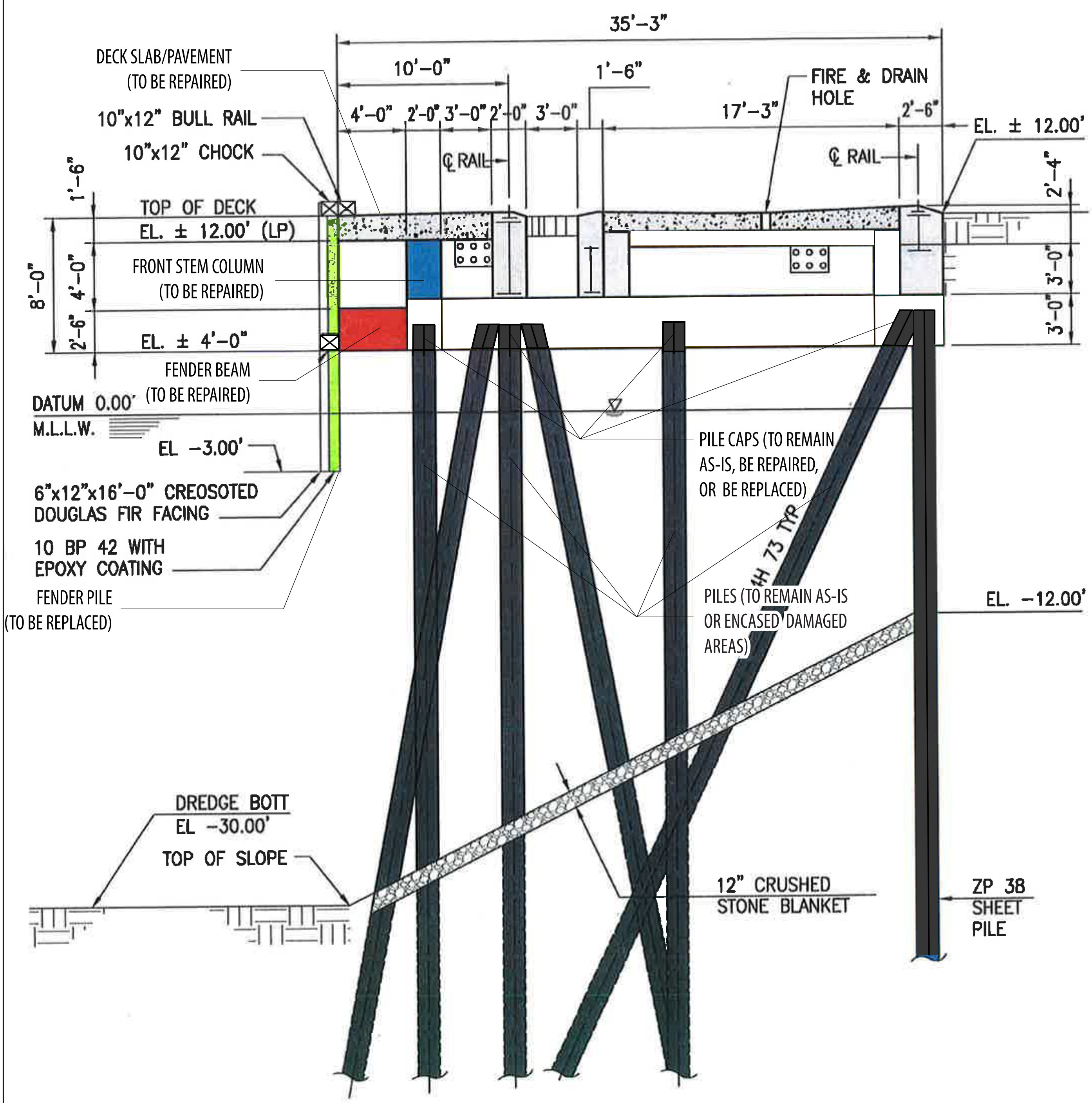

SOURCE: Conditional Survey and Load Capacity Analysis, Berth 240 X, Y, and Z (URS 2014)

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FIGURE 2.4-4
Wharf Repairs

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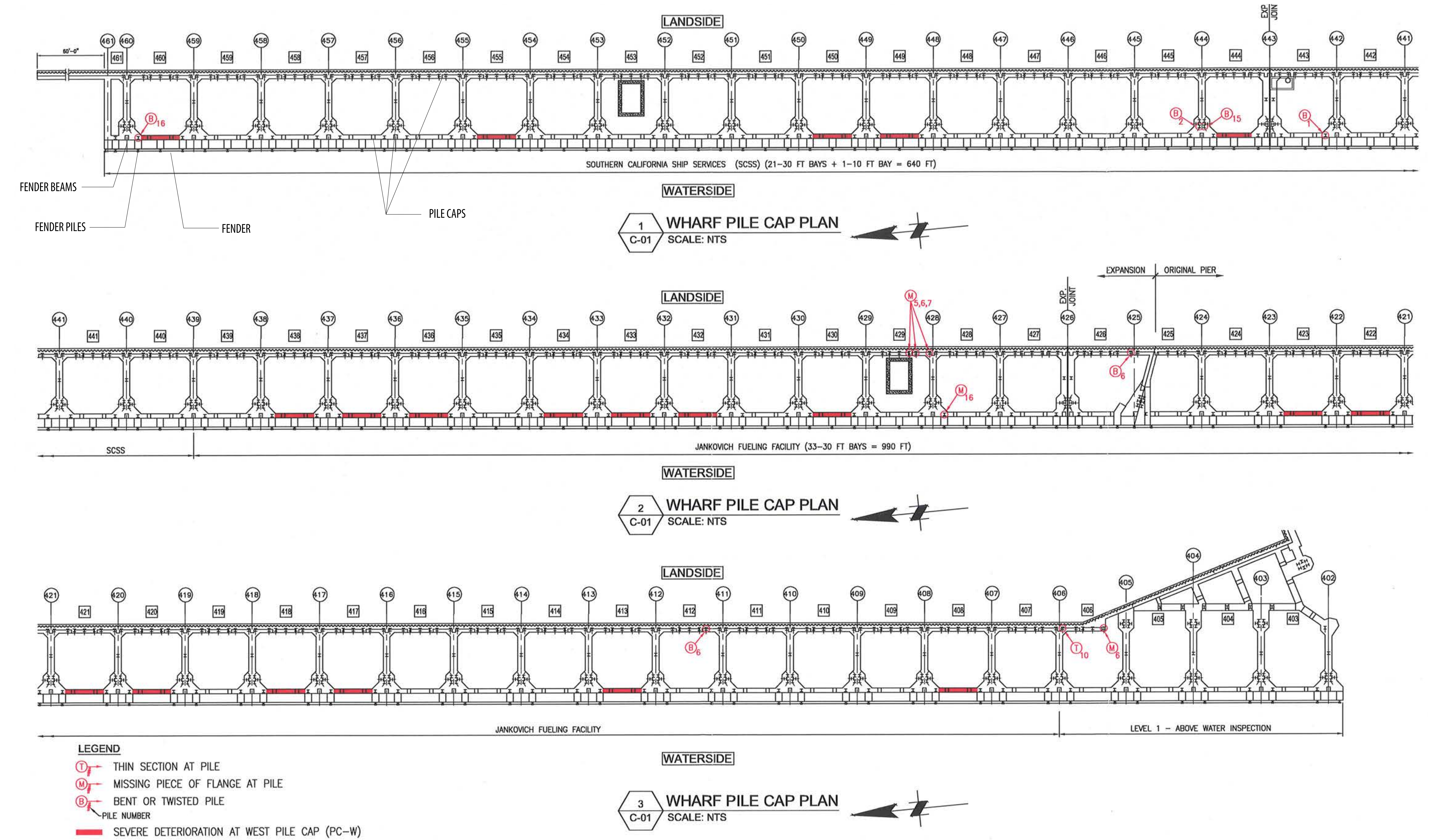

SOURCE: Port of Los Angeles Engineering (2017)

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FIGURE 2.4-5
Wharf Pile Cap Plan

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The proposed Project would include paving improvements for two new additional access driveways from South Seaside Avenue and parking. Utilities improvements may include the refurbishment of the existing substation and the reconnection or installation of sanitary, sewer, gas, electrical, and water facilities. The proposed Project would include the demolition of one structure that is approximately 9,150 square feet and 45 feet tall. The proposed Project would construct an approximately 203,450-square-foot prefabricated building that would be approximately 105 feet tall. The proposed Project would also include up to four above ground storage tanks (approximately 12,000 gallons each, or equivalent) in an ancillary tank farm to store materials needed for the manufacturing process, as well as paving improvements. The tank farm would contain liquid forms of argon, helium, nitrogen, and oxygen, which are all stable nonflammable compressed gases with a National Fire Protection Association (NFPA) rating of 3,0,0. All materials would be used and maintained in accordance with applicable regulations (NFPA).

Construction

The proposed Project site is approximately 10 acres and already disturbed with approximately one third (four acres) paved, an existing abandoned industrial building, and a large compacted dirt area (approximately 6 acres). Construction would last approximately 16–18 months, including approximately 12 months for demolition, site preparation and building construction and approximately 4–6 months for installation of machinery and equipment. The proposed Project would be constructed in two phases. See Figures 2.4-1 for plan of full build out proposed and Figures 2.4-2 and 2.4-3 for phasing plans.

Phase 1 would involve wharf repairs, the installation of an approximately 65,000 square-foot 105-foot tall building, ancillary tank farm, paving, and access improvements including two new driveways along South Seaside Avenue by the Applicant. Phase 1 would include foundations for the building and ancillary tank farm, utility hooks ups and machinery and equipment installation, and wharf surface repair. Approximately 10,000 cubic yards of soil would be stockpiled and/or exported. Remediation of contaminated soils was completed in November 2017 and is pending approval from the Department of Toxic Substances Control (DTSC) and the United States Environmental Protection Agency (USEPA). Construction would be implemented under an agency-approved Soil Management Plan being developed by LAHD. Prior to issuance of a permit by the Harbor Department, the DTSC and the USEPA shall be informed of the proposed project activities. Additionally, in accordance with the future institutional controls noted in the 2016 RAP, a permit from the Harbor Department will be required for the proposed site excavations and will require specific certain soil handling procedures.

Phase 1 construction activities include wharf repairs that consist of pile capping, encasement of damaged pile areas and repair of pilings, replacement of fender piles, removal of damage and repair with concrete and epoxy areas of the front stem column above the fender beam and the wharf deck, which would involve activities directly in or over the water (see Figures 2.4-4 and 2.4-5). No disturbance of sediment or driving of piles is proposed. Replacement of fender piles would include removal of existing piles and bolting on new fender piles to the front of the wharf. Fender piles extend approximately 16 feet and reach below the mean lower low water (MLLW) line by approximately 3 feet, they do not extend to the mudline at approximately -30 feet below MLLW. Encasement 'jackets' would be installed around approximately

10 piles to reinforce damage and strengthen those piles, these jackets would extend from above the mudline to the top of the selected piles. Approximately 20 of the piles caps would be repaired, involving removal of loose or deteriorated concrete, cleaning existing steel and application of reinforcement concrete, all above MLLW. Repairs would include removal of damaged concrete and/or rust around the front stem column (which is above the fender beam, above the piles) and application of epoxy. Removal of damaged areas of the front stem column may include removal of piping that may contain hazardous materials such as asbestos insulation or lead paint that would be removed and disposed of in accordance with applicable regulations. Wharf repairs would also include the removal of damaged portions of the deck including an approximately 30-foot by 4-foot portion of concrete slab, replacement of reinforcing steel, and steel beam damage removal and application of protective epoxy coating.

Phase 2 would be undertaken by the Applicant and involve demolition of the existing 9,150-square-foot 45-foot industrial building (identified as the Compressor Building), buildout of an approximately 203,450 square-foot 105-foot tall building incorporating the initial 65,000 square-foot building. Phase 2 would also include associated foundations, machinery and equipment installation, and establishment of parking around the former Southwest Marine Shipyard buildings.

To address the greatest possible construction activity intensity and thereby worst-case scenario from an impacts perspective, this document addresses a single-phase construction approach, assuming the full building construction from the outset and demolition associated with the Compressor Building. In actuality, the smaller building would be constructed and then incorporated into the larger building at a later time reducing the intensity of construction activity and equipment on site compared to that evaluated herein. Construction activities would occur between 7:00 a.m. and 7:00 p.m. Monday through Saturday. The construction equipment and crew is identified in Table 2.4-1.

A survey for asbestos-containing materials (ACM) and lead-based paint was undertaken by a qualified environmental expert and findings reviewed and approved by the LAHD Environmental Division. Asbestos was identified, and a scope of work will be prepared for asbestos abatement and guidelines for proper asbestos removal following local, state and federal regulations for any necessary removal of asbestos. Monitoring during abatement should be conducted to ensure regulatory compliance. Following asbestos abatement and removal, a final visual inspection and clearance air monitoring should be performed to certify that industry clearance standards are met.

Any demolition activities likely to disturb lead-based paint/coatings should be carried out by a contractor trained and qualified to conduct lead-related construction work. Lead-based paint abatement shall include removal of any lead hazard, which according to Title 17 of the California Code of Regulations, includes both deteriorated lead-based paint and lead-contaminated soil (soil contaminated with lead paint chips). The California OSHA lead standard for construction activities is implemented under Title 8 of the California Code of Regulations. The standard applies to any construction activity that may release lead dust or fumes, including manual scraping, manual sanding, heat gun applications, power tool cleaning, rivet busting, abrasive blasting, welding, cutting, or torch burning of lead-based coatings. ACM and lead paint/coatings must be disposed of properly. Every contractor/employer who performs work at the project

Site will need to assess California OSHA worker protection rules, California Department of Public Health (CDPH) certification requirements, US EPA standards and state and federal disposal requirements.

In addition to asbestos and lead-related precautions, a qualified environmental specialist shall inspect the Site buildings for the presence of polychlorinated biphenyls (PCBs), mercury, and other hazardous building materials prior to demolition. If found, these materials shall be managed in accordance with the Metallic Discards Act and other state and federal guidelines and regulations. Demolition plans and contract specifications shall incorporate any necessary abatement measures in compliance with the Metallic Discards Act of 1991 (Public Resource Sections 42160-42185), particularly Section 42175, Materials Requiring Special Handling for the removal of mercury switches, PCB-containing ballasts, and refrigerants.

Table 2.4-1
Construction Equipment Summary

	One-way Vehicle Trips			Equipment		
Construction Phase	***AVERAGE DAILY WORKER TRIPS***	***AVERAGE DAILY VENDOR TRUCK TRIPS***	***TOTAL HAUL TRUCK TRIPS***	***EQUIPMENT TYPE***	***QUANTITY***	***USAGE HOURS***
Demolition	16	0	42	Concrete/industrial saws	1	12
				Excavators	3	12
				Rubber tired dozers	2	12
Site preparation	18	0	0	Rubber tired dozers	3	12
				Tractors/loaders/ backhoes	4	12
Grading	20	0	0	Excavators	2	12
				Graders	1	12
				Rubber tired loaders	1	12
				Scrapers	2	12
				Tractors/loaders/ backhoes	2	12
Building construction	130	50	0	Cranes	1	12
				Forklifts	3	12
				Generator sets	2	12
				Tractors/loaders/ backhoes	3	12
				Welders	1	12
Paving	16	0	0	Pavers	2	12
				Paving equipment	2	12
				Rollers	2	12
Architectural coating	26	0	0	Air compressors	1	12

Notes: *See Appendix A for details.*

Operation

The proposed Project operations would be industrial manufacturing, involving the research, development, design, and manufacture of prototypes and first-generation models of specialized transportation vessels. The facility is intended to be a state-of-the-art industrial manufacturing facility serving to prototype new ideas and technologies for specialized transportation vessels. The proposed facility would be on an approximately 10-acre site.

Operations would include up to 750 workers daily, working in shifts with up to 500 workers at a time (two shifts would be 7 a.m. – 3 p.m. and 3 p.m. – 8 p.m.) to develop and manufacture prototype and first generation vessels. Workers would be from the greater Los Angeles area workforce, with commuting distances expected to average approximately 13 miles each way. Up to 50 customers or visitors daily are anticipated. A total of 438 parking spaces would be provided within the lease area, including open areas adjacent to the vacant buildings comprising the former Southwest Marine Shipyard. There is one existing access point from South Seaside Avenue, which would be used in conjunction with two new additional access driveways from South Seaside Avenue. Though no disturbance or use of the historic buildings is proposed, the lease area would include historic buildings and the Applicant would be responsible for maintaining the historic buildings structures in compliance with the LAHD Built Environmental Historic, Architecture and Cultural Resource Policy adopted by the Harbor Commissioners Resolution 13-7479 in April 2013.

Most materials necessary for manufacturing would be delivered via truck and approximately 10 truck trips per day would be expected with deliveries. For oversized components, deliveries would be via barge delivering directly to the new facility from Seattle. It is anticipated that there would be an average of one delivery by barge per month, with peak periods necessitating up to three deliveries by barge in a month. Due to their large size, finished products would be transported by water for either testing or delivery, which necessitates the location of the facility adjacent to the water. A barge would depart for transportation of products for testing or delivery up to three times a month.

The proposed Project would involve the use of hazardous materials including liquid argon, helium, nitrogen, and oxygen stored in an ancillary tank farm and small amounts of composites integral to the manufacturing of the products stored within the building. All operations would be conducted in compliance with Title 40 Protection of the Environment; Chapter 1 – Environmental Protection Agency; Subchapter D – Water Programs; Part 112 – Oil Pollution Prevention. Operations would be conducted consistent with Spill Prevention Control and Counter (SPCC) Plans in place for the Applicant’s existing operations including identification of response to spills, responsible personnel, storage requirements and labeling, protection and prevention measures. A Risk Management Analysis of storage of hazardous materials will be completed as required and outlined in the Harbor Department’s Risk Management Plan. The policy of the Risk Management Plan is to minimize or eliminate overlaps of hazard footprints on vulnerable resources as defined in the Port Master Plan. LAHD has reviewed the proposed materials to be stored in bulk and determined that a small hazard footprint adjacent to the storage tanks is likely; however expected to stay near the storage tanks and within the project boundary; thus not exposing any sensitive receptors to risk.

In addition, existing recovery operations of Space Exploration Technologies vehicles currently taking place within the Port would be accommodated at this location. The recovery operations involve a barge setting out from the Port to provide a remote landing platform in the Pacific Ocean for vehicles returning from space. The barge then returns to the Port with the vehicle for transfer to land and ultimately return to the Space Exploration Technologies manufacturing facility in Hawthorne for reuse. These operations are included within the projected barge transportation activity of three times per month. The barge would be berthed at berth 240 when not recovering vehicles. Recovery activities would not occur on the same day(s) as export activities associated with the proposed Project.

A single, large building would house each step of the development and manufacturing processes. The structure would be approximately 203,450 square feet and up to 105 feet tall. The production would likely include general manufacturing procedures such as welding, composite curing, cleaning, sand blasting, painting, and assembly operations. Operational emissions would primarily be fugitive volatile organic compound (VOC) emissions related to solvent cleaning. Additional emissions would come from South Coast Air Quality Management District (SCAQMD) permitted sources such as an autoclave and paint booths. These sources would have relatively low VOC emissions and meet SCAQMD Best Available Control Technology requirements. The majority of operations would take place inside the facility, with exterior operations limited to transit of vehicles, forklift traffic, and mobilization of manufactured products onto barge at the dockside. The proposed Project would also include approximately four tanks (approximately 12,000 gallons each or equivalent) as part of an ancillary tank farm to store materials, including argon, helium, nitrogen, and oxygen needed for the manufacturing process that would be used and maintained in accordance with applicable regulations (NFPA). Secondary containment would be provided in accordance with fire code requirements and Environmental Protection Agency (EPA) regulations and refilling of the tanks would be undertaken periodically by a licensed contractor.

The LAHD would issue a LAHD Engineering Permit, LAHD Coastal Development Permit, and a 10-year Lease, with up to two 10-year lease extension/renewal options for operation of the proposed Project. The operations period is assumed to occur from 2017 to 2047.

Lease Measures

The applicant shall implement the following lease measures, upon approval of the Proposed Project. These lease measures pertain to air quality, hazards and hazardous materials, and cultural resources.

Air Quality Lease Measures

Lease Measure LM AQ-1 – VOC-Containing Material Usage

The tenant shall limit usage to the equivalent of 260 gallons of VOC-containing materials per year and 1.4 million square feet of pre-impregnated material per year.

Lease Measure LM AQ-2 – Ridesharing

The tenant shall ensure that 10% of the workforce carpools.

Lease Measure LM AQ-3 – Shore Power
The tenant shall ensure 90 percent of vessels hoteling at the facility must use shore power or equivalent alternative technology or methods. By 2026, 95 percent of all vessels hoteling at the facility must use shore power or CARB approved equivalent alternative technology or methods. The equivalent alternative technology or methods must, at a minimum, meet the emissions reductions that would be achieved from shore power.

Hazardous Materials Lease Measures

Lease Measure LM HAZ-1. Site Remediation Lease Requirement
Unless otherwise authorized by the lead regulatory agency for any given site, the Applicant shall address all contaminated soils within proposed Project boundaries discovered during demolition, excavation, and grading activities. Contamination existing at the time of discovery shall be the responsibility of the past and/or current property owner.

Contamination as a result of the demolition process shall be the responsibility of the Applicant and/or the Applicant's contractors. Remediation shall occur in compliance with local, state, and federal regulations and as directed by the lead regulatory agency for the site. Any remediation necessitated as a result of the demolition process shall be coordinated through the APP process and will require Harbor Department EMD consultation and oversight. Soil removal during demolition or redevelopment shall be completed as defined and established in the DTSC-approved Southwest Marine Soil Management Plan (SGI, Pending). All imported soil to be used as backfill in excavated areas shall be sampled to ensure that it is suitable for use as backfill and that the soil meets the requirements of the Harbor Department's Import Fill Standards (LAHD, 2016).

LAHD shall require tenants to comply upon lease approval.

Lease Measure LM HAZ-2. Contamination Contingency Plan Lease Requirement
Construction would be implemented under the auspices of an agency-approved Soil Management Plan being developed by LAHD, which will address proper management of the known residual PCB and metals concentrations in soils at the site. The following contingency plan shall be implemented to address unknown contamination discovered during demolition:

(a) All trench excavation and filling operations shall be observed for the presence contamination using visual and olfactory devices. Soil suspected of contamination shall be segregated from other soil, stockpiled on plastic sheeting, and covered pending waste characterization and disposal. The contractor shall notify the Applicant and LAHD's environmental representative of any newly identified contaminated soils. LAHD shall confirm the presence of the suspect material and direct the contractor to remove, stockpile or contain, and characterize the suspect material. Continued work at a contaminated site shall require the approval of the LAHD environmental representative. Note that PCB-containing soil, regardless of concentration, that requires off-site disposal must be managed, transported, and disposed of as TSCA material. This will be described in the SMP.

(b) Excavation of VOC-impacted soil will require obtaining and complying with a South Coast Air Quality Management District Rule 1166 permit. Additionally, the excavation of soil arsenic, asbestos, cadmium, hexavalent chromium, lead, mercury, nickel, and/or polychlorinated biphenyls (PCBs) will require obtaining and complying with a South Coast Air Quality Management District Rule1466 permit.

(c) The soil removal extents shall be dependent upon a suite of criteria (including types of chemical constituents, location and depth, concentration of the chemicals, health and safety issues, time constraints, cost, etc.) and shall be determined on an area specific basis. An LAHD environmental representative may coordinate with relevant regulatory agencies regarding soil removal, if deemed necessary.

(d) The extent of soil removal actions shall be determined on an area specific basis. At a minimum, the impacted area within the boundaries of the demolition area shall be excavated and managed to the satisfaction of the Applicant, LAHD, and the lead regulatory agency (if applicable) for the site. The LAHD environmental representative overseeing removal actions shall inform the contractor when the removal action is complete.

(e) Copies of hazardous waste manifests or other documents indicating the volume, nature, and disposition of such materials shall be submitted to the LAHD environmental representative within 60 days of project completion.

(f) In the event that contaminated soil is encountered, all on-site personnel handling or working in the vicinity of the contaminated material must be trained in accordance with EPA and Occupational Safety and Health and Administration (OSHA) regulations for hazardous waste operations or demonstrate they have completed the appropriate training. Training must provide protective measures and practices to reduce or eliminate hazardous materials/waste hazards at the work place.

(g) When impacted soil must is excavated, dust control measures must be employed in accordance with SCAQMD Rule 403. To confirm that these dust control measures are effective, air monitoring shall be conducted, as appropriate, for related emissions adjacent to the excavation.

(h) All excavations shall be backfilled with structurally suitable fill material that is free from contamination.

LAHD shall require tenants to comply upon lease approval.

Cultural Resources Lease Measure

Lease Measure LM CUL-1: Once a proposed project site is identified, the LAHD shall make a determination on whether a Historical Resource Assessment is necessary to determine the presence of a historical resource, as defined under CEQA. If such an assessment determines that a historic resource is present, the LAHD shall determine the need to implement measures that might include, but are not limited to, one or more of the following to further avoid, minimize, or substantially reduce the identified impacts:

1. A preservation architect meeting the Secretary of the Interior’s Professional Qualifications Standards in historic architecture shall participate in preconstruction and

construction monitoring activities to ensure continuing conformance with Secretary's Standards and/or avoidance of a material impairment of the historical resources;

2. Complete photographic documentation of the historic resource prior to implementing the project. Such documentation shall adhere to standards and guidelines for Historical American Buildings Survey (HABS), Historic American Engineering Record (HAER), and Historic American Landscapes Survey (HALS) documentation, as outlined in the November 2011 HABS/HAER/HALS 31 Guidelines set by the Heritage Documentation Programs instituted by the National Park Service (http://www.cr.nps.gov/hdp/standards/halsguidelines.htm). At a minimum, the level of photographic documentation shall be at the HABS/HAER Level II; and/or,
3. For certain projects it may be necessary to establish an environmentally sensitive area and put up barriers to ensure the protection of specific built environment features, such as buildings, structures, and landscape and hardscape elements. The environmentally sensitive area shall be outlined on project plans and the construction crew must be made aware of restrictions and requirements for protecting historical resources for the duration of the project. A qualified professional meeting the Secretary of the Interior's Professional Qualifications Standards may be required to monitor the project to ensure adherence to restrictions.

In addition, the Port's 2017 Clean Air Action Plan (CAAP) contains measures that are applicable to the proposed Project. The proposed Project would implement measures including the following, which are taken from the Port's 2010 CAAP because of the date of application, preparation of documentation, and commitments, and are consistent with the 2017 CAAP.

CAAP Measure-1. Cargo Handling Equipment

Emissions Standards for Non-Road Diesel Powered Equipment

USEPA's and CARB's Tier 1, Tier 2, Tier 3, and Tier 4 (interim Tier 4 and final) emissions standards for non-road diesel engines require compliance with progressively more stringent standards for DPM, NOx, hydrocarbon and carbon monoxide (CO). Tier 4 standards for non-road diesel powered equipment complement the 2007+ on-road heavy-duty engine standards which require 90% reductions in DPM and NOx compared to current levels. In order to meet these standards, engine manufacturers must produce new engines with advanced emissions control technologies similar to those already in place for on-road heavy-duty diesel vehicles. These standards for new engines will be phased in starting with smaller engines in 2008 until all but the very largest diesel engines meet NOx and PM standards in 2015. Currently, the interim Tier 4 standards include a 90% reduction in PM and a 60% reduction in NOx.

CARB's Cargo Handling Equipment Regulation

In December of 2005, CARB adopted a regulation designed to reduce emissions from cargo handling equipment (CHE) such as yard tractors and forklifts starting in 2007. The regulation calls for the replacement or retrofit of existing engines with engines that use BACT. Beginning January 1, 2007 the regulation requires newly purchased, leased, or rented yard tractors to be equipped with a 2007 or later on-road engine, or a Final Tier 4 off-road engine. If the engine is pre-Tier 4, then the highest level available VDECS must be installed within one year. For all CHE, compliance dates are being phased in beginning December 31, 2007, based on the age of the engine and number of equipment in each model year group.

CAAP Measure-2. Harbor Craft

Emission Standards for Harbor Craft Engines

On March 14, 2008, USEPA finalized the latest regulation establishing new emission standards for new Category 1 and 2 diesel engines rated over 50 horsepower (hp) used for propulsion in most harbor craft. The new Tier 3 engine standards phased in beginning in 2009. The more stringent Tier 4 engine standards (based on the application of high efficiency catalytic after-treatment technologies) will phase in beginning in 2014 and apply only to commercial marine diesel engines greater than 800 hp. The regulation also includes requirements for remanufacturing commercial marine diesel engines greater than 800 hp.

CARB's Low Sulfur Fuel Requirement for Harbor Craft

In 2004, CARB adopted a low sulfur fuel requirement for harbor craft. Starting January 1, 2006 (in SoCAB) harbor craft are required to use on-road diesel fuel (e.g., ULSD), which has a sulfur content limit of 15 ppm and a lower aromatic hydrocarbon content. The use of lower sulfur and aromatic fuel has resulted in DPM and NOx reductions. In addition, the use of low sulfur fuel will facilitate retrofitting harbor craft with emissions control devices such as diesel particulate filters (DPFs) that have the potential to reduce PM by an additional 85%.

CARB's Regulation to Reduce Emissions from Diesel Engines on Commercial Harbor Craft

As a part of both the Diesel Risk Reduction Plan and Goods Movement Plan, CARB adopted a regulation in November 2007 that will reduce DPM and NOx emissions from new and inuse commercial harbor craft operating in regulated California waters (i.e., internal waters, ports, and coastal waters within 24 nm of California coastline). Under CARB's definition, commercial harbor craft include tug boats, tow boats, ferries, excursion vessels, work boats, crew boats, and fishing vessels. This regulation requires stringent emission limits for auxiliary and propulsion engines installed in commercial harbor craft. The compliance schedule for in-use engine replacement began in 2009.

2.5 POTENTIAL RESPONSIBLE AGENCIES, TRUSTEES, AND CITY OF LOS ANGELES DEPARTMENTS

Under Section 15381 of the CEQA Guidelines, a "responsible agency" is a public agency that proposes to carry out or approve a project for which a lead agency is preparing or has prepared an Environmental Impact Report (EIR) or Negative Declaration. For the purposes of CEQA, "responsible agency" includes all public agencies other than the lead agency that have discretionary approval power over the project. Section 15386 of the CEQA Guidelines defines a "trustee agency" as a state agency having jurisdiction by law over natural resources affected by a project that are held in trust for the people of the State of California; state agencies include the California Department of Fish and Wildlife, the State Lands Commission, the State Department of Parks and Recreation, the Department of Toxic Substances Control, and the University of California.

The following lists the anticipated responsible and trustee agencies, as well as City departments:

- United States Environmental Protection Agency
- California Department of Toxic Substances Control
- City of Los Angeles Department of Building and Safety, Building Permit, Electrical Permit, and Grading Permit including Low Impact Development Ordinance 100004requirements
- City of Los Angeles Fire Department designated by the State of California as a Certified Unified Program Agency and implements the Hazardous Materials Disclosure and Business Plan, Aboveground Storage Tank Spill Prevention Control and Countermeasure (SPCC Plan), Underground Storage Tank Program and California Accidental Release Prevention Program elements of the Unified Program
- Los Angeles Regional Water Quality Control Board permits, including Clean Water Act, Section 401, Water Quality Certification Permit and Waste Discharge Requirement, and remedial plans and site cleanup under Voluntary Cleanup Oversight Agreement
- California State Water Resources Control Board, Industrial General Permit
- South Coast Air Quality Management District (SCAQMD)
- U.S. Army Corps of Engineers (USACE), notification under Section 10 of the Rivers and Harbors Act
- Regional Water Quality Control Board (RWQCB), associated Storm Water Pollution Prevention Plan (SWPPP), NPDES permit for discharge of wastewater into surface waters and the Industrial General Stormwater Permit

2.6 ANTICIPATED PROJECT PERMITS AND APPROVALS

Under CEQA, the lead agency is the public agency with primary responsibility over approval of a proposed Project. Pursuant to the CEQA Guidelines (14 CCR 15367), the CEQA lead agency for the proposed Project is LAHD. Anticipated permits and approvals that may be required to implement the proposed Project are listed as follows:

- City of Los Angeles Building Permit
- City of Los Angeles Electrical Permit
- City of Los Angeles Grading Permit
- RWQCB Section 401 (Clean Water Act) Water Quality Certification
- RWQCB SWPPP
- RWQCB National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Industrial Activities
- SCAQMD
- LAHD Lease
- LAHD Harbor Engineer Permit
- LAHD Coastal Development Permit
- USACE Section 10 Rivers and Harbors Act Permit

3.0 Initial Study Checklist

1.	**Project Title:**	Transportation Vessels Manufacturing Facility Project
2.	**Lead Agency:**	City of Los Angeles Harbor Department Environmental Management Division 425 South Palos Verdes Street San Pedro, California 90731
3.	**Contact Person:**	Elisabeth Suh, Environmental Management Division (310) 732-3097
4.	**Project Location:**	The proposed Project is located at Berth 240 including portions of the former Southwest Marine Shipyard, off South Seaside Avenue on Terminal Island in Master Plan Area 4 within the Port (Figures 2.1-1, 2.1-2 and 2.1-3). The proposed Project site is bounded to the north and east by South Seaside Avenue, across which is the Al Larson boatyard, to the south by the former dry docks now used as a permitted confined disposal facility (CDF), and further south beyond that, is a US Coast Guard facility and a US Federal Correctional Institution, and to the west by the Port's Main Channel.
5.	**General Plan Designation:**	Port of Los Angeles (Commercial, Industrial/Non-Hazardous, General/ Bulk Cargo)
6.	**Zoning:**	(Q)M3-1 – Industrial Uses
7.	**Description of Project:**	The proposed Project consists of constructing a facility to manufacture transportation vessels, at Berth 240 off South Seaside Avenue on Terminal Island. This facility is intended to be a state-of-the-art industrial manufacturing facility serving to prototype new ideas and technologies needed to advance specialized transportation vessels. Operations would likely include general manufacturing procedures such as welding, composite curing, cleaning, painting, and assembly operations. The majority of operations would take place inside the facility, with exterior operations limited to transit of vehicles, forklift traffic, and mobilization of manufactured products onto barge at the dockside so that they could be transported for testing or delivery. Finished products would be transported by water due to their size; thus, there is the need for locating the facility adjacent to the water. A barge would depart for transportation of products for testing or delivery up to three times per month. The facility would likely have up to 750 employees (maximum shift would be 500 employees) with up to 50 customers or visitors daily and approximately 10 truck deliveries daily.

There is anticipated work to repair the existing dock at the facility, which may include repairs to the piles, repairs or replacements pile caps, fendering system, and the surface areas atop the wharf. Repairs to the existing wharf are expected to consist of pile capping and wharf deck repairs. Replacements of the existing wharf fenders are necessary. Fenders would require in- and over-water construction; however, the fenders would not reach the sea floor and only reach approximately 3 feet below mean sea level. The proposed Project would include the demolition of one structure that is approximately 9,150 square feet and 45 feet tall. The proposed Project would construct an approximately 203,450-square-foot prefabricated building that would be approximately 105 feet tall. The proposed Project would also include up to four tanks (approximately 12,000 gallons each, or equivalent) as part of an ancillary tank farm to store materials, such as argon, helium, nitrogen and oxygen, needed for the manufacturing process, utility hook ups as well as paving, and wharf repair. Utilities improvements may include the refurbishment of the existing substation and the reconnection or installation of sanitary, sewer, gas, electrical, and water facilities.

8. Surrounding Land Uses/Setting:

The overall character of the surrounding area is primarily industrial. The properties to the north, south, east, and west are all zoned for heavy industrial uses ((Q) M3-1), similar to the proposed Project site. West of the Harbor Freeway (I-110), properties are zoned Light Industrial (M-2) according to the Los Angeles City Zoning Ordinance. The nearest sensitive receptors are residential areas within the community of San Pedro, approximately 0.5 mile to the west. These include properties zoned One-Family (R-1) and Restricted Density Multiple Dwelling (RD). The permitted uses include one- and two-family dwellings, multiple dwellings, apartments, and park playgrounds or community centers.

9. Other Public Agencies Whose Approval Is Required:

- City of Los Angeles Building Permit
- City of Los Angeles Electrical Permit
- City of Los Angeles Grading Permit
- RWQCB Section 401 (Clean Water Act) Water Quality Cert.
- RWQCB SWPPP
- RWQCB National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Industrial Activities
- SCAQMD
- USACE Section 10 Rivers and Harbors Act Permit

3.1 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by the proposed Project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklist.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials	☐ Hydrology and Water Quality
☐ Land Use and Planning	☐ Mineral Resources	☐ Noise
☐ Population/Housing	☐ Public Services	☐ Recreation
☐ Transportation and Traffic	☐ Tribal Cultural Resources	☐ Utilities and Service Systems
☐ Mandatory Findings of Significance		

3.2 DETERMINATION

On the basis of this initial evaluation:

I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ☐

I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the proposed Project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared. ☒

I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ☐

I find that the proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. ☐

I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required. ☐

12-06-17

Signature
Chris Cannon, Director
Environmental Management Division
City of Los Angeles Harbor Department

Date

Environmental Checklist

	Potentially Significant Impact	*Less-Than-Significant Impact After Mitigation Incorporated*	*Less-Than-Significant Impact*	*No Impact*
1. AESTHETICS. Would the project:				
a. Have a substantial adverse effect on a scenic vista?			X	
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			X	
c. Substantially degrade the existing visual character or quality of the site and its surroundings?			X	
d. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?			X	
e. Create a new source of substantial shade or shadow that would adversely affect daytime views in the area?			X	
2. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, Lead Agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b. Conflict with existing zoning for agricultural use, or a Williamson act contract?				X
c. Conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned timberland production?				X
d. Result in the loss of forest land or conversion of forest land to non-forest use?				X
e. Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				X

	Potentially Significant Impact	*Less-Than-Significant Impact After Mitigation Incorporated*	*Less-Than-Significant Impact*	*No Impact*
3. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?			X	
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?		X		
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?			X	
d. Expose sensitive receptors to substantial pollutant concentrations?			X	
e. Create objectionable odors affecting a substantial number of people?			X	
4. BIOLOGICAL RESOURCES. Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		X		
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			X	
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			X	
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?		X		

	Potentially Significant Impact	*Less-Than-Significant Impact After Mitigation Incorporated*	*Less-Than-Significant Impact*	*No Impact*
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X
5. CULTURAL RESOURCES. Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?			X	
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?			X	
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X
d. Disturb any human remains, including those interred outside of formal cemeteries?				X
6. GEOLOGY AND SOILS. Would the project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?				X
b. Result in substantial soil erosion, loss of topsoil, or changes in topography or unstable soil conditions from excavation, grading, or fill?			X	

	Potentially Significant Impact	*Less-Than-Significant Impact After Mitigation Incorporated*	*Less-Than-Significant Impact*	*No Impact*
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			X	
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X
7. GREENHOUSE GAS EMISSIONS: Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
8. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X

	Potentially Significant Impact	*Less-Than-Significant Impact After Mitigation Incorporated*	*Less-Than-Significant Impact*	*No Impact*
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X
9. HYDROLOGY AND WATER QUALITY. Would the project:				
a. Violate any water quality standards or waste discharge requirements?			X	
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			X	
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?				X
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?				X
e. Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			X	
f. Otherwise substantially degrade water quality?			X	
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X

	Potentially Significant Impact	*Less-Than-Significant Impact After Mitigation Incorporated*	*Less-Than-Significant Impact*	*No Impact*
h. Place within a 100-year flood hazard area structures that would impede or redirect flood flows?			X	
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j. Inundation by seiche, tsunami, or mudflow?			X	
10. LAND USE AND PLANNING. Would the project:				
a. Physically divide an established community?				X
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?				X
11. MINERAL RESOURCES. Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				X
12. NOISE. Would the project result in:				
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			X	
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			X	

	Potentially Significant Impact	*Less-Than-Significant Impact After Mitigation Incorporated*	*Less-Than-Significant Impact*	*No Impact*
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X
13. POPULATION AND HOUSING. Would the project:				
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X
14. PUBLIC SERVICES.				
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?			X	
ii) Police protection?			X	
iii) Schools?				X
iv) Parks?				X
v) Other public facilities?				X

	Potentially Significant Impact	*Less-Than-Significant Impact After Mitigation Incorporated*	*Less-Than-Significant Impact*	*No Impact*
15. RECREATION.				
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?				X
16. TRANSPORTATION AND TRAFFIC. Would the project:				
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?		X		
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?		X		
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
e. Result in inadequate emergency access?				X
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?				X

	Potentially Significant Impact	*Less-Than-Significant Impact After Mitigation Incorporated*	*Less-Than-Significant Impact*	*No Impact*
17. TRIBAL CULTURAL RESOURCES. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).			X	
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.			X	
18. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			X	
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			X	
e. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			X	

	Potentially Significant Impact	*Less-Than-Significant Impact After Mitigation Incorporated*	*Less-Than-Significant Impact*	*No Impact*
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	
g. Comply with federal, state, and local statutes and regulations related to solid waste?			X	
19. MANDATORY FINDINGS OF SIGNIFICANCE.				
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X		
b. Does the project have impacts that are individually limited, but cumulatively considerable? "Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.		X		
c. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?			X	

4.0 Impacts and Mitigation Measures

4.1 AESTHETICS

The purpose of this section is to identify and evaluate key visual and aesthetic resources on the proposed Project site and to determine the degree of visual and aesthetic impacts that would be attributable to the proposed Project. Visual renderings of the proposed Project have been prepared to aid the analysis provided in this section.

a) Have a substantial adverse effect on a scenic vista?

Less Than Significant Impact. Scenic vistas are public views that provide visual access to large geographic areas, including views of the ocean, unusual natural terrain, urban skyline, or unique historic features (City of Los Angeles 2006). Scenic resources in the County consist of designated scenic highways and corridors (or routes), and hillsides and ridgelines. (City of Los Angeles 2015). The site is currently a disturbed site with an abandoned industrial building, unused compacted dirt area, and paved areas used for miscellaneous storage and parking. While the proposed Project may be visible from certain vantages, including Ports O'Call Village and hillside residential areas of San Pedro, it would not block views of the Port, water, or scenic components available from public and private vantages designated as scenic vistas. Views from Port O'Call Village are further blocked by vessels within the Fish Harbor. The proposed Project would be similar in nature and not out of character from the existing industrial aesthetic of the site though larger in scale. Figure 4.1-1 presents renderings of the proposed Project site, and includes the accommodation of Space Exploration Technologies vehicle recovery operations to present a worst-case scenario of aesthetic impacts. As shown on Figure 4.1-1, although the proposed Project is prominent from the Ports O'Call vantages, the proposed Project would not obstruct any views of scenic components such as open water. Scenic vistas of the Port are available from hillside residential areas of San Pedro. Though these hillsides are not listed as a scenic resource within the County's General Plan, or the Port of Los Angeles Master Plan, Lookout Point and its immediate surrounding are designated as a public viewsite identified in the San Pedro Specific Plan (City of Los Angeles 2001a, County of Los Angeles 2015a). However, from these viewpoints, the Project is consistent in nature with other working Port facilities, and thus the Project would blend with its surrounding uses and would not substantially degrade views from scenic vistas. Therefore, less-than-significant impacts to a scenic vista would result from the proposed Project. No mitigation is required.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Less Than Significant. According to the California Department of Transportation, the nearest officially designated state scenic highway is located approximately 28 miles northwest of the proposed Project (Topanga Canyon State Scenic Highway). The next closest designated state scenic highway is located approximately 35 miles north of the proposed Project (State Highway 2 from approximately 3 miles north of I-210 in La Cañada to the San Bernardino County line). The nearest eligible state scenic highway is approximately 10 miles southeast of the proposed Project site (State Highway 1 from State Highway 19 near Long Beach to I-5 south of San Juan Capistrano) (Caltrans 2011).

In addition to the California Department of Transportation's officially designated and eligible state scenic highways, the City of Los Angeles has city-designated scenic highways that are considered for local planning and development decisions (City of Los Angeles 1999). The proposed Project site is approximately one mile south of the Vincent Thomas Bridge and is not visible from any city-designated scenic highways. There are no scenic resources located at or near the Project site. Though larger in scale than the existing industrial buildings on and adjacent to the site, the aesthetic of the buildings as industrial utilitarian structures would be consistent. There are no other scenic resources, such as trees, rock outcroppings, or historic buildings, within a scenic highway that could be affected by the proposed Project. Therefore, impacts related to scenic resources within a state scenic highway would be less than significant. No mitigation is required.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Less Than Significant Impact. The site is currently a disturbed site with an abandoned industrial building, unused compacted dirt area, and paved areas used for miscellaneous storage and parking. The surrounding landscape at the Port is highly industrial, comprised by infrastructure required to support Port procedures including 86 ship-to-shore container cranes, 30 berths covered with containers and railcars, as seen in Figure 4.1-1 (Port of Los Angeles 2017a). Therefore, the existing visual quality is relatively low. Implementation of the proposed Project would include demolition of an existing industrial building, repairs to existing pavement, new pavement on currently dirt-graded areas, construction of a new industrial building, installation of ancillary tank farm, and improvements to the wharf.

As stated in response "a" above, the proposed Project would be similar in nature and not out of character from the existing industrial aesthetic of the site. While the proposed Project would be larger than the existing structures, it would generally keep with the scale of Port infrastructure, including the container and liquid bulk shipping activities, cranes, and other large industrial facilities, and would be consistent with prior uses on and surrounding the site. The Port of Los Angeles and the Port of Long Beach are the two busiest ports in the U.S. with record-setting cargo operations (NGL 2007, Port of Los Angeles 2).From the viewpoints at Lookout Point within the San Pedro community, the Project is consistent in nature with other working Port facilities, and thus the Project would blend with its surrounding uses and not detract from scenic view 2.2017b); further proving large industrial buildings are not out of character in this setting. Although the Project is within the Southwest Marine Shipyard, which contains historic buildings, the proposed Project would not include demolition of any historical buildings. Additionally, the proposed industrial building would continue the existing industrial architecture styles, materials, and streetscape amenities, consistent with the character of the other Southwest Marine Shipyard buildings (See also §4.5 part (a)). Therefore, the proposed Project would not significantly impact the existing visual character or quality of the sites and surroundings. This impact would be less than significant.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less Than Significant Impact. Implementation of the proposed Project would be consistent with prior uses and include demolition of an existing industrial building, repairs to existing pavement, new pavement on currently dirt-graded areas, construction of a new industrial building, installation of ancillary tank farm, and improvements to the wharf. Implementation of the proposed Project would also include upgraded energy-efficient lighting (LED lighting), replacing existing fixtures. Exterior lighting would be limited to that necessary for security and safety of workers since the majority of operations would occur within the proposed building. The building would not be a substantial source of glare since it would be constructed as an industrial structure without substantial glass areas or reflective materials. In the event transfer of the product for shipping or receiving delivery of large components via ship occurs at night, exterior lighting would be used to adequately light the wharf for safe movement of product or components. Lighting would be directed to work areas and used only as necessary. Therefore, impacts to nighttime light or glare from the proposed Project would be less than significant. No mitigation is required.

e) Create a new source of substantial shade or shadow that would adversely affect daytime views in the area?

Less Than Significant Impact. Implementation of the proposed Project would include repairs to existing pavement, new pavement, construction of a new industrial building, and improvements to the wharf. The proposed industrial building would be larger in scale (105-feet tall, approximately 203,414 square feet) than the existing industrial buildings on and adjacent to the site. However, the proposed Project structure would be aesthetically consistent with prior uses on and adjacent to this site, and smaller in size when compared to the large cranes in the vicinity. The buildings in proximity to the proposed 105-foot building are south of the proposed Project. The Terminal Island area includes significant industrial installations including a marine oil terminal facility and a container terminal with cranes in excess of 250 feet. In addition, views of the project site are generally afforded from the west looking eastward to the project site from distances of over 1,000 feet where from the views include the container terminals and associated cranes on piers 300 and 400, which are in excess of 105 feet in height. Therefore, shade or shadow from the proposed Project would not be cast on those buildings such that daytime views in the area would be substantially changed. The proposed Project would also not create a new source of substantial shade or shadow that would adversely affect daytime views from the Ports O’Call Village and hillside residential areas of San Pedro as discussed in response a). Therefore, impacts to daytime shade or shadow from the proposed Project would be less than significant. No mitigation is required.

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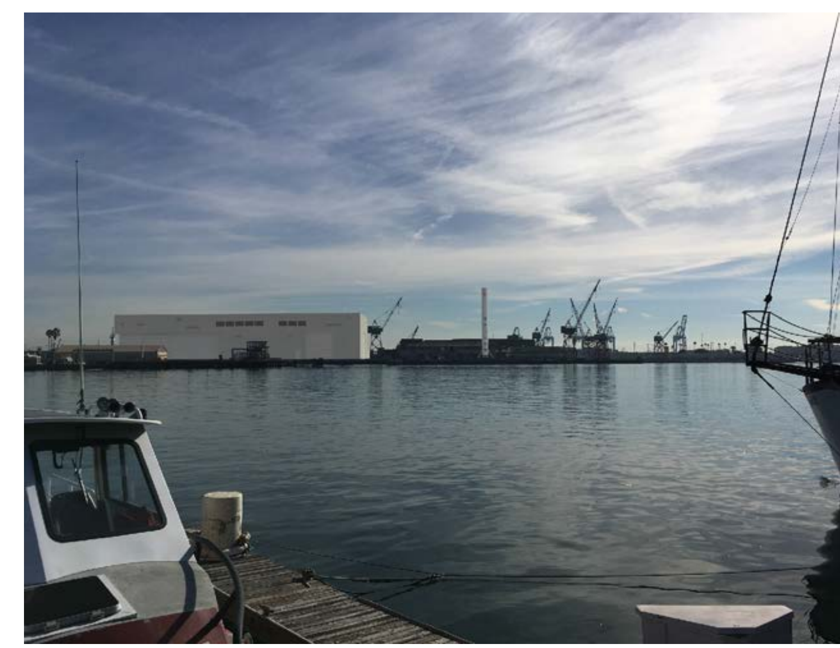
Existing View 1

Existing View 2

Existing View 3

3D Simulation View 1

3D Simulation View 2



3D Simulation View 2

FIGURE 4.1-1

Visual Representations

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4.2 AGRICULTURE AND FORESTRY RESOURCES

The purpose of this section is to identify and evaluate agricultural and forestry resources on the proposed Project site and to determine the degree of impacts that would be attributable to the proposed Project.

Would the Project:

a) **Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

No Impact. The California Department of Conservation's Farmland Mapping and Monitoring Program identifies categories of agricultural resources that are significant and therefore require special attention. According to the Department of Conservation's Farmland Map, the project site is not located in an area designated as Prime Farmland, Unique Farmland or Farmland of Statewide Importance. No farmland currently exists on or anywhere near the project site (DOC, 2016). The proposed Project site is designated as a heavy industrial zone by the City of Los Angeles. Therefore, development of the proposed Project site as proposed would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use. No impacts would occur, and no mitigation is required.

b) **Conflict with existing zoning for agricultural use, or a Williamson Act contract?**

No Impact. The Williamson Act, also known as the California Land Conversion Act of 1969 (California Government Code, Section 51200 et seq.), preserves agricultural and open space lands from the conversion to urban land uses by establishing a contract between local governments and private landowners to voluntarily restrict their land holdings to agricultural or open space use. The proposed Project site is not located on any lands with Williamson Act contracts. The proposed Project site is currently designated as Heavy Industrial Zone (M3) and ZI-2130 Harbor Gateway State Enterprise Zone and does not support agricultural uses (City of Los Angeles 2016a). As such, development of the proposed Project would not conflict with existing zoning for agricultural use or a Williamson Act contract. No impacts would occur, and no mitigation is required.

c) **Conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned timberland production?**

No Impact. The proposed Project site is currently designated as Heavy Industrial Zone (M3) and ZI-2130 Harbor Gateway State Enterprise Zone. The proposed Project site does not support agriculture or timberland use and does not support forest land (Department of Conservation 2014). Therefore, development of the proposed Project site as proposed would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned timberland production. No impact would occur, and no mitigation is required.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. As discussed in Section 4.2(c), the proposed Project site does not contain any property designated as forest land. Therefore, the proposed Project would neither result in the loss of forest land nor convert forest land to a non-forest use. No impacts would occur, and no mitigation is required.

e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

No Impact. As discussed in Section 2(a), the proposed Project site is not designated as Farmland. Additionally, no farmland is located within the immediate vicinity of the proposed Project site. Therefore, the proposed Project would not result in changes to the existing environment that could result in the conversion of Farmland to non-agricultural use. No impacts would occur, and no mitigation is required.

4.3 AIR QUALITY

This section includes a description of existing air quality conditions in the proposed Project area and an analysis of the potential air quality impacts associated with implementation of the proposed. The methods for evaluating construction (in this instance, demolition and building construction) impacts were estimated using CalEEMod, Version 2016.3.2. Operational emissions were estimated using CalEEMod and a spreadsheet and are consistent with the guidelines of the SCAQMD and described in full in Appendix A of this IS/MND.

Would the Project:

a) **Conflict with or obstruct implementation of the applicable air quality plan?**

Less Than Significant Impact. The proposed Project site is in the Harbor District of the City in the southwestern coastal area of the South Coast Air Basin (SCAB). The SCAB consists of the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties and all of Orange County. It covers an area of approximately 6,000 square miles bounded on the west by the Pacific Ocean; on the north and east by the San Gabriel, San Bernardino, and San Jacinto Mountains; and on the south by the San Diego County line. The federal Clean Air Act (CAA) of 1969 and its subsequent amendments form the basis for the nation's air pollution control effort. The U.S. Environmental Protection Agency (EPA) is responsible for implementing most aspects of the CAA. A key element of the CAA is the national ambient air quality standards (NAAQS) for major air pollutants. The CAA delegates enforcement of the NAAQS to the states. In California, the California Air Resources Board (CARB) is responsible for enforcing air pollution regulations. CARB, in turn, delegates to local air agencies the responsibility of regulating stationary emission sources.

The South Coast Air Quality Management District (SCAQMD) monitors air quality within the proposed Project site and the SCAB. The SCAB is classified as a maintenance area for the NAAQS for particulate matter less than 10 microns in size (PM_{10}) and carbon monoxide (CO). The SCAB is also classified as a nonattainment area for the California ambient air quality standards for ozone (O_3), particulate matter less than 2.5 microns in size ($PM_{2.5}$), and PM_{10}.

For regions that do not attain the NAAQS, the CAA requires the preparation of a State Implementation Plan (SIP), detailing how the state will attain the NAAQS within mandated timeframes. In response to this requirement, SCAQMD develops an Air Quality Management Plan (AQMP), which is incorporated by CARB into the SIP. The most recent AQMP was certified in 2016. The 2016 Final AQMP focuses on attainment of the O_3 and $PM_{2.5}$ NAAQS through the reduction of O_3 and $PM_{2.5,}$ precursor nitrogen oxides (NO_x), as well as through direct control of $PM_{2.5}$. The 2016 Final AQMP also identifies control measures and strategies to demonstrate the region's attainment of the revoked 1997 8-hour O_3 NAAQS (80 parts per million) by 2023, the 2008 8-hour O_3 standard (75 parts per million) by 2031, the 2012 annual $PM_{2.5}$ standard (12 micrograms per cubic meter) by 2025, the 2006 24-hour $PM_{2.5}$ standard (35 micrograms per cubic meter) by 2019, and the revoked 1979 1-hour ozone standard (120 parts per million) by 2022.

The 2016 Final AQMP reported that although the population in the SCAG region has increased by more than 20% since 1990, air quality has improved due to air quality control programs at the local, state, and federal levels. In particular, 8-hour O_3 levels have been reduced by more than 40%, 1-hour O_3 levels by close to 60%, and annual $PM_{2.5}$ levels by close to 55% since 1990 (SCAQMD 2016).

The AQMP proposes emission-reduction measures that are designed to bring the SCAB into attainment of the national and state AAQS. Because AQMP attainment strategies include mobile source control measures and clean fuel programs that are enforced at the state and federal levels on engine manufacturers and petroleum refiners and retailers, the proposed Project construction and operational activities would comply with these control measures. SCAQMD also adopts AQMP control measures into the SCAQMD rules and regulations, which are then used to regulate sources of air pollution in the SCAB. Compliance with these requirements would further ensure that the proposed Project's activities would not obstruct implementation of the AQMP. Therefore, the proposed Project would not conflict with or obstruct implementation of the AQMP, the SIP, and the CAA. Impacts would be less than significant, and no mitigation is required.

The Ports of Los Angeles and Long Beach adopted a joint Clean Air Action Plan (CAAP) in November 2017. This plan describes the measures that the Ports will take toward reducing emissions related to port operations (San Pedro Bay Ports 2017).

To summarize, the proposed Project would not conflict with or obstruct implementation of the AQMP. The Lease Measures described in Section 2.4 have been provided to ensure compliance with the CAAP. Based on the discussion provided above, the proposed Project would have less-than-significant impact since it would not conflict with or obstruct implementation of applicable air quality plans or clean air programs.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less Than Significant Impact with Mitigation Incorporated. SCAQMD, the local air quality regulatory agency, developed significance thresholds for use in CEQA documents. Table 4.3-1 presents the SCAQMD thresholds of significance for potential air quality impacts.

Table 4.3-1
SCAQMD Air Quality Significance Thresholds

Regional – Daily Emission Thresholds		
AIR POLLUTANT	***CONSTRUCTION THRESHOLD (LBS/DAY)***	***OPERATION THRESHOLD (LBS/DAY)***
NO_X	100	55
VOC	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_X	150	150
CO	550	550

Localized – Ambient Pollutant Concentration Thresholds	
AIR POLLUTANT	***AMBIENT CONCENTRATION THRESHOLD***
NO_2 1-hour average 1-hour average Annual average	SCAQMD is in attainment; proposed Project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (339 µg/m3) (state) 0.100 ppm (188 µg/m3)[b] (federal) 0.03 ppm (57 µg/m3) (state)
PM_{10} 24-hour average 24-hour average Annual average	 10.4 µg/m3 (construction) 2.5 µg/m3 (operation) 1.0 µg/m3
$PM_{2.5}$ 24-hour average	 10.4 µg/m3 (construction) 2.5 µg/m3 (operation)
SO_2 1-hour average 24-hour average	 0.25 ppm (state) and 0.075 ppm (federal – 99th percentile) 0.04 ppm (state)
CO 1-hour average 8-hour average	SCAQMD is in attainment; proposed Project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (23,000 µg/m3) (state) and 35 ppm (federal) 9.0 ppm (10,000 µg/m3) (state/federal)

TAC AND ODOR THRESHOLDS	
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Risk ≥ 10 in 1 million Hazard Index ≥ 1.0 (project increment)
Odor	Proposed Project creates an odor nuisance pursuant to SCAQMD Rule 402

Notes: *$\mu g/m^3$ = micrograms per cubic meter; CO = carbon monoxide; lb/day = pounds per day; NO_2 = nitrogen oxide; NO_X = nitrogen oxide; PM_{10} = directly emitted particulate matter less than 10 microns; $PM_{2.5}$ = directly emitted particulate matter less than 2.5 microns; ppm = parts per million; SCAQMD = South Coast Air Quality Management District; SO_2 = sulfur dioxide; SO_X = sulfur oxides; TAC = toxic air contaminant; VOC = volatile organic compound*

Construction

Construction activities would consist of demolition of the existing approximately 9,150-square-foot industrial building, grading and excavation for building and tank farm foundations, construction of a pre-fabricated industrial building, installation of tank farm, paving for parking and access driveways, wharf improvements, utilities improvements, and landscaping. Criteria air pollutant emissions from proposed construction activities would result from mobile construction equipment exhaust, fugitive dust, and fugitive volatile organic compound (VOC) emissions associated with paving activities. Moreover, total construction of the project would last approximately 12 months, with installation of machinery and equipment internally lasting an additional 4-6 months, after which project-related TAC emissions would cease.

Emissions from the construction phase of the project were estimated using CalEEMod, Version 2016.3.2. Construction scenario assumptions, including phasing, equipment mix, and vehicle trips, were based on information provided by the project applicant and CalEEMod default values when project specifics were not known. Table 2.4-1 outlines the detailed assumptions for construction including daily trips for construction workers, vendor trucks, hauling trucks, and equipment usage per phase. Construction consists of several types of off-road equipment. Since the majority of the off-road construction equipment used for construction projects are diesel fueled, CalEEMod assumes all of the equipment operates on diesel fuel. The SCAQMD construction survey is used to estimate default equipment lists based on total project acreage as calculated from the acreage entered on the land use screen. If the acreage is in between the acreages in the survey, the next highest acreage tier is used. The calculations associated with offroad equipment include the running exhaust emissions. Since the equipment is assumed to be diesel, there are no starting or evaporative emissions associated with the equipment as these are de minimis for diesel-fueled equipment. The CalEEMod uses the OFFROAD2011 model for emission factors for construction equipment.

Fugitive dust is generated by the various source activities occurring at a construction site. This dust contributes PM_{10} and $PM_{2.5}$ emissions and for detailed emission breakdowns are distinguished from exhaust particulate matter emissions. The program calculates fugitive dust associated with the site preparation and grading phases from three major activities: haul road grading, earth bulldozing, and truck loading. The CalEEMod output is provided in Appendix A.

For purposes of estimating project emissions, and based on information provided by the project applicant, it is assumed that construction of the project would commence in 2018[1] and would last approximately 12 months, ending in 2019. The project would take an additional 4-6 months after construction to install equipment. The analysis contained herein is based on the following assumptions (duration of phases is approximate):

- Demolition: 1 month
- Site Preparation: 0.5 month
- Grading: 1.5 months
- Building Construction: 11 months

1 The analysis assumes a construction start date of June 2017, which represents the earliest date construction would initiate. Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant and GHG emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

- Paving: 1 month
- Application of Architectural Coatings: 1 month

Construction of the project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (i.e., on-road haul trucks, vendor trucks, and worker vehicle trips). There is no marine equipment associated with the construction phase of the proposed project. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts.

Criteria air pollutant emissions associated with temporary construction activity were quantified using CalEEMod. Construction emissions were calculated for the estimated worst-case day over the construction period associated with each phase and reported as the maximum daily emissions estimated during each year of construction (2018 and 2019). Construction schedule assumptions, including phase type, duration, and sequencing, were based on information provided by the project applicant and is intended to represent a reasonable scenario based on the best information available. Default values provided in CalEEMod were used where detailed project information was not available.

Implementation of the project would generate air pollutant emissions from entrained dust, off-road equipment, vehicle emissions, architectural coatings, and asphalt pavement application. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. The project would be required to comply with SCAQMD Rule 403 to control dust emissions generated during the grading activities. Standard construction practices that would be employed to reduce fugitive dust emissions include watering of the active sites three times per day depending on weather conditions. The project would be required to comply with SCAQMD Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities) to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials. Internal combustion engines used by construction equipment, vendor trucks (i.e., delivery trucks), and worker vehicles would result in emissions of VOCs, NO_x, CO, PM_{10}, and $PM_{2.5}$. The application of architectural coatings, such as exterior application/interior paint and other finishes, and application of asphalt pavement would also produce VOC emissions; however, the contractor is required to procure architectural coatings from a supplier in compliance with the requirements of SCAQMD's Rule 1113 (Architectural Coatings).

Table 4.3-2 presents the estimated maximum daily construction emissions generated during construction of the project. The values shown are the maximum summer or winter daily emissions results from CalEEMod. Details of the emission calculations are provided in Appendix A.

Table 4.3-2
Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	POUNDS PER DAY					
Unmitigated						
2017	1.61	10.55	50.51	0.10	10.87	5.96
2018	96.43	10.14	40.89	0.08	1.90	0.60
Maximum Daily Emissions	**96.43**	**10.55**	**50.51**	**0.10**	**10.87**	**5.96**
SCAQMD Threshold	75	100	550	150	150	55
Threshold Exceeded?	**Yes**	No	No	No	No	No
Mitigated						
2017	1.61	10.55	50.51	0.10	10.87	5.96
2018	2.13	10.14	40.89	0.08	1.90	0.60
Maximum Daily Emissions	**2.13**	**10.55**	**50.51**	**0.10**	**10.87**	**5.96**
SCAQMD Threshold	75	100	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

Notes: CO = carbon monoxide; NOX = nitrogen oxide; PM10 = directly emitted particulate matter less than 10 microns; PM2.5 = directly emitted particulate matter less than 2.5 microns; SOX = sulfur oxides; VOC = volatile organic compound. The values shown are the maximum summer or winter daily emissions results from CalEEMod. These emissions reflect CalEEMod "mitigated" output, which accounts for compliance with SCAQMD Rule 403 (Fugitive Dust) and Rule 1113 (Architectural Coatings). Emissions might not add precisely due to rounding.

Maximum daily emissions of NO_x, CO, SO_x, and $PM_{2.5}$ emissions would occur during the grading phase in 2018 as a result of off-road equipment operation and on-road vendor trucks and haul trucks. The overlap of the building construction phase and the architectural coatings phases in 2018 would produce the maximum daily VOC emissions. As shown in Table 4.3-2, daily construction emissions would exceed the SCAQMD significance thresholds for VOC in 2019 and would be potentially significant. As such, mitigation is required.

MM AQ-1 – Architectural Coatings. The tenant shall exclusively use zero VOC architectural coatings.

MM-AQ-1 requires the contractor to use architectural coating materials with zero VOC containing materials. As shown in Table 4.3-2, VOC emissions would be less than significant when MM-AQ-1 is included. Construction-generated emissions would be temporary and would not represent a long-term source of criteria air pollutant emissions. As such, impacts would be less than significant with mitigation incorporated.

Localized impacts were assessed through a comparison to SCAQMD's Localized Significance Threshold (LST). The SCAQMD developed the LST methodology to assist CEQA lead agencies in analyzing localized air quality impacts from proposed projects. The LSTs are only for emissions of NO_x, carbon monoxide (CO), PM_{10}, and $PM_{2.5}$. LSTs represent the maximum emissions from a project, and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor. The nearest sensitive-receptor land uses (a residence) is located approximately 0.5 mile west of the project site. As such, the LST receptor distance was assumed to be

1,640 feet (500 meters), which is the furthest distance provided by the SCAQMD lookup tables. LSTs are not expected to cause or contribute to an exceedance of the most stringent applicable national or state AAQS, as seen in Table 4.3-3.

Table 4.3-3 summarizes localized construction impact results. The table shows that all pollutant emissions would be below the LST significance thresholds without mitigation.

Table 4.3-3
Localized Significance Thresholds Analysis for Project Construction

Pollutant	Project Construction Emissions (pounds/day)	LST Criteria (pounds/day)	Exceeds LST?
NO_2	11	142	No
CO	51	7,558	No
PM_{10}	11	158	No
$PM_{2.5}$	6	93	No

Notes: CO = carbon monoxide; NO_2 = nitrogen oxide; PM_{10} = directly emitted particulate matter less than 10 microns; $PM_{2.5}$ = directly emitted particulate matter less than 2.5 microns
Emissions might not add precisely due to rounding. Conservatively assumes all emissions are on site.

Operational Impacts

The project involves development of an industrial specialized vessel prototype development and manufacturing site with associated parking. Operation of the project would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from mobile sources, including vehicle trips from future employees; marine vessels; area sources, including the use of consumer products, architectural coatings for repainting, and landscape maintenance equipment; and energy sources, including combustion of fuels used for space and water heating, emergency power generation, product curing, and cooking appliances. The types of criteria pollutant generating equipment included in the emission calculations include:

- 1 autoclave – 20 MM BTU/hr
- Offroad equipment:
    - 8 aerial lifts (63 horsepower (hp) each),
    - 3 gantry cranes (170 hp each), and
    - 8 forklifts (89 hp each)
- Emergency generator (500 hp)
- Abrasive blasting booth
- Paint spray booth

Criteria emissions associated with long-term operations were quantified using a spreadsheet based model with emission factors from SCAQMD, EPA, and CARB. Project-generated mobile source emissions were estimated based on project-specific trip rates and the CARB EMFAC 2014 model. CalEEMod was used to estimate emissions from the project area and energy sources. Operational year 2019 was assumed consistent with the traffic study (Appendix D).

Air emissions from proposed operational activities would result from use of VOC-containing materials such as consumer product use, prepreg, solvents, epoxies, adhesives, and lubricants. Usage is not expected to exceed 260 gallons of chemicals or 1,400,000 sqft of prepreg per year. VOC would also be generated from architectural coatings and landscape and maintenance equipment exhaust. The project is also anticipated to generate emissions from marine vessel operations during operation. The project was conservatively estimated to operate one shipping operation per month which includes the loading of parts onto a barge and a tug boat pulling the barge. For emissions estimation purposes, the tug boat and barge were estimated to operate from the Port to the edge of the SCAB 40 nautical miles away based on the anticipated route. The detailed emission calculations for the marine operations can be found in Appendix A of the attached Air Quality and Greenhouse Gas Emissions Analysis Technical Report.

The facility would likely have up to 750 employees (max shift would be 500 employees) with up to 50 customers or visitors daily and approximately 10 deliveries daily. These trips are assessed under mobile sources. Emissions would also result from mobile sources associated with shipping of products and components, truck deliveries, and approximately 500 daily worker commutes.

Operational peak day emissions were compared to SCAQMD's CEQA Significance Thresholds. Table 4.3-4 presents operational emissions results for the operation of the proposed Project.

As shown in Table 4.3-4, the combined daily area, energy, mobile, off-road, and stationary source emissions would exceed the SCAQMD operational thresholds for VOC emissions. Impacts associated with project-generated operational criteria air pollutant emissions would be potentially significant. With implementation of mitigation measure MM-AQ-1, VOC emissions would be reduced to below the SCAQMD significance threshold. The impacts would be less than significant with mitigation incorporated.

Table 4.3-4
Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Emission Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	POUNDS PER DAY					
Unmitigated						
Area[1] (including the use of consumer products, architectural coatings for repainting, and landscape maintenance equipment)	47.63	0.00	0.06	0.00	0.00	0.00
Energy[1] (including combustion of fuels used for space and water heating, product curing (20MM Btu/hr autoclave), and cooking appliances)	0.57	3.94	32.87	0.06	0.79	0.16
Mobile (including motor vehicle trips from future employees traveling to and from the project site and harbor craft)	6.26	30.35	53.14	0.21	4.53	1.41
Off-road (various types of off-road equipment including aerial lifts, cranes, and forklifts)	1.83	16.51	20.78	0.03	1.49	0.30
Stationary (emergency generator, abrasive blasting)	0.12	1.08	1.05	0.00	1.53	0.30
Total	**56.41**	**51.88**	**107.90**	**0.30**	**8.34**	**2.17**
SCAQMD Threshold	55	55	550	150	150	55
Threshold Exceeded?	**Yes**	No	No	No	No	No
Mitigated						
Area[1] (including the use of consumer products, architectural coatings for repainting, and landscape maintenance equipment)	43.02	0.00	0.06	0.00	0.00	0.00
Energy[1] (including combustion of fuels used for space and water heating, product curing (20MM Btu/hr autoclave), and cooking appliances)	0.57	3.94	32.87	0.06	0.79	0.16
Mobile (including motor vehicle trips from future employees traveling to and from the project site and harbor craft)	6.26	30.35	53.14	0.21	4.53	1.41
Off-road (various types of off-road equipment including aerial lifts, cranes, and forklifts)	1.83	16.51	20.78	0.03	1.49	0.30
Stationary (emergency generator, abrasive blasting)	0.12	1.08	1.05	0.00	1.53	0.30
Total	**51.80**	**51.88**	**107.90**	**0.30**	**8.34**	**2.17**
SCAQMD Threshold	55	55	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

Notes: CO = carbon monoxide; NOX = nitrogen oxide; PM10 = directly emitted particulate matter less than 10 microns; PM2.5 = directly emitted particulate matter less than 2.5 microns; SOX = sulfur oxides

1 *The values shown are the maximum summer or winter daily emissions results from CalEEMod. These emissions reflect CalEEMod "mitigated" output and operational year 2019. The total values may not add up exactly due to rounding.*

2 *The chemical usage estimate is scaled on the actual usage at an existing permitted facility. Chemicals used include, prepreg, solvents, epoxies, adhesives, and lubricants. Usage is not to exceed 260 gallons of chemicals or 1,400,000 ft^2 of prepreg per year.*

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?

Less Than Significant Impact. Federal and state AAQS have been established for the following criteria pollutants: CO, ozone, sulfur dioxide (SO_2), nitrogen dioxide (NO_2), PM_{10}, $PM_{2.5}$, and lead. Areas are classified under the federal CAA areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the national AAQS have been achieved. Attainment relative to the California CAA and state AAQS is determined by CARB. The proposed Project site is located in the Los Angeles County (County) portion of the SCAB. The County is designated as a federal nonattainment area for ozone and $PM_{2.5}$ and state nonattainment area for ozone, PM_{10}, and $PM_{2.5}$.[2]

Air quality in the SCAB has improved in the last several decades. The improvement in air quality is attributed to emissions reduction from industrial sources, introduction of low-emission fuels used in on-road motor vehicles (e.g., low-sulfur fuels, reformulated gasoline). Additional reductions are attributed to implementation of the AQMPs and low-carbon fuel standards, which identify emission reduction strategies and which are subsequently promulgated as enforceable regulations.

Cumulative impacts may result from individually minor but collectively significant projects. CEQA Guidelines, Section 15355, define cumulative impacts as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts” (14 CCR 15355). CEQA Guidelines, Section 15064(h)(4), also state that “the mere existence of cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed Project’s incremental effects are cumulatively considerable” (14 CCR 15064(h)(4)).

SCAQMD has developed a policy to address the cumulative impacts of CEQA projects (SCAQMD, 2003). The policy identifies the cumulative threshold to be the same as the project-level threshold and indicates that impacts are cumulatively considerable if they exceed the project-specific air quality significance thresholds.

Construction

Tables 4.3-2 and 4.3-3 show that construction activities would not exceed SCAQMD project-specific significance thresholds. Therefore, construction activities would not result in a cumulatively considerable contribution to the existing pollution burden in the SCAB.

2 The Los Angeles area is in nonattainment for the lead AAQS, mainly due to two lead-acid battery recyclers. Lead would not be expected to result from anticipated proposed Project activities and is not considered to be a pollutant of concern for the proposed Project.

Operation

Table 4.3-4 shows that operational activities would not exceed SCAQMD project-specific significance thresholds. Therefore, operational activities would not result in a cumulatively considerable contribution to the existing pollution burden in the SCAB.

Impacts would be less than significant and no mitigation is required.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. Sensitive receptors include residences, hospitals, or convalescent facilities. LAHD also includes off-site workers who can be affected by project activities in CEQA analyses. The nearest sensitive receptors would be residential areas within the community of San Pedro, approximately 0.5 mile to the west, as stated in Appendix A.

Impacts to sensitive receptors are typically evaluated in terms of exposure to toxic air contaminants (TACs). Cancer risk is considered to accrue over years of exposure. OEHHA Guidelines (2015) recommend that cancer risk be analyzed assuming a 25-year off-site occupational exposure and a 30-year residential exposure. The proposed Project construction would involve demolition of an existing approximately 9,150-square-foot building, installation of a pre-fabricated building up to 203,450 square feet, and repair of the existing wharf. Construction activities would be temporary, and may expose nearby sensitive receptors to air pollution in the form of combustion exhaust and fugitive dust. The proposed Project's operations would be limited to a 10-year lease with two 10-year renewal options. Proposed Project construction activities would be much shorter in duration than exposure durations recommended for off-site occupational and residential exposure in the OEHHA Guidelines (2015), and therefore, would be unlikely to result in a significant cancer risk. The proposed Project's operational activities would not be located near any sensitive receptors, would be more than 0.5 miles from any residential areas. As shown in Table 4.3-2, maximum daily particulate matter (PM_{10} or $PM_{2.5}$) and Toxic Air Contaminants (TAC) emissions generated by construction equipment operation and from hauling of soil during grading (exhaust particulate matter, or DPM), combined with fugitive dust generated by equipment operation and vehicle travel, would be well below the SCAQMD significance thresholds. Moreover, total construction of the project would last approximately 12 months, with installation of machinery and equipment internally lasting an additional 4-6 months, after which project-related TAC emissions would cease. No residual TAC emissions and corresponding cancer risk are anticipated after construction, and no long-term sources of TAC emissions are anticipated during operation of the project. Thus, the project would not result in a long-term (i.e., 9-year, 30-year, or 70-year) source of TAC emissions. Therefore, the operation of the proposed Project would not result in significant health impacts.

The Traffic Technical Memorandum for the proposed Project evaluated five intersections analyzed, one of which operated at an unacceptable Level of Service (LOS) in the Future Year 2037 scenario. Ferry Street at the SR-47 ramps during the PM peak hour went from an LOS E to LOS F with cumulative projects including the proposed Project. The remaining key intersections currently operate at an acceptable LOS during the AM and PM peak hours. A CO hotspot screening evaluation was conducted for this intersection (see Appendix A). The maximum CO concentration predicted for the 1-hour averaging period at the studied intersections would be 5.4 ppm, which is below the 1-hour CO CAAQS of 20 ppm. The maximum predicted 8-hour CO concentration of 3.6 ppm at the studied intersections would be below the 8 hour CO CAAQS of 9.0 ppm. Neither the 1-hour nor 8-hour CAAQS would be exceeded at any of the intersections studied. Accordingly, the proposed Project would not cause or contribute to violations of the CAAQS, and would not result in exposure of sensitive receptors to localized high concentrations of CO. As such, CO hotspots impacts would be less than significant to sensitive receptors.

Construction and operation of the project would result in emissions that would not exceed the SCAQMD thresholds for any criteria air pollutants including VOC, NO_x, CO, SO_x, $PM_{10,}$ or $PM_{2.5}$. VOCs would be associated with motor vehicles, construction equipment, and architectural coatings; however, project-generated VOC emissions would not result in the exceedances of the SCAQMD thresholds as shown in Table 4.3-2. Generally, the VOCs in architectural coatings are of relatively low toxicity. Additionally, SCAQMD Rule 1113 restricts the VOC content of coatings for both construction and operational applications and the applicant has committed to using VOC free products. The holistic effect of a single project's emissions of O_3 precursors is speculative due to the lack of quantitative methods to assess this impact. Nonetheless, the VOC and NO_x emissions associated with project construction and operation could minimally contribute to regional O_3 concentrations and the associated health impacts. Because of to the minimal contribution during construction and operation, health impacts would be considered less than significant. Construction and operation of the project would also not exceed thresholds for PM_{10} or $PM_{2.5}$ and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter or would obstruct the SCAB from coming into attainment for these pollutants. The project would also not result in substantial DPM emissions during construction and operation, and therefore, would not result in significant health effects related to DPM exposure. Additionally, the project would be required to comply with SCAQMD Rule 403, which limits the amount of fugitive dust generated during construction. Due to the minimal contribution of particulate matter during construction and operation, health impacts would be considered less than significant. Construction and operation of the project would not contribute to exceedances of the NAAQS and CAAQS for NO_2. Construction and operation of the project would require use of stationary sources (e.g., diesel generators, furnaces), however that would not create substantial, localized NO_X impacts, as seen in Table 4.3-4. Therefore, potential health impacts associated with NO_2 and NO_X would be considered less than significant.

CO tends to be a localized impact associated with congested intersections. The associated potential for CO hotspots were discussed previously and are determined to be a less-than-significant impact. Thus, the project's CO emissions would not contribute to significant health effects associated with this pollutant.

In summary, construction and operation of the project would not result in exceedances of the SCAQMD significance thresholds for criteria pollutants and potential health impacts associated with criteria air pollutants would be less than significant.

e) Create objectionable odors affecting a substantial number of people?

Less Than Significant Impact. The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and generate citizen complaints.

Short-term construction and operational activities of the proposed Project would potentially increase odors primarily due to the unburned hydrocarbons from tailpipes of construction equipment, architectural coatings, and asphalt pavement application. Such odors would disperse rapidly from the project site and generally occur at magnitudes that would not affect substantial numbers of people.

Operational odors from operations of the proposed Project would be similar to the odors produced from existing operations and industrial activities in the area including the boat repair operations at Al Larson Boatyard and the transfer of oil products at the PBF Energy Marine Oil Terminal. The tank farm would store liquefied gases that are not considered to have a strong odor; argon, helium, oxygen, and nitrogen. Additionally, the distance between proposed Project emission sources and the nearest residents is expected to be far enough to allow for adequate dispersion of these emissions to below objectionable odor levels. Furthermore, the existing industrial setting of the proposed Project contains numerous odor sources that can be described as a complex odor environment. For example, the existing nearby boatyard includes the use of composites, paint, and other chemicals, as well as the use of diesel trucks and other equipment that could generate similar diesel exhaust odors as would the proposed Project. Chemicals used in the manufacturing of vessels as proposed (examples include solvents, mold release, primers, resins, adhesives, and metalworking fluids) would be used within the proposed building in accordance with all applicable regulations, and odors from the use of those chemicals would not be detectable at adjacent land uses, including the marina. The tank farm would contain liquid forms of argon, helium, nitrogen and oxygen, which are all stable nonflammable compressed gases with no discernable smell. Within this context, the proposed Project would not likely result in changes to the overall odor environment in the vicinity. Therefore, the proposed Project would not create objectionable odors affecting a substantial number of people. Impacts would be less than significant, and no mitigation is required.

4.4 BIOLOGICAL RESOURCES

Over the years, LAHD, in conjunction with the Port of Long Beach, has worked with the state and federal resource agencies to conduct periodic evaluations of the biological resources within the Ports complex to assess biological conditions of the various harbor habitats; the most recent evaluation was conducted in 2013–2014 (MBC 2016).

Would the Project:

a) **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?**

Less Than Significant Impact With Mitigation Incorporated. As discussed within the Port Master Plan (LAHD 2014), most of the terrestrial area within the Port contains facilities and infrastructure such as buildings, roads, and paved container storage areas with limited vegetated habitats. Based on data from numerous biological surveys conducted in the Port of Los Angeles and Port of Long Beach and the Biological Surveys of San Pedro Bay in 2008 (SAIC 2010), wildlife use of developed and most undeveloped areas within the area is limited. The majority of species that are known or have the potential to occur are adapted to human-disturbed landscapes. Other special-status species (designated by the California Department of Fish and Wildlife) and U.S Fish and Wildlife Service with the potential to occur in the Project area include: black oystercatcher (*Haematopus bachmani*), black skimmer (*Rynchops niger*), Caspian tern (*Hydroprogne caspia*), elegant tern (*Thalasseus elegans*), common loon (*Gavia immer*), double-crested cormonant (*Phalacrocorax auritus*), loggerhead shrike (*Lanius ludovicianus*), merlin (*Falco columbarius*), osprey (*Pandion haliaetus*), and burrowing owl (*Athene cunicularia*)(SAIC 2010). Several of these species are known to nest, roost, and/or forage within the harbor, such as the double-crested cormorant, elegant tern, and Caspian tern.

Biologically sensitive areas within the Port include wetlands, marine habitats of particular concern (eelgrass (*Zostera* ssp.), kelp (*Laminariales*), and the designated California least tern (*Sternula antillarum browni*) nesting site. Eelgrass beds, which are considered a special aquatic site (vegetated shallows) pursuant to the Clean Water Act and a habitat area of particular concern, are located approximately 0.12 miles southwest of the proposed Project site (MBC 2016). The proposed Project site is adjacent to the Main Channel, which has been dredged to maintain depths for shipping. Project construction would involve landside construction and potential surface improvements and potential repair to the wharf.

Due to the heavy industrial environment within the Project area, the Project site is not likely habitat for special status species No biological resources are identified within the proposed Project site. Based on the scarcity of observed habitat and wildlife occurrences, no impacts to special status species is anticipated. Additionally, no pile driving activities would occur with the implementation of the proposed project. Only in and over-water activities would occur in order to replace existing wharf fenders. Pursuant to the Migratory Bird Treaty Act, surveys shall be conducted prior to ground-disturbing activities (See **MM-BIO-1**). With implementation of **MM-BIO-1**, potential impacts on federally and state listed endangered species found in the harbor are considered less than significant.

MM BIO-1: Between February 15 and September 1 and prior to ground-disturbing activities, a qualified biologist shall conduct surveys for the presence of nesting birds protected under the Migratory Bird Treaty Act (MBTA) and/or similar provisions of the CDFG Code within areas of the proposed project study area that contain potential nesting bird habitat. Surveys shall be conducted 24 hours prior to the clearing, removal, or grubbing of any vegetation or ground disturbance. If active nests are located, then a barrier installed at a 50-foot radius from the nest(s) will be established and the tree/location containing the nest will be marked and will remain in place and undisturbed until a qualified biologist performs a survey to determine that the young have fledged or the nest is no longer active.

Timing: Throughout the construction phases of the project.

Methods: This measure shall be incorporated into LAHD contract specifications for all construction work. The construction contractor shall instruct construction personnel as part of normal construction procedures. LAHD shall arrange for pre-construction surveys by an Environmental Management Division approved biologist(s). Additionally, LAHD shall arrange for the presence of an Environmental Management Division approved biologist(s) to monitor during construction activity.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?

Less Than Significant. Refer to Section 4.4(a). The proposed Project site is currently designated as Heavy Industrial Zone (M3) and ZI-2130 Harbor Gateway State Enterprise Zone (City of Los Angeles 2016a). The site is developed with an existing surface parking lot and an abandoned industrial building. No riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or the USFWS exist on the proposed Project site.

Eelgrass beds, which are considered a special aquatic site (vegetated shallows) pursuant to the Clean Water Act and a habitat area of particular concern, are located approximately 0.12 miles southwest of the proposed Project site. Additionally, the open water areas of the Port provide important nursery and foraging habitat for coastal marine fish and nesting and foraging habitat for many resident and migratory birds. Marine mammals are commonly observed within the

Port's jurisdiction; these species are protected under the Marine Mammal Protection Act (LAHD 2014). The proposed Project site includes repairs to the wharf, including the replacement of existing wharf fenders. No pile driving activities would occur with the implementation of the proposed project. Only above and in- and over-water activities would occur involving repairs and replacements of wharf components above the mud line.

Operations would not involve the discharge of substances into the adjacent water areas. The proposed Project would include a negligible increase in marine vessel traffic with delivery of large components shipped in once a month on average, with peak periods of a vessels manufacturing necessitating up to three deliveries by barge in a barge. Shipping operations would be undertaken consistent with Port maritime requirements and would not result in activities that would affect riparian habitat or other sensitive natural communities. Therefore, less-than-significant impacts associated with riparian habitat or any other sensitive natural community would result from implementation of the proposed Project.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less Than Significant Impact. Refer to Section 4.4(b). The proposed Project site is currently designated as Heavy Industrial Zone (M3) and ZI-2130 Harbor Gateway State Enterprise Zone (City of Los Angeles 2016a). The site is disturbed and includes an abandoned industrial building, vacant dirt area, and paved areas used for miscellaneous storage and parking. The proposed Project site does not contain any federally protected wetlands as defined by Section 404 of the Clean Water Act. As discussed within the Port Master Plan (LAHD 2014), the nearest wetland to the proposed Project site is the Salinas de San Pedro (also referred to as Cabrillo Marsh). It is a 3.3-acre salt marsh located near Cabrillo Beach in the Outer Harbor and is located approximately 1.5 miles southwest of the proposed Project site (LAHD 2014).

Proposed project construction would involve in- or over-water construction. The proposed Project site includes improvements to the wharf to allow for transition of constructed products to barges for shipping to testing sites and delivery to customers. The wharf repair would strengthen existing surface concrete and the replacement of existing wharf fenders, which require in-water construction. Only in and over-water activities would occur in order to replace existing wharf fenders. The fenders would not reach to ground level and would only go approximately three feet below average mean sea level. The replacement of existing wharf fenders would not have an adverse effect of protected wetlands.

Operation would not involve the discharge of substances into the adjacent water areas. The proposed Project would include a negligible increase in marine vessel traffic with delivery of large components shipped in about once a month, and products shipped out up to three times a month. Shipping operations would be undertaken consistent with Port maritime requirements and would not result in activities that would affect riparian habitat or other sensitive natural communities. No activities would occur within or near wetlands. Therefore, less-than-significant impacts would be associated with federally protected wetlands as defined by Section 404 of the CWA. No mitigation is required.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less Than Significant Impact With Mitigation Incorporated. The disturbed dirt portion of the proposed Project site includes some ruderal vegetation consisting of weeds and other opportunistic non-native species. Wildlife on site is limited to common species typically found in urban environments. As discussed in the Port Master Plan, the Ports complex occurs between dense, urban development and ocean waters; therefore, natural corridors (topographic or habitat pathways) supporting terrestrial wildlife movement do not occur (LAHD 2014).

Eelgrass beds, which are considered a special aquatic site (vegetated shallows) pursuant to the Clean Water Act and a habitat area of particular concern, are located 0.12 miles southwest of the proposed Project site. Water depths at Berth 240 exceed those suitable for eelgrass. The open water areas of the Port provide important nursery and foraging habitat for coastal marine fish and nesting and foraging habitat for many resident and migratory birds. Marine mammals are commonly observed within the Port's jurisdiction; these species are protected under the Marine Mammal Protection Act (LAHD 2014).

The proposed Project site includes improvements to the wharf to allow for transition of constructed products to barges for shipping to testing sites and delivery to customers. The wharf repairs would strengthen existing surface concrete including the replacement of existing wharf fenders. No pile driving activities would occur with the implementation of the proposed project. In and over-water activities would occur in order to replace existing wharf components above the mud line. The replacement of existing wharf fenders would not substantially interfere with the movement of any native resident or migratory fish or wildlife species, or impede on nursey sites.

Operation would not involve the discharge of substances into the adjacent water areas. The proposed Project would include a negligible increase in marine vessel traffic with large components delivery shipped in about once a month and products shipped out up to three times a month. Shipping operations would be undertaken consistent with Port maritime requirements and would not result in activities that would affect riparian habitat or other sensitive natural communities.

Because of the disturbed nature of the proposed Project site, frequency of activities surrounding the site, and lack of vegetation, no opportunities are apparent for ground nesting bird species protected under the California Fish and Game Code and the Migratory Bird Treaty Act of 1918. The proposed Project would be required to comply with the Migratory Bird Treaty Act and

LAHD policy. Pursuant to the Migratory Bird Treaty Act, surveys shall be conducted prior to ground-disturbing activities (See **MM-BIO-1**). Therefore, with implementation of MM-BIO-1, potential impacts associated with the movement of any native resident, migratory fish, or wildlife species would be less than significant.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The only biological resources protected by the City ordinance (Ordinance No. 177404) pertain to certain tree species. A permit is required for removal or relocations (City of Los Angeles 2016b). The protected trees are the following (City of Los Angeles 2016b):

- Oak tree, including valley oak (*Quercus lobata*) and California live oak (*Quercus agrifolia*)
- Any other tree of the oak genus indigenous to California, excluding the scrub oak (*Quercus dumosa*)
- Southern California black walnut (*Juglans californica* var. *californica*)
- Western sycamore (*Platanus racemosa*)
- California bay (*Umbellularia californica*)

There are no trees on the proposed Project site. Therefore, no conflict with the City's native tree protection and relocation ordinance would occur. No impacts would occur to protected biological resources and no mitigation is required.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. No adopted habitat conservation plan; natural community conservation plan; or other approved local, regional, or state habitat conservation plan overlay the proposed Project site. The nearest conservation plan area is the Rancho Palos Verdes Natural Community Conservation Plan, which is located 4.5 miles west of the proposed Project site (City of Rancho Palos Verdes 2016). The County has established officially designated areas, referred to as significant ecological areas (SEAs), within the County that contain rare or unique biological resources. The Terminal Island (Pier 400) California least tern nesting site is the only SEA in the Port. The proposed Project is located 1.5 miles northeast of the SEA (County of Los Angeles 2015b). Since the proposed Project is not in the vicinity of the SEA, no impact would occur, and no mitigation is required.

The proposed Project would not be subject to the provisions of any such conservation plans. Therefore, no impacts associated with conservation plans would occur, and no mitigation is required.

4.5 CULTURAL RESOURCES

Methodology

A Historical Resources Technical Report was prepared in support of the IS/MND and is provided as Appendix B to this IS/MND. The results of the investigation are referenced in the analysis. The cultural resources study includes the following components: (1) a California Historical Resources Information System records search covering the proposed Project site plus a 1.25-mile radius at the South Central Coastal Information Center (SCCIC); (2) a review of the California Native American Heritage Commission's (NAHC's) Sacred Lands File; (3) outreach with local Native American tribes/groups identified by the NAHC to collect any information they may have concerning cultural resources; (4) a pedestrian survey of the proposed Project site for cultural resources; (5) archival and building development research for buildings located within the proposed Project site; (6) updated evaluation of the Bethlehem Shipyard Historic District in consideration of federal, state, and local designation criteria and integrity requirements; and (7) consideration of impacts to historical resources in compliance with the CEQA.

Regulatory Framework

In support of this analysis, a review of the regulatory environment was conducted to develop a context for the identification and preliminary evaluation of cultural resources within the proposed Project site. The regulatory framework is provided in more detail in Appendix B to this IS/MND.

Under CEQA, a project may have a significant impact on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (California Public Resources Code, Section 21084.1; 14 CCR 15064.5(b)). If a site is either listed in or eligible for listing in the CRHR, included in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of California Public Resources Code, Section 5024.1(q)), it is a "historical resource" and is presumed to be historically or culturally significant for the purposes of CEQA (California Public Resources Code, Section 21084.1; 14 CCR 15064.5(a)). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (California Public Resources Code, Section 21084.1; 14 CCR 15064.5(a)).

A "substantial adverse change in the significance of an historical resource" reflecting a significant effect under CEQA means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (14 CCR 15064.5(b)(1); California Public Resources Code, Section 5020.1(q)). In turn, the significance of a historical resource is materially impaired when a project does any of the following (14 CCR 15064.5(b)(2)):

(1) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or

(2) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the PRC [California Public Resources Code], unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

(3) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.

Pursuant to these sections, the CEQA inquiry begins with evaluating whether a project site contains any "historical resources," and then evaluates whether that project would cause a substantial adverse change in the significance of an historical resource such that the resource's historical significance would be materially impaired.

If it can be demonstrated that a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (California Public Resources Code, Sections 21083.2(a), (b), and (c)).

California Public Resources Code, Section 21083.2(g), defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

(1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

(2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Impacts to non-unique archaeological resources are generally not considered a significant environmental impact (California Public Resources Code, Section 21083.2(a); 14 CCR 15064.5(c)(4)). However, if a non-unique archaeological resource qualifies as a tribal cultural resource (California Public Resources Code, Sections 21074(c) and 21083.2(h)), further consideration of significant impacts is required.

CEQA Guidelines, Section 15064.5, assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, these procedures are detailed in California Public Resources Code, Section 5097.98.

Would the Project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

Less Than Significant Impact. The proposed Project includes demolition of an existing approximately 9,150-square-foot industrial building (identified as the Compressor House), installation of a pre-fabricated building up to 203,450 square feet, and ancillary tank farm immediately adjacent to the existing Bethlehem Shipyard Historic District. Repairs to the existing wharf and establishing parking for the proposed project, would be located within the Bethlehem Shipyard Historic District. The Compressor House building, to be demolished, was identified as a non-contributing element of the Bethlehem Shipyard Historic District in 2000 because it lacks integrity to the historic district period of significance. As a result, the proposed demolition of the Compressor House would result in a less-than-significant impact to the historic district and would not impact the district's NRHP, CRHR, or local-level eligibility.

The wharf repairs would strengthen existing surface concrete and the replacement of existing wharf fenders. Only in and over-water activities would occur in order to replace existing wharf components above the mud line. No pile driving activities would occur with the implementation of the proposed project. The existing wharf on the west side does not contribute to the significance of the district because it was altered between 1957 and 1963, which is outside the district's period of significance. Further, the wharfs have been previously subject to routine maintenance. The repairs to the existing wharf would not substantially adversely change any historical resource.

While the proposed new building would be large in scale, the prefabricated utilitarian plan and materials are appropriate for the setting. The building's industrial style and simple plan would conform to the existing setting industrial/utilitarian style of other buildings within the Port but would also be clearly differentiated as new construction within an historic district.

All proposed Project activities appear to be in conformance with the Secretary of the Interior's Standards for Rehabilitation. While excavation would be associated with the proposed Project foundations preparation, the site is on Terminal Island, which is composed of artificial fill material; therefore, an encounter with or adverse change to a subsurface historical resource are not anticipated. However, historical resources exist within the Port's Planning Area 4 that are listed or eligible for listing in a federal, state, or local register, such as select buildings within the Southwest Marine Shipyard. However, the proposed Project would not include demolition of any historical buildings on which the Project is located. Nonetheless, the City of Los Angeles Harbor Department's Built Environment Historic, Architecture and Cultural Resource Policy states buildings over 50-years of age shall be evaluated to determine potentially eligible for listing in a Register. The proposed Project includes the implementation of Lease Measure-CUL-1, as identified in Section 2.4. Impacts would be less than significant and no mitigation is required.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less Than Significant Impact. No archaeological resources were identified within the proposed Project site as a result of the California Historical Resources Information System records search, Native American coordination, or pedestrian survey. The proposed Project would not result in any dredging or other disturbance into undisturbed sediments. Further, over the history of the Port, the Project vicinity has repeatedly been dredged to create and maintain the shipping channels. Therefore, Terminal Island is historically built entirely atop fill material, so the likelihood of encountering any intact archaeological deposits is very low.

Although impacts to unknown archaeological resources is unlikely, archaeological or ethnographic cultural resources have the potential of being encountered. Therefore, the proposed Project would adhere to CEQA Guidelines (CCR Title 14, Section 15064.5), which states that construction activities would cease in the affected area in the event an archaeological discovery is made. The Port's construction specifications require that if potentially significant cultural resources (50 years or older) are encountered during construction, construction in the area of the discovery shall immediately cease until authorized to resume by the engineer. Once the find has been evaluated by a qualified archaeologist, (see 36 CFR 800.11.1 and California Code of Regulations Title 14, Section 15064.5 (f)) if the resource is found to not be significant, the work can resume. If the resource is found to be significant, they shall be avoided or shall be treated consistent with Section 106 or State Historic Resource Preservation Officer Guidelines. As such, the proposed Project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to state CEQA Guidelines Section 15064.5.

Due to the lack of known archeological resources in the Project area, the fact that no dredging would occur with implementation of the Project, and the Project's adherence to the relevant regulation, impacts to archaeological resources would be less than significant.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact. As stated in Section 4.5(b), the proposed Project is located on Terminal Island, which is composed of artificial fill material and was created in the twentieth century. While excavation would be associated with the proposed Project foundations, site preparation, and utilities, the site is on Terminal Island, which is artificial; therefore, an encounter with or adverse change to a paleontological resource, paleontological site, or unique geologic feature would not occur, and no mitigation is required.

d) Disturb any human remains, including those interred outside of formal cemeteries?

No Impact. As mentioned above, the proposed Project is located on Terminal Island, which is composed of artificial fill material and was created in the twentieth century. Excavation would be associated with the proposed Project foundations, site preparation, and utilities. There are no human remains known to exist within the Port boundary.

Discovery of human remains is governed by the California Health and Safety Code, and California Public Resources Code, Sections 5097.94 and 5097.98, and can fall within the jurisdiction of the Native American Heritage Commission (NAHC). Section 7052 of the Health and Safety Code establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives. Under Section 7050.5 of the Health and Safety Code, if human remains are discovered no further excavation or disturbance at the site shall stop and the County Coroner contacted. If the County Coroner determines that the remains are not subject to his or her authority, and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission. In accordance with California Public Resources Code, Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descendant from the deceased Native American. The most likely descendant shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains. There are no potential impacts to the disruption of human remains as a result of the proposed Project. No mitigation is required.

4.6 GEOLOGY AND SOILS

This section describes the regional and local geologic and soil characteristics of the proposed Project site.

Would the Project:

a) **Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:**

i) **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the state geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.**

Less Than Significant Impact. The proposed Project site is located in a region with several active fault lines. The Palos Verdes Fault Zone traverses the Port in a general northwest to southeast manner from the West Turning Basin to Pier 400 and beyond and is located approximately 0.5 miles west of the proposed Project site (LAHD 2014). No faults underlie the proposed Project site. Thus, although the proposed Project could experience strong seismic ground shaking (see Section 4.6(a)(ii)), the proposed Project site is not susceptible to surface rupture. Therefore, impacts associated with the risk of surface rupture due to faulting would be less than significant, and no mitigation is required.

ii) **Strong seismic ground shaking?**

Less Than Significant Impact. As discussed in Section 4.6(a)(i), the proposed Project site is located in a region with several active fault lines, which upon rupture, could result in strong seismic ground shaking. The proposed Project would include the construction of a new habitable structure, and repairs to the wharf, in accordance with the latest adopted building code and would not result in risks greater than those of existing neighboring buildings. Wharf repairs would ensure sufficient load capacity for the Project and recovery operations following the recommendations of the Condition Survey and Load Capacity Analysis Berth 240 X, Y and Z (URS 2014). Therefore, impacts associated with the risk of strong seismic ground shaking due to faulting would be less than significant, and no mitigation is required.

iii) **Seismic-related ground failure, including liquefaction?**

Less Than Significant Impact. Liquefaction is the loss of soils strength or stiffness due to a buildup of pore-water pressure during strong ground-shaking activity and is typically associated with loose, granular, and saturated soils. According to Exhibit B of the City of Los Angeles General Plan Safety Element, the proposed Project is located in a liquefiable area where there have been recent alluvial deposits, and groundwater is less than 30 feet deep (City of Los Angeles 1996). The proposed Project would include the construction of a new habitable structure in accordance with the latest adopted building code and would not result in risks greater than those of existing neighboring buildings. Therefore, impacts associated with the risk of seismic-related ground failure would be less than significant, and no mitigation is required.

iv) Landslides?

No Impact. Landslides occur when masses of rock, earth, or debris move down a slope. Landslides are caused by disturbances in the natural stability of a slope. They can accompany heavy rains or follow droughts, earthquakes, or volcanic eruptions. Construction activities, such as grading, can accelerate landslide activity.

The proposed Project site is relatively flat with no significant natural or graded slopes. Based on a visual assessment of the site, the surrounding area does not contain geographic features (e.g., hills) that would encourage landslides to occur. In addition, Exhibit C of the City of Los Angeles General Plan Safety Element does not identify the proposed Project site as a location that is subject to landslide (City of Los Angeles 1996). Therefore, no impacts associated with landslides would result, and no mitigation is required.

b) Result in substantial soil erosion, loss of topsoil, or changes in topography or unstable soil conditions from excavation, grading, or fill?

Less Than Significant Impact. Common causes of soil erosion from construction include stormwater, wind, and soil being tracked off site by vehicles. The proposed Project would involve earthwork, demolition, and construction activities that would disturb surface materials but would not leave exposed soil on the ground’s surface. The proposed Project site is predominantly paved and disturbed (approximately 4 acres), and site improvements include demolition of an existing building, installation of a pre-fabricated building, paving of approximately 6 acres unpaved, large compacted dirt areas, installation of a tank farm, and wharf repairs. Demolition and excavation would be associated with the proposed Project; however, best management practices (BMPs) and a SWPPP would be employed to avoid substantial erosion or loss of soil as required by the Los Angeles Regional Water Quality Control Board. Therefore, short-term construction impacts and long-term operational impacts associated with soil erosion and topsoil loss would be less than significant, and no mitigation is required.

c) Be located on a geological unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less Than Significant Impact. As addressed in Section 4.6(a)(iv), the proposed Project site is not located within an area susceptible to landslides. As addressed in Section 4.6(a)(iii), the proposed Project is located in a liquefiable area. The proposed Project would include the construction of a new habitable structure. The structure would be subject to LAHD permitting and City Building Permits, which mandate compliance with the current building code to construct the building in a manner appropriate for the ground conditions of the site and the stresses that would be placed on the structure. Therefore, impacts associated with the risk of unstable soil would be less than significant, and no mitigation is required.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less Than Significant Impact. Expansive soils are characterized by their potential shrink-swell behavior. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in certain fine-grained clay sediments from the process of wetting and drying. Clay minerals, such as smectite, bentonite, montmorillonite, beidellite, and vermiculite, are known to expand with changes in moisture content. The higher the percentage of expansive minerals present in near surface soils, the higher the potential for substantial expansion.

Although the proposed Project could be located on expansive soil, the construction of a new habitable structure would be subject to LAHD permitting and City Building Permits, which mandate compliance with the current building code to construct the building in a manner appropriate for the ground conditions of the site and the stresses that would be placed on the structure. Therefore, impacts associated with the risk of expansive soil would be less than significant, and no mitigation is required.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The proposed Project would use the sewer system currently being used by existing operations. The use of septic tanks or other alternative wastewater disposal systems would not be necessary. Therefore, no impacts associated with use of wastewater disposal systems would occur. No mitigation is required.

4.7 GREENHOUSE GAS EMISSIONS

This section includes a discussion of the potential GHG emission impacts associated with construction and operation of the proposed Project. The methods of analysis for Project emissions are consistent with the guidelines of the SCAQMD.

GHG emissions were estimated for the proposed Project. The proposed Project consists of constructing a facility to manufacture transportation vessels. Sources contributing to GHG emissions during construction include the following construction equipment and vehicles: (i.e. heavy haul dump trucks, flatbed trailers, a water truck, a crane, an excavator, a backhoe, and a roller). The construction contractor shall be required to comply with applicable BMPs and *LAHD Sustainable Construction Guidelines* (see Section 2.3). CO_2E emissions analysis utilized the CalEEMod model and a spreadsheet.

This site would be used to develop and manufacture prototypes and first-generation vessels and develop the manufacturing processes prior to implementing them on a larger production scale. Operations would likely include general manufacturing procedures such as welding, composite curing, cleaning, painting, and assembly operations. The majority of operations would take place inside the facility, with exterior operations limited to transit vehicles, forklift traffic, and mobilization of manufactured products onto a barge at the dockside so that they could be transported for testing or delivery. Finished products would need to be transported by water due to their size; thus, there is the need to locate the facility within the Port's complex. A barge would depart for transportation of products for testing or delivery up to three times a month. Sources contributing to GHG emissions during operation include the following equipment and vehicles: (i.e. aerial lifts, mobile gantry cranes, forklifts, scissor lifts, freezers, and an autoclave).

Thresholds of Significance

CEQA Significance Thresholds

State CEQA Guidelines Section 15064.4(b) sets forth the factors that should be considered by a lead agency when assessing the significance of impacts from GHG emissions on the environment. These factors include:

- the extent to which a project may increase or reduce GHG emissions compared with the existing environmental setting;
- whether project emissions exceed a threshold of significance that the lead agency determines applicable to a project; and
- the extent to which a project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions.

The guidelines do not specify significance thresholds and allow the lead agencies discretion in how to address and evaluate significance based on these criteria.

The SCAQMD has adopted an interim CEQA significance threshold of 10,000 metric tons per year (mty) of carbon dioxide equivalent (CO_2E) for industrial projects where SCAQMD is the lead agency.[3] For the purpose of this IS/ND, this analysis used this threshold to evaluate the proposed Project's GHG emissions under CEQA. If estimated GHG emissions remain below this threshold, they would be expected to produce less than significant impacts to GHG levels.

LAHD has determined the SCAQMD-adopted interim industrial threshold of 10,000 mty CO_2E to be suitable for the proposed Project following reasons:

- The SCAQMD interim threshold used as the basis for its development, Governor Schwarzenegger's June 1, 2005 Executive Order S-3-05 (EO S-3-05) which set emission reduction targets of reducing GHG emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.[4] The 2020 target is the core of the California Global Warming Solutions Act of 2006, widely known as Assembly Bill 32(AB 32).[5]
- The proposed Project's primary GHG sources are construction equipment and vehicle mobile sources. The SCAQMD industrial source threshold is appropriate for projects with mobile emission sources. CAPCOA guidance considers industrial projects to include substantial GHG emissions associated with mobile sources.[6] SCAQMD, on industrial projects for which it is the lead agency, uses the 10,000 mty threshold to determine CEQA significance by combining a project's stationary source and mobile source emissions. Although the threshold was originally developed for stationary sources, SCAQMD staff views the threshold as conservative for projects with both stationary and mobiles source because it is applied to a larger set of emissions and therefore captures a greater percentage of projects than would be captured if the threshold was only used for stationary sources.[7]
- The SCAQMD industrial source threshold is appropriate for projects with sources that use primarily diesel fuel. Although most of the sources that were considered by the SCAQMD in the development of the 10,000 mty threshold are natural gas-fueled, both natural gas and diesel combustion produce CO_2 as the dominant GHG.[8] Furthermore, the conversion of all GHG species into a CO_2E ensures that the GHG emissions from any source, regardless of fuel type, can be evaluated equitably.

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[3] SCAQMD, Draft Guidance Document, Interim CEQA Greenhouse Gas (GHG) Significance Threshold, Attachment E. October 2008. http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf?sfvrsn=2

[4] SCAQMD, Draft Guidance Document, Interim CEQA Greenhouse Gas (GHG) Significance Threshold, Attachment E. October 2008. http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf?sfvrsn=2

[5] SCAQMD, personal communication between L. Granovsky/iLanco Environmental and Mike Krause/SCAQMD regarding the SCAQMD GHG significance threshold for industrial projects. July 29, 2016

[6] CAPCOA Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act. January, 2008.

[7] SCAQMD, personal communication between L. Granovsky/iLanco Environmental and Mike Krause/SCAQMD regarding the SCAQMD GHG significance threshold for industrial projects. July 29, 2016.

[8] The Climate Registry, 2016 Climate Registry Default Emission Factors. April 19, 2016.

After considering these guidelines, LAHD has set the following threshold for use in this IS/MND to determine the significance of proposed Project-related GHG impacts.

Would the Project:

a) **Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

Construction GHG Emissions

Construction of the project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road vendor trucks, and worker vehicles. The SCAQMD *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold* (2009) recommends that "construction emissions be amortized over a 30-year project lifetime, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies." Thus, the total construction GHG emissions were calculated, amortized over 30 years, and added to the total operational emissions for comparison with the GHG significance threshold of 10,000 MT CO_2E per year. The determination of significance, therefore, is addressed in the operational emissions discussion following the estimated construction emissions.

CalEEMod was used to calculate the annual GHG emissions based on the construction scenario described in Section 2.4.2.1. Construction of the project is anticipated to commence in June 2017 and reach completion in June 2018, lasting a total of 12 months. On-site sources of GHG emissions include off-road equipment and off-site sources including vendor trucks and worker vehicles. Table 4.7-1 presents construction GHG emissions for the project in 2017 and 2018 from on-site and off-site emission sources.

Table 4.7-1
Estimated Annual Construction GHG Emissions

Year	CO_2	CH_4	N_2O	CO_2E
	METRIC TONS PER YEAR			
2017	709.33	0.14	0.00	712.86
2018	342.14	0.06	0.00	343.57
			Total	**1,056.43**

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2E = carbon dioxide equivalent.
See Appendix A for complete results.

As shown in Table 4.7-1, the estimated total GHG emissions during construction of would be approximately 713 MT CO_2E in 2018 and 344 MT CO_2E in 2019, for a total of 1,056 MT CO_2E over the construction period. Estimated project-generated construction emissions amortized over 30 years would be approximately 35 MT CO_2E per year. As with project-generated construction air quality pollutant emissions, GHG emissions generated during construction of the project would be short-term in nature, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions. Because there is no separate GHG threshold for construction, the evaluation of significance is discussed in the operational emissions analysis in the following text.

Operational Emissions

Operation of the project would generate GHG emissions through motor vehicle trips to and from the project site; marine vessels; off-road equipment; landscape maintenance equipment operation; energy use (natural gas and generation of electricity consumed by the project); solid waste disposal; and generation of electricity associated with water supply, treatment, and distribution and wastewater treatment. CalEEMod and a spreadsheet based model were used to calculate the annual GHG emissions based on the operational assumptions described in Section 3.4.2.2, Operation.

Area Sources

CalEEMod was used to estimate GHG emissions from the project's area sources, which include operation of gasoline-powered landscape maintenance equipment, which produce minimal GHG emissions. It was assumed that 100% of the landscaping equipment would be gasoline powered. See Section 2.4.2.2, for a discussion of landscaping equipment emissions calculations. Consumer product use and architectural coatings result in VOC emissions, which are analyzed in air quality analysis only, and little to no GHG emissions.

Energy Sources

Energy use for the project was provided by the applicant. To reflect the actual GHG emissions for the project build-out year, emissions intensity factors were adjusted to reflect achievement of the RPS goals by LADWP. LADWP reported a CO_2 intensity factor of 1,132 pounds per megawatt-hour (lbs/MWh) in 2015 in its *2016 Power Integrated Resources Plan* (PIRP) (LADWP 2016). LADWP also has set a goal in the 2016 PIRP to have a CO_2 intensity of 500 lb/MWh by 2026. This goal incorporates the state mandated goals of the renewable portfolio standard of 33% renewable energy by 2020 and 50% by 2030. Using the 2015 CO_2 factor and the goal for 2026, a linear trend was calculated between the two points to estimate the intensity factor for 2019 (the buildout year for the project), giving a CO_2 intensity factor of 902.18 lb/MWh. Since the CH_4 and N_2O factors were not provided by LADWP, the CalEEMod default factors were used.

As explained in Section 3.2.2, State Regulations, Title 24 of the California Code of Regulations serves to enhance and regulate California's building standards. The most recent amendments to Title 24, Part 6, referred to as the 2016 standards, became effective on January 1, 2017. The building electricity use was provided by the applicant based on anticipated usage from operation of similar type facilities they operate.

Mobile Sources

All details for criteria air pollutants discussed in Section 2.4.2.2 are also applicable for the estimation of operational mobile source GHG emissions. Regulatory measures related to mobile sources include AB 1493 (Pavley) and related federal standards. AB 1493 required that CARB establish GHG emission standards for automobiles, light-duty trucks, and other vehicles determined by CARB to be vehicles that are primarily used for noncommercial personal transportation in the state. In addition, the NHTSA and EPA have established corporate fuel economy standards and GHG emission standards, respectively, for automobiles and light-, medium-, and heavy-duty vehicles. Implementation of these standards and fleet turnover (replacement of older vehicles with newer ones) will gradually reduce emissions from the project's motor vehicles. In addition, the Low Carbon Fuel Standard calls for a 10% reduction in the "carbon intensity" of motor vehicle fuels by 2020.

In addition to vehicle GHG emissions, tugboats used to push barges would generate GHG emissions from combustion of diesel fuel. For GHG emission calculation purposes, it was assumed that the ocean going tug boat would operate up to the operational boundary of the Port, consistent with the 2016 Emission Inventory for the POLA (Starcrest 2017), which is assumed to be 40 nautical miles one-way. There would also be an assist tug boat used only within the port.

Solid Waste

The project would generate solid waste, and therefore, result in CO_2E emissions associated with landfill off-gassing. CalEEMod default values for solid waste generation were used to estimate GHG emissions associated with solid waste. Project compliance with the 75% diversion rate by 2020, consistent with AB 341 (25% increase from the solid waste diversion requirements of AB 939, Integrated Waste Management Act), has been included in the GHG assessment.

Water and Wastewater

Supply, conveyance, treatment, and distribution of water for the project require the use of electricity, which would result in associated indirect GHG emissions. Similarly, wastewater generated by the proposed project requires the use of electricity for conveyance and treatment, along with GHG emissions generated during wastewater treatment. Water consumption estimates for both indoor and outdoor water use and associated electricity consumption from water use and wastewater generation were estimated using CalEEMod default values.

The estimated operational (year 2019) project-generated GHG emissions from area sources, energy usage, motor vehicles, marine vessel operation, solid waste generation, and water usage and wastewater generation are shown in Table 4.7-2.

Table 4.7-2
Estimated Annual Operational GHG Emissions

Emission Source	CO_2	CH_4	N_2O	CO_2E
	METRIC TONS PER YEAR			
Area (including the use of consumer products, architectural coatings for repainting, and landscape maintenance equipment)	0.01	0.00	0.00	0.01
Energy (including combustion of fuels used for space and water heating, product curing (20MM Btu/hr autoclave), and cooking appliances)	6,056.14	0.17	0.03	6,070.45
Mobile (including motor vehicle trips from future employees traveling to and from the project site and harbor craft)	2,312.37	0.49	0.19	2,381.13
Off-road (various types of off-road equipment including aerial lifts, cranes, and forklifts)	271.51	0.00	0.00	272.42
Stationary (emergency generator, abrasive blasting)	46.58	0.00	0.00	46.74
Solid waste	51.21	3.03	0.00	126.87
Water supply and wastewater	174.39	1.01	0.03	207.09
			Total	**9,104.71**
			Amortized Construction Emissions	*35.21*
			Operation + Amortized Construction Total	**9,139.92**

Notes: CO_2E = carbon dioxide equivalent;
GHG = greenhouse gas; mty = metric tons per year
Emissions might not add precisely due to rounding. Baseline assumes no project operation.
The Project's construction emissions were amortized over 30 years.

As shown in Table 4.7-2, estimated annual project-generated GHG emissions would be approximately 9,105 MT CO_2E per year as a result of project operation. Estimated annual project-generated operational emissions in 2019 and amortized project construction emissions would be approximately 9,140 MT CO_2E per year. Annual operational GHG emissions with amortized construction emissions would not exceed the SCAQMD threshold. Therefore, the project's GHG contribution would not be cumulatively considerable and is less than significant.

Informational assessment: Consider whether the Project is consistent with certain statewide, regional and local plans and policies.

CEQA Guidelines Section 15064.4(b) provides that another factor to be considered in assessing the significance of GHG emissions on the environment is "the extent to which a project complies with regulations or requirements adopted to implement a statewide, regional or local plan for the reduction or mitigation of GHG emissions."

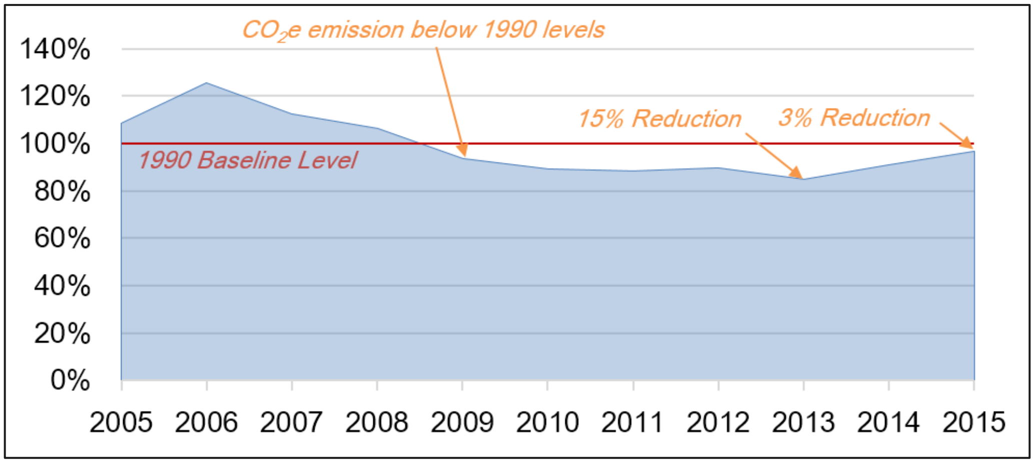
Several state, regional and local plans have been developed that set goals for the reduction of GHG emissions over the next few years and decades. Some of these plans and policies (notably, EO S-3-05 and AB 32) were taken into account by the SCAQMD in developing the 10,000 mty CO_2e threshold. However, no regulations or requirements have been adopted by relevant public agencies to implement those plans for specific projects, within the meaning of CEQA Guidelines Section 15064.4(b)(3). (See *Center for Biological Diversity v. Cal. Dept. of Fish and Wildlife* (*Newhall Ranch*) (2015) 62 Cal.4th 204, 223.) Consequently, no CEQA significance assessment based upon compliance with such regulations or requirements can be made for the proposed Project. Nevertheless, for the purpose of disclosure, LAHD has considered, for informational purposes only, whether the proposed Project activities and features, are consistent with federal, state or local plans, policies or regulations for the reduction of GHG emissions, as set forth below.

The State of California is leading the way in the United States, related to GHG reductions. Several legislative and municipal targets for reducing GHG emissions, below 1990 levels have been established. Key examples include:

- Senate Bill 32 (SB 32)
  1990 levels by 2020
  40% below 1990 levels by 2030
- Assembly Bill 32 (AB 32)
  80% below 1990 levels by 2050
- City of Los Angeles Sustainable City plan
  45% below 1990 levels by 2025
  60% below 1990 levels by 2035
  80% below 1990 levels by 2050

LAHD has been tracking GHG emissions, in terms of CO_2e since 2005 through the LAHD municipal GHG inventory and the annual inventory of air emissions (see Figure 4.7-1). As illustrated below in Figure 4.7-1, Port-related GHG emissions (all three scopes) started making significant reductions since 2006, reaching a maximum reduction in CO_2e of 15% from 1990 levels in 2013. Subsequently, 2014 and 2015 saw GHG levels rise due to a period of port congestion that arose from circumstances outside of the control of either the LAHD or its tenants. This event illustrates a major challenge related to managing GHG-related emissions, as events outside the control of LAHD or its individual tenants will continue to have a varying degree of impact on the progress of reduction efforts.

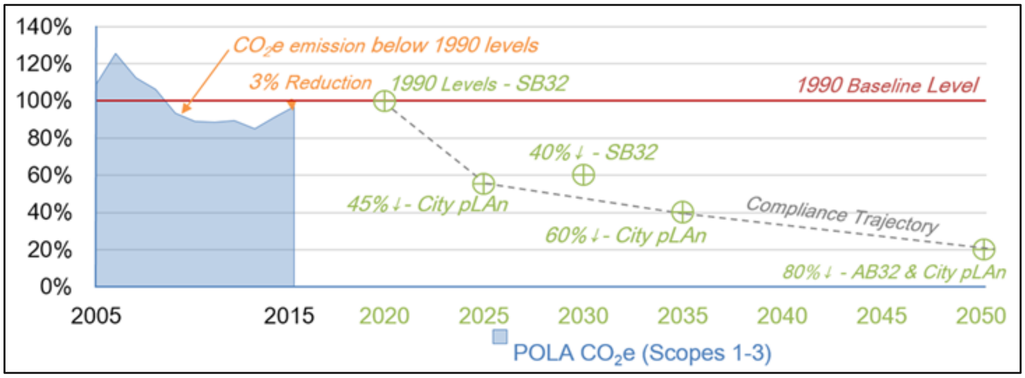
Figure 4.7-1: GHG Emissions 2005–2015



LAHD and its tenants have initiated a number of wide-ranging strategies to reduce all port-related GHGs, which includes the benefits associated with the Clean Air Action Plan (CAAP),),operational efficiency improvements, and land use and planning initiatives. Looking toward 2050, there are several unknowns that will affect future GHG emission levels. These unknowns include grid power portfolios; maritime industry preferences of power sources and fuel types for ships, harbor craft, terminal equipment, locomotives, and trucks; advances in cargo movement efficiencies; the locations of manufacturing centers for products and commodities moved; and increasing consumer demand for goods. The key relationships that have led to operational efficiency improvements to date are the cost of energy, current and upcoming regulatory programs, and the competitive nature of the goods movement industry. We anticipate these relationships will continue to produce benefits with regards to GHG emissions for the foreseeable future.

Figure 4.7-2 shows the key GHG targets listed above with a postulated 'compliance trajectory' set to meet the most stringent targets. It is important to note that the targets shown in Figure 4.7-2 are not project specific targets and that no specific project level regulations or requirements have been developed by agencies for implementation of these plans. Instead, these targets are goals meant to apply to all applicable GHG sources in aggregate, which means some sources will need to go beyond these targets, while others may not be able to meet the target level.

**Figure 4.7-2: Actual GHG Emissions
2005–2015 and 2015–2050 GHG Compliance Trajectory**



Nevertheless, with the very aggressive targets shown in Figure 4.7-2, it is not possible at this time to determine whether Port-wide emissions or any particular Project applicant will be able to meet the compliance trajectories shown. Compliance will depend on future regulations or requirements that may be adopted, future technologies that have not been identified or fully developed at this time, or any other Port-wide GHG reduction strategies that may be established. As a result, while LAHD will continue to work with its tenants to implement aggressive GHG reduction measures to meet the compliance trajectory that is shown, LAHD cannot with certainty confirm compliance with these future plans and policies at this time.

San Pedro Bay Ports Climate Action Plan

The LAHD implemented a CAP in 2007 to reduce GHG emissions from Port related activities 35 percent below 1990 levels by 2030, which is consistent with the goal of *Green LA: An Action Plan to Lead the Nation in Fighting Global Warming* (City of Los Angeles 2007). The majority of CAP measures are focused on LAHD operations. The CAP does not have GHG reductions measures specific to tenant operations; however, the CAP does identify measures within the CAAP that reduce GHG emissions in addition to criteria pollutants. Table 4.7-3 below shows the Project's consistency with those GHG reduction measures.

Table 4.7-3
Project Consistency with CAAP GHG Emission Reduction Strategies

Plan Measure	Measure Number	Project Consistency
HARBOR CRAFT		
Performance Standards for Harbor Craft	HC1	All harbor craft used in the project will be have a home port of the POLA and thus will be required to maintain compliance with this measure including meeting EPA Tier II emission standards. All tugs will also use shore power during the project.
CARGO HANDLING EQUIPMENT		
Performance Standards for Cargo Handling Equipment	CHE1	The project has committed to using Tier 3 cargo-handling equipment.

Source: *San Pedro Bay Ports 2010.*

Based on the analysis in Table 4.7-3, the project would be consistent with the applicable strategies and measures in the CAP and CAAP.

CARB Scoping Plan

The Scoping Plan, approved by CARB on December 12, 2008, provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. As such, the Scoping Plan is not directly applicable to specific projects. Relatedly, in the Final Statement of Reasons for the Amendments to the CEQA Guidelines, the CNRA observed that "[t]he [Scoping Plan] may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009c). Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., LCFS), among others.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32 and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. The Scoping Plan as a policy document is not designed to be used to determine significance on a project level. However, the project would not conflict with any of the Scoping Plan's outlined measures.

SCAG RTP/SCS

SCAG's 2016 RTP/SCS is a regional growth-management strategy that targets per capita GHG reduction from passenger vehicles and light-duty trucks in the Southern California region. The 2016 RTP/SCS incorporates local land use projections and circulation networks in city and county general plans. The 2016 RTP/SCS is not directly applicable to the project because the underlying purpose of the 2016 RTP/SCS is to provide direction and guidance by making the best transportation and land use choices for future development, though project would support the goals and policies of the 2016 RTP/SCS.

In regard to consistency with EO B-30-15 (goal of reducing GHG emissions to 40% below 1990 levels by 2030) and EO S-3-05 (goal of reducing GHG emissions to 80% below 1990 levels by 2050), there are no established protocols or thresholds of significance for that future year analysis. However, CARB forecasts that compliance with the current Scoping Plan puts the state on a trajectory of meeting these long-term GHG goals, although the specific path to compliance is unknown (CARB 2014). As discussed previously, the project is consistent with the GHG emission reduction measures in the Scoping Plan and would not conflict with the state's trajectory toward future GHG reductions. In addition, since the specific path to compliance for the state in regard to the long-term goals will likely require development of technology or other changes that are not currently known or available, specific additional mitigation measures for the project would be speculative and cannot be identified at this time. Furthermore, the project is consistent with the SCAG 2016 RTP/SCS, which establishes targets for passenger vehicle GHG emissions for 2020 and 2040. The project's consistency would assist in meeting the POLA's contribution to GHG emission reduction targets in California. With respect to future GHG targets under the EOs, CARB has also made clear its legal interpretation that it has the requisite authority to adopt whatever regulations are necessary, beyond the AB 32 horizon year of 2020, to meet EO S-3-05's 80% reduction target in 2050; this legal interpretation by an expert agency provides evidence that future regulations will be adopted to continue the state on its trajectory toward meeting these future GHG targets.

4.8 HAZARDS AND HAZARDOUS MATERIALS

Hazardous substances are defined by state and federal regulations as substances that must be regulated to protect the public health and the environment. Hazardous materials have certain chemical, physical, or infectious properties that cause them to be hazardous. The California Code of Regulations, Title 22, Chapter 11, Article 2, Section 66261, provides the following definition:

> A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed of or otherwise managed.

According to Title 22 (CCR Chapter 11, Article 3), substances having a characteristic of toxicity, ignitability, corrosivity, or reactivity are considered hazardous. Hazardous wastes are hazardous substances that no longer have a practical use, such as material that has been abandoned, discarded, spilled, contaminated, or stored prior to disposal.

This section discusses the potential for the proposed Project to expose people to hazards and hazardous materials and uses information provided in the Environmental Hazards Report, which is included as Appendix C to this IS/MND.

Would the Project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact. The proposed Project would involve the use of hazardous materials including liquid argon, helium, nitrogen, and oxygen stored in an ancillary tank farm and composites integral to the manufacturing of the products. These hazardous substances and associated wastes could be transported to and stored, used, and generated on the proposed Project site and disposed of off-site. In addition, operations would include substances for machinery and vehicles, new and used motor oils, cleaning solvents, paints, and storage containers and applicators containing such materials. A Risk Management Analysis of storage of hazardous materials will be completed as required and outlined in the Harbor Department's Risk Management Plan. The policy of the Risk Management Plan is to minimize or eliminate overlaps of hazard footprints on vulnerable resources as defined in the Port Master Plan. LAHD has reviewed the proposed materials to be stored in bulk and determined that a small hazard footprint adjacent to the storage tanks is likely; however expected to stay near the storage tanks and within the project boundary; thus not exposing any sensitive receptors to risk.

Federal, state, and local regulations control the transportation, use, storage, generation, and disposal of hazardous materials to minimize potential health and environmental hazards that could occur through accidental spills or leakage. The Los Angeles Fire Department regulates storage of chemicals through its Business Emergency Plan program. As the quantity of hazardous materials to be stored at the site would be greater than 55 gallons, a Business Emergency Plan will be required for the proposed Project. Fuel and oil would not be storage in volumes exceeding 1,320 gallons, as such a Spill Prevention, Control, and Countermeasure Plan will not be required per the Code of Federal Regulations, Title 40, Part 112 (Appendix C).

Construction would include fuels for machinery and vehicles, new and used motor oils, cleaning solvents, paints, and storage containers and applicators containing such materials. All materials would be transported, used, and disposed of in accordance with all federal, state, and local laws regulating the management and use of hazardous materials. For example, hazardous materials would not be disposed of or released onto the ground or any surface water, and completely enclosed containment would be provided for all refuse generated on the proposed Project site. Furthermore, all waste, including trash, litter, garbage, solid waste, petroleum products, composites, and any other potentially hazardous materials, would be removed and transported to a permitted waste facility for treatment, storage, or disposal. Use of these materials for their intended purpose would not pose a significant risk to the public or the environment.

During demolition, because of the age of the Compressor Building to be demolished, hazardous materials may be present and would be necessarily disposed of. The materials could include lead-based paint, asbestos, polychlorinated biphenyls (PCBs), mercury, and other hazardous building materials. The potential for these hazardous materials to be present and require disposal as part of the demolition of the existing building and wharf repair is subject to existing laws and regulatory requirements and the proposed Project will comply with EPA and California OSHA requirements for inspections, testing, and disposal of materials as well as implement the lease measures identified in Section 2.4 including Lease Measures HAZ-1 and -2.

With the compliance with existing requirements including implementing the measures above, impacts would be less than of significant.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact. As discussed under Section 4.8(a), hazardous substances and wastes would be stored and used on the proposed Project site during operations and construction. Accidental spills, leaks, fires, explosions, or pressure releases involving hazardous materials represent a potential threat to human health and the environment if not properly treated. Accident prevention and containment would be the responsibility of the Applicant during operation and of the construction contractors during construction.

Provisions to properly manage hazardous substances and wastes will be provided in a hazardous materials Business Emergency Plan and are typically included in construction specifications. The most likely spills or releases of hazardous materials during construction would involve petroleum products, such as diesel fuel, oils, and lubricants, and during operation, the spills of liquid gasses could potentially occur (argon, helium, nitrogen and oxygen). All storage, handling, and disposal of these materials are regulated by the Department of Toxic Substances Control (DTSC), U.S. EPA, Occupational Safety and Health Administration, and the Los Angeles City and County Fire Departments. Adherence to the construction specifications and applicable regulations regarding hazardous materials and hazardous waste, including disposal, would ensure that hazardous materials required during construction of the proposed Project would not create a significant hazard to the public or the environment (Appendix C). As such, impacts related to the release of hazardous materials into the environment would be less than significant. A Risk Management Analysis of storage of hazardous materials will be completed as required and outlined in the Harbor Department's Risk Management Plan. The policy of the Risk Management Plan is to minimize or eliminate overlaps of hazard footprints on vulnerable resources as defined in the Port Master Plan. The tanks have been subjected to a preliminary Risk Management Assessment by LAHD and determined to present a low risk generating a small sphere of influence, which does not extend beyond the proposed lease line and thus would not expose any sensitive receptors to risk.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. There are no schools located within 0.25 miles of the proposed Project. The nearest schools are Barton Hill Elementary School (423 North Pacific Avenue), which is approximately 2 miles west of the proposed Project site; Fries Avenue Elementary School (1301 North Fries Avenue), which is approximately 3 miles north of the proposed Project site; and Taper Elementary School (1824 North Taper Avenue), which is approximately 3 miles northwest of the proposed Project site. Materials proposed to be used at the proposed Project site include liquid argon, helium, nitrogen, and oxygen stored in an ancillary tank farm and composites integral to the manufacturing of the products. These activities would not occur within one-quarter mile of a school. Therefore, no impact would occur, and no mitigation is required.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less Than Significant Impact. Various releases from previous activities from prior uses have resulted in impacted soil and groundwater at the proposed Project site. A review of the Site using both Envirostor and Geotracker, indicates the proposed Project site is included in the list of sites compiled pursuant to Government Code Section 65962.5. Excavation associated with the proposed Project would start after completion of the removal action outlined in the 2016 Remedial Action Plan (RAP), which outlines the proposed subsurface soil and groundwater remediation at the Site. In the event impacted soils and groundwater is encountered during excavation that could present a risk of a significant hazard to the environment the following is required pursuant to existing applicable regulations identified in Section 2.4 including Lease Measures HAZ-1 and -2. With compliance with existing regulations including application of the measures above, impacts would be less than significant.

With compliance with existing regulations including application of the measures above, impacts would be less than significant.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area?

No Impact. The proposed Project site is not located within 2 miles of a public airport or within an airport land use plan. The nearest airports are the Long Beach Airport, which is located approximately 8.25 miles northeast of the proposed Project; the Compton/Woodley Airport, which is located approximately 10.75 miles north of the proposed Project; and the Torrance Municipal Airport – Zamperini Field, which is located approximately 5.5 miles northwest of the proposed Project (County of Los Angeles 2016). Therefore, the proposed Project would not be within the vicinity of a public airport.No mitigation is required.

f) For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area?

No Impact. There are no private airstrips in the vicinity of the proposed Project. The nearest helipads are located at 1175 Queens Highway located approximately 3 miles east of the proposed Project and the Catalina Air and Sea Terminal helipad located approximately 1 mile west of the proposed Project. As the proposed Project is not located in the vicinity of a private airstrip, and operation of the proposed Project would not result in a safety hazard for people residing or working in the area, no impact would occur as a result of the proposed Project.No mitigation is required.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. Construction would not require the closure of roads and would not restrict access to or around the proposed Project site. During operation, while oversized components would generally be delivered via barge, occasional deliveries of oversized components could occur via roadways. In such instances the LAHD, LAPD, Caltrans, and CHP would be notified and coordinated with to ensure minimum disruption to traffic flows and that contingencies for emergency evacuation are in place during the short period of active delivery in accordance with Caltrans standard notification requirements. Therefore, operation of the proposed Project is not anticipated to interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, impacts would be less than significant and no mitigation is required.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No Impact. The proposed Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. According to the City of Los Angeles General Plan Safety Element, Selected Wildfire Hazard Area Map (City of Los Angeles 1996), the proposed Project is not located in a wildland fire hazard area. Therefore, no impacts would occur as a result of the proposed Project and no mitigation is required.

4.9 HYDROLOGY AND WATER QUALITY

This section describes the existing conditions relating to hydrology and water quality and the potential impacts associated with the proposed Project. In addition, this analysis includes a discussion on the potential sea-level rise impacts that may result with implementation of the proposed Project.

Would the Project:

a) Violate any water quality standards or waste discharge requirements?

Less Than Significant Impact. The site is currently a disturbed site of approximately 10 acres with approximately 4 acres of paved areas with the remainder consisting of compacted dirt. Implementation of the proposed Project would include demolition of an abandoned industrial building, repairs to existing pavement, new pavement on existing compacted dirt areas, construction of a new building, and repairs to the wharf. The proposed Project would involve an increase in impervious area consisting of the 6 acres of paving over compacted dirt. The proposed Project would be constructed and operated in accordance with the National Pollutant Discharge Elimination System Permit for the Municipal Separate Storm Sewer System (NPDES MS4 Permit) requirements, the requirements of the City of Los Angeles Low Impact Development (LID) Ordinance (Ordinance No. 181899) and the Project would require a construction Stormwater Pollution Prevention Permit (SWPPP). Therefore, impacts related to water quality standards and waste discharge requirements would be less than significant, and no mitigation is required.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

No Impact. The proposed Project site is not currently an area that allows for groundwater recharge because the proposed Project site is currently paved or occupied by structures and would remain as such following the proposed paving and pavement repair activities. Although approximately 6 acres of compacted dirt would be paved over, the proposed Project is located on an artificial island constructed of fill material, and therefore, does not support groundwater recharge. Implementation of the proposed Project would not affect the location or rate of groundwater recharge, and the proposed Project does not involve use of groundwater for any reason. Therefore, the proposed Project would have no impact with respect to groundwater, and no mitigation is required.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

No Impact. There are no streams or rivers located nearby that would be affected by the proposed Project. Because of the proposed Project location, there are no downstream rivers or streams of the proposed Project site as the site is adjacent to the main channel within the Port, directly connected to the Pacific Ocean. The proposed Project would involve an increase in impervious area consisting of 6 acres of paving over compacted dirt. The proposed Project would be constructed and operated in accordance with the requirements of Water Quality Compliance Master Plan for Urban Runoff (City of Los Angeles 2009) and the City of Los Angeles LID Ordinance (Ordinance No. 181899), and would be designed to avoid impacts to water quality and to manage the volume and flow of drainage off a site. With proper LID implementation and site design, pollutants from the site would not be mobilized during a rain event. Thus, the proposed Project would have no impact with respect to drainage patterns or alteration of the course of a stream or river, which would result in erosion or siltation on or off site, and no mitigation is required.

d) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

No Impact. Surface runoff is largely controlled by engineered drainage structures at the Project site. Surface runoff is directed towards on-site storm-drains, which discharge into the Main Channel leading into the San Pedro Bay. Other than the San Pedro Bay of the Pacific Ocean, there are no surface water bodies within two miles of the Site. As discussed in Section 4.9(c), there are no streams or rivers located nearby that would be affected by the proposed Project. The proposed Project would involve an increase in impervious area consisting of 6 acres of paving over compacted dirt. The proposed Project would be constructed and operated in accordance with the requirements of City's Water Quality Compliance Master Plan for Urban Runoff (City of Los Angeles 2009) and the City of Los Angeles LID Ordinance (Ordinance No. 181899), and would be designed to avoid impacts to water quality and manage the volume and flow of drainage off a site. The proposed Project would have no impact with respect to drainage patterns or alteration of the course of a stream or river, which would result in flooding on or off site, and no mitigation is required.

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant Impact. The site is currently a disturbed site with an abandoned industrial building, an area of compacted dirt, and paved areas used for miscellaneous storage and parking. Implementation of the proposed Project would include demolition of an abandoned industrial building, construction of a new building, repairs to existing pavement, new pavement on currently dirt areas, repair to the wharf, parking and driveway access improvements, and landscaping. The proposed Project would involve an increase in impervious area consisting of approximately 6 acres of paving over compacted dirt. The proposed Project would be constructed and operated in accordance with the requirements of City's Water Quality Compliance Master Plan for Urban Runoff (City of Los Angeles 2009), designed to direct the installation of best management practices for stormwater capture, control, and treatment to avoid impacts to water quality and manage the volume and flow of drainage off a site. Additionally, the Project would be required to follow the City of Los Angeles LID Ordinance (Ordinance No. 181899). The proposed Project would have a less-than-significant impact with respect to runoff water, and no mitigation is required.

f) Otherwise substantially degrade water quality?

Less Than Significant Impact. The site is currently a disturbed site with an abandoned industrial building, an area of compacted dirt, and paved areas. Implementation of the proposed Project would include demolition of an abandoned industrial building, construction of a new building, repairs to existing pavement, new pavement on currently dirt-graded areas, repairs to the wharf, parking and driveway access, and landscaping. Thus, the Project would require a construction SWPPP and erosion control measures to prevent runoff.

The proposed Project would involve an increase in impervious area consisting of approximately 6 acres of paving over compacted dirt, removing the potential runoff of dirt as a water-quality-degrading source. The proposed Project would be constructed and operated in accordance with the requirements of City's Water Quality Compliance Master Plan for Urban Runoff (City of Los Angeles 2009) and designed to direct the installation of best management practices for stormwater capture, control, and treatment to avoid impacts to water quality and to manage the volume and flow of drainage off a site. Additionally, the Project would be required to follow the City of Los Angeles LID ordinance (Ordinance No. 181899). Compliance with the above measures and ordinances would ensure that the proposed Project would have a less-than-significant impact with respect to the degradation of water quality, and no mitigation is required.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact. The proposed Project footprint is located within a Federal Emergency Management Agency 100-year or 500-year flood zone. The proposed Project is banked by floodways located west and east that must be kept free of encroachment so that the 100-year flood can be carried without substantial increases in flood heights (Zone AE), which extends onto the western portion of the Site with the remainder of the Site located within other flood areas with a 0.2% annual flood chance (Zone X) (FEMA 2009). The proposed Project would include activities that occur within this identified 100-year flood area. However, the proposed Project would not place housing within a flood hazard area. Therefore, there would be no impact, and no mitigation is required.

h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?

Less Than Significant Impact. The proposed Project would be within a FEMA 100-year and 500-year flood zone. The proposed Project Site has been previously developed with structures, however the Project would introduce a new 203,450 square-foot building and ancillary tank farm which would have the potential to impede or redirect flows. With the installation of on-site storm drains within the backland improvement areas as part of the proposed Project, these minor structures would not impede or redirect flood flows because they would not increase the potential for flooding compared to the existing conditions. Operation of the proposed Project would result in an increase in structures at the site compared to existing conditions; however, the increase in structures on-site would not impede or redirect flood flows such that significant impacts would occur. The Project site is relatively flat, is located along the water's edge (which would allow excess runoff to flow off-site), and would be graded to direct runoff to the drainage system. Additionally, site elevations and the flat site topography would remain generally the same subsequent to construction. Thus, impacts would be less than significant, and no mitigation is required.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Less Than Significant Impact. The proposed Project site is not within any potential dam or levee inundation areas as identified in the Los Angeles General Plan Safety Element (City of Los Angeles 1996). Additionally, the proposed Project would be constructed in conformance with the 2013 California Building Code. Therefore, there would be a less than significant impact associated with risk of loss, injury, or death involving flooding as a result of the failure of a levee or dam, and no mitigation is required.

j) Inundation by seiche, tsunami, or mudflow?

Less Than Significant Impact. Due to the lack of an adjacent lake or other enclosed water body, the proposed Project site would not be susceptible to seiche. The lack of nearby topographical features typically associated with mudflow (e.g., hillside, riverbanks) would result in a very low probability for mudflow to affect the proposed Project site. According to the City of Los Angeles Safety Element of the General Plan (City of Los Angeles, 1996), the Project site is within an area susceptible to impacts from a tsunami and subject to possible inundation. However, in the period since publication of the Safety Element a detailed Tsunami Hazard Assessment for the Ports of Los Angeles and Long Beach was prepared by Moffatt & Nichol (Moffatt and Nichol, 2007) utilizing a model developed specifically for the Port Complex. Conclusions of the study indicate that under various tsunami scenarios the Project area would not experience inundations or flooding. Thus, impacts would be less than significant.

4.10 LAND USE AND PLANNING

This section contains a description and analysis of the land use and planning considerations that would result from project implementation.

Would the Project:

a) Physically divide an established community?

No Impact. The proposed Project is located in a heavy industrial area that does not contain any established communities. The physical division of an established community typically refers to the construction of a linear feature, such as a major highway or railroad tracks, or removal of a means of access, such as a local road or bridge, which would impair mobility within an existing community or between a community and outlying area. Under the existing conditions, the proposed Project site is not used as a connection between established communities. Instead, connectivity in the surrounding area is facilitated via local roadways. Therefore, no impacts associated with physical division of an established community would occur, and no mitigation is required.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The proposed Project does not conflict with any land use plan, policy, or regulation of an agency with jurisdiction over the proposed Project adopted for the purpose of avoiding or mitigating an environmental impact. The proposed Project site is designated ZI-2130 Harbor Gateway State Enterprise Zone. The proposed Project site is zoned for heavy industrial uses, and the proposed Project would be consistent with that land use designation.

Implementation of the proposed Project would result in a manufacturing facility for transportation vessels, which due to the size of the product, would necessarily be delivered or taken to testing facilities via barge. The proposed Project would be consistent with existing uses in Planning Area 4 and with the mixed-use Maritime Support/Break Bulk land use designation. Therefore, the proposed Project would not conflict with an applicable land use plan, policy, or regulation. Therefore, no impacts would occur, and no mitigation is required.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact. As discussed in Section 4.4(f), there is no adopted habitat conservation plan; natural community conservation plan; or other approved local, regional, or state habitat conservation plan that overlays the proposed Project site. Thus, the proposed Project would not be subject to the provisions of any such conservation plans. Therefore, no impacts associated with conservation plans would occur, and no mitigation is required.

4.11 MINERAL RESOURCES

The purpose of this section is to identify and evaluate key mineral resources on the proposed Project site and to determine the degree of impacts that would be attributable to the proposed Project.

Would the Project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact. According to the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, there are no gas, geothermal, or other known wells located on the proposed Project site. There are several oil and gas production wells north and east of the proposed Project site, although the majority are plugged. The closest well is located approximately 0.5 miles west of the proposed Project site and is operated by the Exxon Mobil Corporation (Department of Conservation 2016). The proposed Project would neither result in a land use conflict with the existing oil extraction nor preclude future oil extraction on underlying deposits. According to Exhibit A of the City of Los Angeles General Plan Conservation Element, the proposed Project site is not located within a mineral resource zone (City of Los Angeles 2001). Therefore, the proposed Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. No impact would occur, and no mitigation is required.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact. According to Exhibit A of the City of Los Angeles General Plan Conservation Element, the proposed Project site is not located within a mineral resource zone (City of Los Angeles 2001). Further, as discussed in Section 4.11(a), there are no gas, geothermal, or other known wells located on the proposed Project site, and the proposed Project would neither result in a land use conflict with the existing oil extraction nor would it preclude future oil extraction on underlying deposits. Therefore, implementation of the proposed Project would not result in the loss of availability of a locally important mineral resource recovery site, no impact would occur, and no mitigation is required.

4.12 NOISE

The purpose of this section is to identify sensitive receptors on the proposed Project site and to determine the degree of noise impacts that would be attributable to the proposed Project. Noise levels are regulated by the City's Municipal Code, Chapter XI, Noise Regulation (City of Los Angeles 2016d). The sound limits apply to noise generation from one property to an adjacent property. The sound-level limits depend on the time of day, the duration of the noise, and the land use, as shown in Table 4.12-1.

Table 4.12-1
Exterior Noise Limits

Zone	Noise Level (dBA)	
	DAYTIME 7:00 a.m.–10:00 p.m.	***NIGHTTIME 10:00 p.m.–7:00 a.m.***
A1, A2, RA, RE, RS, RD, RW1, RW2, R1, R2, R3, R4, and R5	50	40
P, PB, CR, C1, C1.5, C2, C4, C5, and CM	60	55
M1, MR1, and MR2	60	55
M2 and M3	65	65

Source: City of Los Angeles 2016d.
Note: dBA = A-weighted decibel

Would the Project Result In:

a) **Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

Less Than Significant Impact. The Project is located on Terminal Island. The area is designated as a heavy industrial zone (M3), and the permissible ambient noise levels within this zone is 65 dBA during daytime and nighttime due to the existing heavy industrial uses. Ambient noise in the proposed Project vicinity is primarily generated from industrial activities, including boat yards, shipping, and trucking activities. Since the proposed Project site is located in the City, the established construction noise guidelines of the City's Municipal Code applies to the proposed Project. The City's Municipal Code permits construction activities between 7:00 a.m. and 9:00 p.m., Monday through Friday, and 8:00 a.m. to 6:00 p.m. on any Saturday or national holiday. No construction activity is allowed on Sundays (City of Los Angeles 2016c).

Construction noise levels can be expressed in terms of the equivalent continuous noise level (L_{eq}), also referred to as the average sound level. In general terms, L_{eq} is the average noise level during the specified time period.

Ambient Noise Monitoring

Noise measurements were conducted on May 3, 2017 between 10 a.m. and 1 p.m. Measurements were taken with a calibrated Rion NL-52 sound-level meter. Noise measurements were taken from the closest public areas. The sound-level meter meets the current American National Standards Institute's standard for a Type 2 precision sound-level meter. The sound-level meter was positioned at the following three locations: 1350 South Seaside Avenue (adjacent to the Al Larson Marina), 1196 Nagoya Way nearest to the water, and 77 Berth, San Pedro, along the water of Ports O'Call Village at a height of approximately 5 feet above the ground. Noise measurement locations are shown in Figure 4.12-1. The measured daytime average sound levels ranged from 55 to 56 decibels (dB), as depicted in Table 4.12-2. Measurement results are in terms of the time-averaged sound level (L_{eq}).

Table 4.12-2
Ambient Measured Noise Levels

Site	Location	Sound Level (dB L_{eq})	Noise Sources
1	Al Larson Marina Latitude:33.731012, Longitude:-118.275868	56.4	Industrial, birds, distant aircraft, distant conversations / yelling, distant traffic
2	Port O'Calls (South) Latitude:33.732376, Longitude:-118.276330	55.1	Conservations, shop noise, birds, distant aircraft, distant conservation / yelling, distant industrial, distant traffic, rustling leaves
3	Port O'Calls (North) Latitude:33.731983, Longitude:-118.268329	55.6	Traffic, distant aircraft, distant conversations / yelling, distant industrial, distant traffic

dB Leq = decibel of equivalent sound level

Construction Noise

Construction activities, including demolition, paving of compacted dirt areas and pavement repair, building construction, and improvements to the wharf would take approximately 16–18 months. These activities would be limited to the City's allowable construction hours and days, which are between 7:00 a.m. and 9:00 p.m., Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturday or national holidays. No construction activity would occur on Sundays. Construction equipment to be used is summarized in Table 2.4-1.

Construction equipment would include standard equipment such as excavators, backhoes, loaders, cranes, portable generators and air-compressors, and miscellaneous trucks. The maximum noise level ranges for various pieces of construction equipment at a distance of 50 feet are depicted in Table 4.12-3. The maximum noise levels at 50 feet for typical equipment would range up to 88 dB for the type of equipment normally used for this type of project. The hourly average noise levels would vary, but construction noise levels of up to approximately 75 to 80 dB at 50 feet are typical for the anticipated construction activities.

Table 4.12-3
Construction Equipment Noise Emission Levels

Equipment Type	"Typical" Equipment dBA at 50 feet
Air compressor	81
Backhoe	85
Concrete pump	82
Concrete vibrator	76
Crane	88
Dozer	87
Generator	78
Loader	84
Paver	88
Pneumatic tools	85
Water pump	76
Power hand saw	78
Shovel	82
Trucks	88

Source: U.S. Department of Transportation, Federal Transit Administration, Office of Planning and Environment. May, 2006. FTA-VA-90-1003-06. Transit Noise and Vibration Impact Assessment. (Prepared under contract by Harris, Miller, Miller and Hanson). Burlington, MA.

Noise levels from construction activities generally decrease at a rate of 6 dB per doubling of distance away from the activity. Thus, at a distance of 100 feet from the center of construction activities, based on existing noise levels and anticipated construction equipment, construction noise levels would range from 69 to 74 dBA L_{eq}. At a distance of 1,000 feet, construction noise could range up to 49 to 54 dBA L_{eq} but would likely be lower due to additional attenuation from ground effects, air absorption, and shielding from intervening structures or topography.

The proposed Project is surrounded by industrial and commercial uses including the Al Larson Marina located approximately 400 feet west of the Project site. Due to the short-term duration of the construction activities, and because these activities would occur during the City's allowable time periods, and because the proposed Project would occur in an existing industrial area with elevated existing noise levels, the proposed Project would result in a less-than-significant noise impact, and no mitigation is required.

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SOURCE: Bing Maps (Accessed 2017)

FIGURE 4.12-1

Noise Measurement Locations

Berth 240 Transportation Vessels Manufacturing Facility Project

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Operational Noise

Implementation of the proposed Project would involve industrial manufacturing. While the majority of activities would occur within the proposed building, deliveries, materials and components movements, and product loading to a barge would be undertaken in the open and include equipment that would generate noise.

The proposed building would reduce noise levels substantially, and ensure compliance with the city's noise standard for industrially-zoned properties of 65 dBA L_{eq} daytime or nighttime. The proposed Project would operate during both daytime and nighttime; as shown in Table 4.12-1, the City's noise limits are more stringent during nighttime hours for noise-sensitive land uses. As stated in the project description, the nearest noise-sensitive receptors are residential areas within the San Pedro hillsides community, approximately 0.5 miles west of the Project site. At distances of 0.5 miles (2,640 feet), the noise attenuation from distance would be approximately 34 decibels, compared to a reference distance of 50 feet. Additionally, at these distances excess attenuation from atmospheric absorption and other effects would typically occur, at a rated of approximately 1.6 dB per 1,000 feet. Thus, for example even a relatively high average noise level of 75 dBA L_{eq} at a reference distance of 50 feet would be reduced to approximately 37 dBA L_{eq} at noise-sensitive receivers 1,000 feet away, neglecting any additional shielding from intervening structures. This would be less than the City of Los Angeles Municipal Code noise standard for nighttime noise at residential land uses of 40 dBA L_{eq}. Further, the proposed Project is surrounded by industrial uses with exception to the adjacent commercial use (Al Larson Marina, which does not allow liveaboards); these land uses are not sensitive to changes in noise levels (Al Larson Marina Representative 2017). Manufacturing activities would occur within the proposed, closed building. Typically, only transfers of products and project-related vehicle traffic would be clearly audible beyond the project boundary. Therefore, the proposed Project would result in a less-than-significant noise impact, and no mitigation is required

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. The proposed Project construction would involve heavy construction equipment within an existing heavy industrial zone. Groundborne vibration is a small, rapidly fluctuating motion transmitted through the ground that diminishes (attenuates) fairly rapidly over distance. Vibrations may occur as a result of wharf repaving. The closest sensitive receptors to the proposed Project are over 0.5 miles west of the proposed Project. Vibration levels would not be perceptible at these distances. Therefore, vibration or groundborne noise level impacts would be less than significant, and no mitigation is required.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant Impact. Refer to Section 4.12(a). Operation of the proposed Project would not result in any substantial permanent noise impacts; therefore, this impact would be less than significant, and no mitigation is required.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant Impact. Construction would not result in any substantial temporary or periodic noise increase above existing levels because the proposed Project site is surrounded by industrial uses with high background noise levels and designated uses that are not considered sensitive to an increase in noise levels. Therefore, this impact would be less than significant, and no mitigation is required.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The proposed Project site is not located within 2 miles of a public airport or located within an airport land use plan. The nearest airports are the Long Beach Airport, which is located 8.25 miles northeast of the proposed Project; the Compton/Woodley Airport, which is located 10.75 miles north of the proposed Project; and the Torrance Municipal Airport – Zamperini Field, which is located 5.5 miles northwest of the proposed Project (County of Los Angeles 2016). Therefore, the proposed Project would not expose people residing or working on the proposed Project site to excessive noise levels. No impacts would result, and no mitigation is required.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. There are no private airstrips in the vicinity of the proposed Project. The nearest helipads are located at 1175 Queens Highway located approximately 4.7 miles east of the proposed Project, and the Catalina Air and Sea Terminal helipad located approximately 1 mile west of the proposed Project. Because the proposed Project is not located in the vicinity of a private airstrip, operation of the proposed Project would not expose people residing or working in the proposed Project site to excessive noise levels. No impacts would result, and no mitigation is required.

4.13 POPULATION AND HOUSING

This section describes potential impacts to population and housing associated with the proposed Project.

Would the Project:

a) **Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

No Impact. The proposed Project involves the operation of a facility to manufacture transportation vessels. No residential uses or other land uses typically associated with directly inducing population growth are included as part of the proposed Project. The employees hired to operate the proposed Project would consist of up to 750 employees, a portion of the employees would be from the company's facility in the City of Hawthorne while others would be new hires, but all employees would be from within the greater Los Angeles area. As such, it is not anticipated that people would relocate into the area as a result of the proposed Project.

The proposed Project would not construct new or extend existing utilities or infrastructure into areas not currently served by such improvements. Thus, the proposed Project would not indirectly induce population growth. Therefore, no impacts associated with population growth inducement would occur, and no mitigation is required.

b) **Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?**

No Impact. The proposed Project site has a General Plan designation of Port of Los Angeles (Maritime Support) (LAHD 2014). The Port Master Plan (LAHD 2014) establishes policies and guidelines to direct the future development of the Port. The proposed Project site is designated as a Heavy Industrial Zone (M3) and ZI-2130 Harbor Gateway State Enterprise Zone (City of Los Angeles 2016a). The proposed Project would consist of construction activities including site preparation, access improvements, foundations for building and ancillary tank farm, utility hook ups and prefabricated building construction, paving for parking and access driveways, landscaping, and repairs to the wharf. As such, the proposed Project would not displace existing housing and would not necessitate the construction of replacement housing elsewhere since none exists on the proposed Project site. No impact would occur, and no mitigation is required.

c) **Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?**

No Impact. As discussed in Section 4.13(b), the proposed Project would not displace substantial numbers of people. The proposed Project would establish a state of the art industrial manufacturing facility serving to prototype new ideas and technologies needed to advance specialized transportation vessels. As such, the proposed Project would not necessitate the construction of replacement housing elsewhere since none exists on the proposed Project site. No impact would occur, and no mitigation is required.

4.14 PUBLIC SERVICES

This section evaluates public services impacts associated with the implementation of the proposed Project in terms of protection, police protection, schools, parks, and other public services.

Would the Project:

a) **Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:**

i) Fire Protection?

Less Than Significant Impact. The Los Angeles Fire Department (LAFD) provides fire protection and emergency medical response services to the proposed Project site. The LAFD operates 114 stations located throughout the City (LAFD 2016). The closest station is Fire Station No. 111 (Located at 1444 S. Seaside Avenue on Terminal Island, with a staff of three and is equipped with one fireboat), which is located just south of the site. There are four other Fire Stations in the Port Master Plan Area equipped with paramedics, fire engines, ambulances, and firefighters.

The proposed Project site is already within the service area of the LAFD. Once operational, the proposed Project would continue to be served by the LAFD. Additionally, as previously discussed in Section 4.13(a), the proposed Project would not directly or indirectly induce population growth in the City. While the proposed Project could potentially result in a slight increase in calls for service to the proposed Project site in comparison to the existing conditions, this increase is not expected to be substantial since the proposed use is generally consistent with the historic use of the property and surrounding uses. The proposed Project would not increase the demand for fire services and would neither require the expansion of existing facilities nor the construction of new fire facilities. Further coordination with LAFD would be necessary associated with the operation and use of the tank farm and other materials on-site. Overall, it is anticipated that the proposed Project would be adequately served by existing LAFD facilities, equipment, and personnel. Therefore, impacts associated with the construction or expansion of LAFD facilities would be less than significant, and no mitigation is required.

ii) Police protection?

Less Than Significant Impact. In the City, police protection services are provided by the Los Angeles Police Department (LAPD). The proposed Project site is located within the LAPD Harbor Division Area, which includes a 27.5-square-mile area including

Harbor City, Harbor Gateway, San Pedro, Wilmington, and Terminal Island. The LAPD Harbor Community Police Station is located at 2175 John S. Gibson Boulevard, which is approximately 2.5 miles northwest of the proposed Project site.

Similar to fire protection services, the proposed Project site is already within the service area of the LAPD, and once operational, the proposed Project would continue to be served by the LAPD. Additionally, the proposed Project would not directly or indirectly induce population growth in the City. While the proposed Project would potentially result in a slight increase in calls for service to the proposed Project site in comparison to the existing conditions, this increase is expected to be nominal since the proposed use is generally consistent with the industrial uses of the area. The proposed Project would not increase the demand for police services and would require neither the expansion of existing facilities nor the construction of new police facilities. Overall, it is anticipated that the proposed Project would be adequately served by existing LAPD facilities, equipment, and personnel. Therefore, impacts associated with the construction or expansion of LAPD facilities would be less than significant, and no mitigation is required.

iii) Schools?

No Impact. Public kindergarten through high school education in the City is provided by the Los Angeles Unified School District. As previously discussed in Section 4.13(a), the proposed Project would not directly or indirectly induce population growth in the City. The employees hired for operation of the proposed Project would come from the region, and it is not anticipated that people would relocate as a result of the proposed Project. As such, an increase in school-age children requiring public education is not expected to occur as a result of the proposed Project. Therefore, no impacts associated with the construction or expansion of Los Angeles Unified School District facilities would occur, and no mitigation is required.

iv) Parks?

No Impact. As further discussed in Section 4.15, Recreation, no residential uses or other land uses typically associated with directly inducing population growth are included as part of the proposed Project. The employees hired for operation of the proposed Project would come from the region, and it is not anticipated that people would relocate as a result of the proposed Project. As such, an increase in patronage at park facilities is not expected. Therefore, no impacts associated with the construction or expansion of park facilities would occur, and no mitigation is required.

v) Other public facilities?

No Impact. No residential uses or other land uses typically associated with directly inducing population growth are included as part of the proposed Project. The employees hired for operation of the proposed Project would come from the region and it is not expected that people would relocate as a result of the proposed Project. As such, a substantial increase in patronage at libraries, community centers, or other public facilities is not expected. Therefore, no impacts associated with the construction or expansion of public facilities would occur, and no mitigation is required.

4.15 RECREATION

This section evaluates recreation impacts associated with implementation of the proposed Project. The analysis addresses demolition impacts and the associated potential impact to the surrounding local parks or other recreation facilities that would occur as a result of the proposed Project.

Would the Project:

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. The proposed Project would include construction activities including site preparation, access improvements, foundations for building and ancillary tank farm, utility hook ups and prefabricated building construction, paving for parking and access driveways, and repairs to the wharf. The proposed Project would not result in direct impacts to parks or recreational facilities, as none exist on or immediately adjacent to the proposed Project site. The proposed Project does not propose any residential uses that may increase the use of existing neighborhood parks in the vicinity such that substantial physical deterioration of the facility or an increase in park facilities would occur or be accelerated. Therefore, impacts associated with parks or other recreational facilities would not occur, and no mitigation is required.

b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

No Impact. The proposed Project does not include any recreational facilities. The proposed Project does not include development of any residential uses or require the construction or expansion of recreational facilities. Therefore, no impacts to recreational facilities would result that might have an adverse physical effect on the environment, and no mitigation is required.

4.16 TRANSPORTATION AND TRAFFIC

This section provides a summary of the existing and future traffic conditions analysis conducted. The analysis provides a summary of the Traffic Impact Analysis prepared by Iteris in July 2017 (Appendix D).

Would the Project:

a) **Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?**

Less Than Significant Impact. The site is within the Port of Los Angeles Community Plan area in the City of Los Angeles, which is adjacent to the communities of San Pedro and Wilmington, and approximately 20 miles south of downtown Los Angeles. A network of freeways and arterial routes provides regional access to the proposed Project site. The freeway network consists of the Terminal Island Freeway (SR-47/SR-103), which is also called the Seaside Freeway, adjacent to the site and the following north–south freeways: the Harbor Freeway (I-110) to the west and the Long Beach Freeway (I-710) to the east. The closest highway interchange serving the proposed Project site are the Seaside Avenue (SR-47) westbound ramps /Ferry Street intersection and the Seaside Avenue (SR-47)/Navy Way intersection. The arterial street network that serves the proposed Project site includes South Seaside Avenue Seaside Boulevard (SR-47), Ferry Street, Terminal Way, Earle Street, Cannery Street, and Navy Way. Appendix D includes a description of the proposed Project site roadways.

Existing Area Traffic Conditions at Intersections

Level of service (LOS) is a qualitative indication of an intersection's operating conditions as represented by the volume to capacity (V/C) ratio traffic congestion. For intersections, it is measured from LOS A (excellent conditions) to LOS F (very poor conditions), with LOS D (V/C of less than 0.900, fair conditions, for signalized intersections; delay of less than 35.0 seconds, fair conditions, for unsignalized intersections) typically considered to be the threshold of acceptability. The relationship between V/C ratio and LOS for signalized intersections is shown in Table 4.16-1.

Table 4.16-1
The Relationship Between V/C Ratio and LOS

Signalized Intersections (V/C Ratio)	LOS	Traffic Conditions
0 to 0.600	A	Excellent. Little or no delay/congestion. No vehicle waits longer than one red light, and no approach phase is fully used.
>0.601 to 0.700	B	Very good. Slight congestion/delay. An occasional approach phase is fully used; many drivers begin to feel somewhat restricted within groups of vehicles.
>0.701 to 0.800	C	Good. Moderate delay/congestion. Occasionally, drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
>0.801 to 0.900	D	Fair. Significant delay/congestion. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
>0.901 to 1.000	E	Poor. Extreme congestion/delay. Represents the most vehicles that the intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
> 1.000	F	Failure. Intersection failure/gridlock. Backups from nearby locations or cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.

Notes: *V/C ratio = volume to capacity ratio; LOS = level of service*

Intersection LOSs were assessed using the Los Angeles Department of Transportation Critical Movement Analysis method published in the *City of Los Angeles Transportation Impact Study Guidelines* (LADOT 2016). For signalized intersections, LOS values were determined by using the Critical Movement Analysis methodology contained in the *Transportation Research Board's Circular No. 212 – Interim Materials on Highway Capacity* (TRB 1980).

In the City, proposed Project operations would have a significant impact under CEQA on transportation/circulation if it increases an intersection's V/C ratio in accordance with the following guidelines:

- V/C ratio increase greater than or equal to 0.04 if final LOS is C
- V/C ratio increase greater than or equal to 0.02 if final LOS is D
- V/C ratio increase greater than or equal to 0.01 if final LOS is E or F

For this analysis, it is assumed that trucks use more roadway capacity than automobiles because of their size, weight, and acceleration capabilities when compared to automobiles. The concept of passenger car equivalent (PCE)[9] is used in the study to adjust for the effect of trucks in the traffic stream. These factors are consistent with factors applied in previous Port studies, including the *Draft Port of Los Angeles Baseline Transportation Study (Baseline Transportation Study)* (LAHD 2004). They are also consistent with subsequent work conducted for various environmental studies in the Port area.

Existing truck and automobile traffic along study roadways and intersections, including automobiles, Port trucks, and other truck and regional traffic not related to the Port, was determined by collecting vehicle turning movement counts classified by vehicle type at the study locations. These weekday A.M. (7:00 to 9:00 A.M.) and P.M. (4:00 to 6:00 P.M.) traffic counts were collected in February of 2015 at the five study area intersections with the resulting intersection and freeway levels of service shown in the Tables 4.16-2a and 4.16-2b below.

Table 4.16-2a
CEQA Baseline Intersection Level Of Service

		CEQA Baseline			
		A.M.		***P.M.***	
Int. #	Analysis Intersection	***LOS***	***V/C***	***LOS***	***V/C***
1	Navy Way at SR-47	A	0.433	B	0.606
2	Ferry Street at SR-47 Ramps	A	0.409	A	0.551
3	Ferry Street at Terminal Way	A	0.351	A	0.311
4	Earle Street at Terminal Way	A	0.195	A	0.254

9 PCE is defined as the amount of capacity in terms of passenger cars used by a single heavy vehicle of a particular type under specified roadway, traffic, and control conditions.

Table 4.16-2b
CEQA Baseline Freeway Level of Service

Freeway	Location	Northbound / Westbound						Southbound / Eastbound					
		A.M. PEAK HOUR			*P.M. PEAK HOUR*			*A.M. PEAK HOUR*			*P.M. PEAK HOUR*		
		DEMAND OR VOLUME	*DENSITY (PC/MI/LN)*	*LOS*	*DEMAND OR VOLUME*	*DENSITY (PC/MI/LN)*	*LOS*	*DEMAND OR VOLUME*	*DENSITY (PC/MI/LN)*	*LOS*	*DEMAND OR VOLUME*	*DENSITY (PC/MI/LN)*	*LOS*
SR-47	At Vincent Thomas Bridge	1,876	17.9	B	2,764	26.5	D	2,235	21.4	C	2,759	26.4	D
SR-47/SR-103	At Commodore Schuyler Heim Bridge	1,119	7.1	A	1,173	7.5	A	922	5.9	A	997	6.4	A
I-110 [1]	South of C Street	3,771	15.3	B	4,678	18.9	C	5,096	20.6	C	3,302	13.4	B
I-710 [1]	North of PCH	6,442	45.4	**F**	5,819	38.1	E	6,545	46.9	**F**	5,659	36.7	E
I-710 [1]	North of I-405	7,998	39.9	E	6,785	32.5	D	7,617	37.1	E	7,526	36.6	E
I-405 [1]	Between I-110 and I-710	6,587	21.3	C	10,127	37.1	E	9,895	35.7	E	8,669	29.2	D
SR-91 [1]	West of I-710	6,619	17.9	B	7,780	21.0	C	8,384	22.7	C	6,032	16.3	B

Note: Freeway operation conditions based on the methodology in the 2010 HCM where level of service is based on density (passenger car per mile per lane [pc/mi/ln]).
[1] *CMP location*
***BOLD** = LOS F*

The baseline volumes at the CMP monitoring stations and other freeway segments in the study area were obtained from Caltrans traffic counts of average daily traffic and peak hour.

Construction

No Impact. The proposed Project would involve site preparation, access improvements, foundations for building and ancillary tank farm, utility hooks ups and prefabricated building construction, paving, landscaping, and wharf repairs. Since the construction would occur from 7:00 a.m. and 7:00 p.m., trips to and from the site by construction workers would occur before and after peak hours of travel. Truck trips and deliveries would occur at a frequency of less than 25 PCE trips (truck trips are 2.0 PCEs). Since the construction trips would occur throughout the day, the level of construction trips occurring in the peak hours is negligible and would not meet the LADOT minimum threshold of intersection analysis—25 trips in a peak hour.

Operation

Less Than Significant Impact. The proposed Project operation would include up to 750 workers daily, working in shifts with up to 500 workers at a time (for the purposes of worst-case analysis two shifts were assumed to be 9:00 a.m.–5:00 p.m. and 5:00 p.m.–10:00 p.m.). Workers would be from the local greater Los Angeles area workforce with commuting distances expected to average approximately 20 miles. Up to 50 customers or visitors daily are anticipated. Most materials necessary for manufacturing would be delivered via truck, and approximately 10 truck trips per day would be expected with deliveries.

A total of 438 parking spaces would be provided within the lease area including areas adjacent to adjacent vacant lease around the former Southwest Marine shipyard buildings. There is one existing access point from South Seaside Avenue, which would be used in conjunction with two new additional access driveways from South Seaside Avenue.

The LAHD would issue a LAHD Engineering Permit, LAHD Coastal Development Permit, and a 10-year Lease, with up to two 10-year lease extension/renewal options for operation of the proposed Project. Therefore, traffic conditions with the proposed Project were estimated by adding traffic resulting from the proposed Project under CEQA Baseline (2017) conditions, Opening Year (2019), Future Year 2027, and Future Year 2037. The following peak hour assumptions for the proposed Project operational traffic are used in this analysis:

- Shift One (9 A.M. – 5 P.M.):
  - 90 percent of 500 workers (with a 10 percent carpool rate)[10] arrive during AM peak hour 8 A.M. to 9 A.M. (405 total vehicle trips)

[10] SCAQMD Rule 2202 will apply to this facility and setting up a carpooling program is one of the potential compliance mechanisms.

- 10 percent of 500 workers (with a 10 percent carpool rate) leave during PM peak hour 4 P.M. to 5 P.M. (45 total vehicle trips)
- Shift Two (5 P.M. – 10 P.M.):
  - 90 percent of 250 workers (with a 10 percent carpool rate) arrive during PM peak hour 4 P.M. to 5 P.M. (203 total vehicle trips)

Table 4.16-3 summarizes the peak-hour trip generation assumptions for the operation of the proposed Project.

Table 4.16-3
Project Trip Generation

Time Period	Vehicle Type	Project Peak Hour Trips		
		IN	*OUT*	*TOTAL*
AM peak hour	Automobile	405	0	405
PM peak hour	Automobile	203	45	248

Notes: LOS = level of service; V/C = volume to capacity ratio; AM = 8:00 a.m. to 9:00 a.m.; PM = 4:00 p.m. to 5:00 p.m.

These volumes were distributed through the transportation network at the analysis locations based on the following distribution: 60% via I-110, 30% via I-710, and 10% via SR-47/Heim Bridge—which are the three means of entering and leaving Terminal Island. The results of these project-related trips on the level of service on CEQA Baseline conditions are shown in Table 4.16-4. As shown, no significant intersection operation impacts are forecasted for the proposed Project under CEQA.

Table 4.16-4
CEQA Impact Determination of Intersections

Analysis Intersection	CEQA Baseline				CEQA Baseline Plus Project				Significance Determination			
	A.M.		*P.M.*		*A.M.*		*P.M.*		*CHANGE IN V/C*		*EXCEEDS THRESHOLD*	
	LOS	*V/C*	*LOS*	*V/C*	*LOS*	*V/C*	*LOS*	*V/C*	*A.M.*	*P.M.*	*A.M.*	*P.M.*
Navy Way at SR-47	A	0.433	B	0.606	A	0.433	B	0.607	0.000	0.001	No	No
Ferry Street at SR-47 Ramps	A	0.409	A	0.551	B	0.607	B	0.669	0.198	0.118	No	No
Ferry Street at Terminal Way	A	0.351	A	0.311	B	0.621	A	0.447	0.270	0.136	No	No
Earle Street at Terminal Way	A	0.195	A	0.254	A	0.256	A	0.271	0.061	0.017	No	No

**V/C = volume to capacity ratio*

Cumulative

Less than Significant with Mitigation Incorporated. Cumulative analysis for Future Year 2027, Future Year 2037 and Future Year 2047 are shown in Tables 4.16-5 to 4.16-7. As shown, there is a cumulatively considerable impact at Ferry Street at the SR-47 Ramps for all future years. In the analysis years 2037 and 2047, the intersection LOS in the A.M. peak hour at Ferry Street at Terminal Way and Earle Street at Terminal Way exceeds the change in volume to capacity ration threshold established by the City of Los Angeles. However, since both intersections are forecasted to operate at an acceptable LOS C no mitigation measures are recommended. LAHD will continue to monitor the operating conditions of the two intersections and if the intersection LOS is measured as LOS D or worse as a result of cumulative traffic to which the proposed Project would contribute, a mitigation measure will be developed with the concurrence of LADOT and a fair share contribution of the proposed Project required.

Table 4.16-5
Cumulative Impact Summary for Intersections – Opening Year 2027

Analysis Intersection	Future Year 2027				Future Year 2027 Plus Project				Significance Determination			
	A.M.		*P.M.*		*A.M.*		*P.M.*		*CHANGE IN V/C*		*EXCEEDS THRESHOLD*	
	LOS	*V/C*	*LOS*	*V/C*	*LOS*	*V/C*	*LOS*	*V/C*	*A.M.*	*P.M.*	*A.M.*	*P.M.*
Navy Way at SR-47	F	1.161	C	0.752	F	1.161	C	0.759	0.000	0.007	No	No
Ferry Street at SR-47 Ramps	F	1.152	C	0.789	F	1.351	E	0.908	0.199	0.119	Yes	Yes
Ferry Street at Terminal Way	A	0.404	A	0.043	B	0.674	A	0.078	0.270	0.035	No	No
Earle Street at Terminal Way	A	0.553	A	0.198	B	0.695	A	0.269	0.142	0.071	No	No

**V/C = volume to capacity ratio*

Table 4.16-6
Cumulative Impact Summary for Intersections – Future Year 2037

Analysis Intersection	Future Year 2037				Future Year 2037 Plus Project				Significance Determination			
	A.M.		***P.M.***		***A.M.***		***P.M.***		***CHANGE IN V/C***		***EXCEEDS THRESHOLD***	
	LOS	***V/C***	***LOS***	***V/C***	***LOS***	***V/C***	***LOS***	***V/C***	***A.M.***	***P.M.***	***A.M.***	***P.M.***
Navy Way at SR-47	Not an intersection: cumulative Navy Way / SR-47 Interchange project											
Ferry Street at SR-47 Ramps	F	1.441	E	0.978	F	1.640	F	1.096	0.199	0.118	Yes	Yes
Ferry Street at Terminal Way	A	0.496	A	0.067	C	0.766	A	0.090	0.270	0.023	Yes**	No
Earle Street at Terminal Way	B	0.607	A	0.225	C	0.748	A	0.296	0.141	0.071	Yes**	No

**V/C = volume to capacity ratio*

Table 4.16-7
Cumulative Impact Summary for Intersections – Future Year 2047

Analysis Intersection	Future Year 2047				Future Year 2047 Plus Project				Significance Determination			
	A.M.		***P.M.***		***A.M.***		***P.M.***		***CHANGE IN V/C***		***EXCEEDS THRESHOLD***	
	LOS	***V/C***	***LOS***	***V/C***	***LOS***	***V/C***	***LOS***	***V/C***	***A.M.***	***P.M.***	***A.M.***	***P.M.***
Navy Way at SR-47	Not an intersection: cumulative Navy Way / SR-47 Interchange project											
Ferry Street at SR-47 Ramps	F	1.433	F	1.002	F	1.632	F	1.120	0.199	0.118	Yes	Yes
Ferry Street at Terminal Way	A	0.503	A	0.069	C	0.773	A	0.091	0.270	.022	Yes**	No
Earle Street at Terminal Way	B	0.605	A	0.226	C	0.747	A	0.297	0.142	0.071	Yes**	No

**V/C = volume to capacity ratio*
***Final Intersection LOS operates better than LOS "D"*

As shown in Tables 4.16-5, 4.16-6, and 4.16-7, the proposed Project would contribute considerably to a cumulatively significant impact at the intersection of Ferry Street and SR-47. In order to mitigate the significant impact at this location, the westbound leg of the intersection of Ferry Street at the SR-47 ramps could be restriped from a left-turn and a right-turn under baseline conditions to a left-turn and shared left- and right-turn lane. It is noted that this potential mitigation was the configuration of this intersection leg prior to the traffic light synchronization program ATSAC/ATCS improvement of the intersection, which occurred between 2009 and 2011. Since the west leg of the intersection is located on Caltrans right-of-way and not owned by the City of Los Angeles, no mitigation within the Port's jurisdictional control that could reduce the intersection impact to a less than significant level. Therefore, in order to mitigate the peak hour intersection significant impact at this location, mitigation measure MM-TRA-1 shall be included as a condition of the lease and/Coastal Development Permit, the Applicant shall be required to establish early shift start times outside of the evaluated a.m. peak hours [either starting 7 a.m. or earlier, or no earlier than 10 a.m.], and early shift end and late shift start times outside of the p.m. peak hour [either early shift ending and late shift starting at 3 p.m., or after 6 p.m.]

The project trip volumes were distributed through the transportation network at the analysis locations based on the following distribution: 60 percent via I-110, 30 percent via I-710 and 10 percent via SR-47/Heim Bridge—which are the three means of entering and leaving Terminal Island. The analysis locations where this traffic was distributed to determine potential impacts of the Project on study area freeways are:

- SR-47 - Vincent Thomas Bridge
- SR-47/SR-103 - Commodore Schuyler Heim Bridge
- I-110 - South of C Street (CMP monitoring station—south of C Street)
- I-710 - North of PCH (CMP monitoring station—north of the junction of SR-1 [PCH], Willow Street)
- I-710 - North of I-405 (CMP monitoring station—north of the junction of I-405, south of Del Amo)
- I-405 - Between I-110 and I-710 (CMP monitoring station—Santa Fe Avenue)
- SR-91 - West of I-710 (CMP monitoring station—east of Alameda Street/Santa Fe Avenue interchange)

Based on the forecasted project trip generation and distribution, the most project trips in either direction, during either the A.M. or P.M. weekday peak hours would be 135 trips in the AM peak hour southbound along I-110 and the SR-47 freeway at the Vincent Thomas Bridge. Therefore, Project does not meet the minimum study requirements for the Los Angeles County Metropolitan Transportation Authority (Metro) Congestion Management Program (CMP) as described in Appendix D of the CMP guidelines (Metro, 2010). Therefore, the project has less than a significant impact on freeway facilities.

The average daily vehicle miles traveled (VMT) from the proposed project site would be for the 750 workers and 10 truck deliveries per day under operational conditions. The average commute distance in Los Angeles county is 13 miles, therefore 750 workers with a ten percent carpool rate would have a daily VMT of 13 miles x 675 vehicles x 2 trips = 17,550 miles. The truck trips were estimated to average 23 miles based on PortTAM estimates for average port terminal truck trip distance, and would therefore be 23 miles x 10 trucks x 2 trips = 460 miles. Therefore, the total project average daily VMT would be 20,010 miles. Mitigation would involve mandating shift start and end times at the proposed Project to be outside peak hours as set out in **MM-TRA-1**:

MM-TRA-1: As a condition of the lease and/Coastal Development Permit, the Applicant shall be required to establish shift start and end times outside of peak hours as follows:

a) Early shift start times outside of the a.m. peak hours, either starting 7 a.m. or earlier, or no earlier than 10 a.m.; and

b) Early shift end and late shift start times outside of the p.m. peak hours, either early shift ending and late shift starting at 3 p.m., or after 6 p.m.

In the event that CALTRANS implements restriping of the westbound leg of the intersection of Ferry Street at the SR-47 ramps from a left-turn and a right-turn under baseline conditions to a left-turn and shared left- and right-turn lane, the restriction on shift start and end times may be lifted and a fair share (22.1%) contribution to the improvements may be assessed on the project Applicant.

With the implementation of **MM-TRA-1** above, the proposed Project's contribution to a cumulatively significant impact would be reduced to below the level of significance.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Less Than Significant Impact After Mitigation. As described above under Section 4.16(a), the proposed Project would not result in a significant impact to established LOS standards during construction or operation directly. However, the proposed Project would contribute to a cumulatively significant impact to the LOS standard at one intersection for which mitigation **MM-TRA-1** has been identified that would reduce impacts to below the level of significance.

In the event that CALTRANS implements restriping of the westbound leg of the intersection of Ferry Street at the SR-47 ramps from a left-turn and a right-turn under baseline conditions to a left-turn and shared left- and right-turn lane, the restriction on shift start and end times may be lifted and a fair share (22.1%) contribution to the improvements may be assessed on the project Applicant.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact. The proposed Project site is not located within 2 miles of a public airport or within an airport land use plan. The nearest airports are the Long Beach Airport, which is located approximately 7 miles northeast of the proposed Project; the Compton/Woodley Airport, which is located approximately 10 miles north of the proposed Project; and the Torrance Municipal Airport – Zamperini Field, which is located approximately 6 miles northwest of the proposed Project (County of Los Angeles 2016). The nearest helipads are located at 1175 Queens Highway located approximately 3 miles east of the proposed Project and the Catalina Air and Sea Terminal helipad located approximately 1 mile west of the proposed Project. Therefore, given the distance from the nearest airports and helipads, the proposed Project would not result in a change in air traffic patterns that could increase traffic levels or result in substantial safety risks. No impacts would occur, and no mitigation is required.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact. The proposed Project would not create a substantial transportation hazard, such as creating sharp turns in roadways or dangerous intersections. Improvements would include two additional access driveways at the proposed Project site, which have been designed to accommodate oversized loads, and truck deliveries in conformance with City road and driveway standards in an area of low traffic volumes and other industrial uses. Therefore, the proposed Project would not have a significant impact associated with an increase in transportation hazards due to a design feature and no mitigation is required.

e) Result in inadequate emergency access?

No Impact. The County has designated disaster routes throughout the County. Disaster routes are freeway, highway, or arterial routes pre-identified for use during times of crisis. These routes are used to bring in emergency personnel, equipment, and supplies to impacted areas in order to save lives, protect property, and minimize impact to the environment (County of Los Angeles 2015c). During a disaster, these routes have priority for clearing, repairing, and restoration over all other roads. The nearest disaster routes to the proposed Project site include the Harbor Freeway (I-110), Terminal Island Freeway (SR-103), Seaside Avenue/Ocean Boulevard (CA-47), Harry Bridges Boulevard, Henry Ford Avenue, and Ocean Boulevard. The proposed Project would not alter or change existing emergency access; therefore, the proposed Project would not result in inadequate emergency access. No impacts would occur, and no mitigation is required.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

No Impact. The proposed Project does not include any modifications to existing roadways on Terminal Island that support current or future bike lanes or bus stops. The proposed Project itself would not include visitor-serving uses that would benefit from alternative modes of transportation. Employees would be encouraged to carpool but parking requirements would be met to facilitate parking for workers, and trips have been evaluated assuming each worker would commute and that there would be a 10% carpool rate. The only transit service operated near the project site is the LADOT Commuter Express Line 142, which traverses Terminal Island without stops. Given the lack of stops within the project study area, on-site employees would not access the Project using public transportation. Therefore, the Project will not significantly impact public transit use. Therefore, the proposed Project would not conflict with policies, plans, or programs supporting alternative transportation (e.g., public transit, bicycles, pedestrian facilities). No impacts would occur, and no mitigation is required.

4.17 TRIBAL CULTURAL RESOURCES

The section evaluates impacts related to tribal cultural resources associated with the implementation of the proposed Project.

Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

No Impact. The proposed Project is located on Terminal Island, which is composed of artificial fill material and was created in the twentieth century. While excavation would be associated with the proposed Project foundations, site preparation, and utilities, the site is on Terminal Island, which is artificial; therefore, an encounter with or adverse change to a tribal cultural resource would not occur, and no mitigation is required.

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

No Impact. The proposed Project is located on Terminal Island, which is composed of artificial fill material and was created in the twentieth century. While excavation would be associated with the proposed Project foundations, site preparation, and utilities, the site is on Terminal Island, which is artificial; therefore, an encounter with or adverse change to a tribal cultural resource would not occur, and no mitigation is required.

4.18 UTILITIES AND SERVICE SYSTEMS

This section evaluates impacts related to utilities and service systems associated with the implementation of the proposed Project in terms of water service, wastewater, solid waste, and stormwater.

Would the Project:

a) **Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?**

Less Than Significant Impact. The proposed Project site is serviced by the City of Los Angeles Bureau of Sanitation's Terminal Island Water Reclamation Plant (TIWRP). The City of Los Angeles Bureau of Sanitation operates more than 6,700 miles of public sewers that convey about 400 million gallons per day of flow from residences and businesses to the City's four wastewater treatment and water reclamation plants (City of Los Angeles 2016e). The proposed Project would involve a new approximately 203,450-square-foot industrial building with up to 500 workers at one time and a total maximum of 750 workers daily. The facility would result in an increase in wastewater treatment demand of approximately 109,000 gallons per day (LADWP 2010), which would be directed to the NPDES compliant facility, TIWRP. TIWRP has the capacity to treat up to 30 million gallons of wastewater per day. It currently treats approximately 15 million gallons of wastewater every day, and thus, would have sufficient capacity to serve the proposed Project (LA Sanitation 2017). Thus, the proposed Project would not exceed applicable Regional Water Quality Control Board (RWQCB) wastewater treatment requirements. Furthermore, as previously discussed in Section 4.13(a), the proposed Project would not directly or indirectly induce population growth. Therefore, impacts associated with wastewater treatment requirements are less than significant, and no mitigation is required.

b) **Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

Less Than Significant Impact. As discussed in Section 4.17(a), wastewater treatment for the proposed Project site is served by the Terminal Island Water Reclamation Plant (TIWRP). The Los Angeles Department of Water and Power provides potable water services to the proposed Project site. The proposed Project would involve a new approximately 203,450-square-foot industrial building with up to 500 workers at one time and up to a maximum daily of 750 workers. The facility would result in an increased generation of wastewater and consumption of potable water. The proposed Project would demand approximately 99,000 gallons of water per day, based on an industrial unit use of 132 gallons per employee (LADWP 2010). Using a wastewater generation factor of 110% of water demand, the proposed Project would generate approximately 109,000 million gallons of wastewater per day. TIWRP has the capacity to treat up to 30 million gallons of wastewater per day and can generate up to 6 million gallons of potable water daily. It currently treats approximately 15 million gallons of wastewater every day and delivers approximately 5 million gallons of potable water daily. Thus, TIWRP would have sufficient capacity to serve the proposed Project (LA Sanitation 2017). Utilities improvements may include the refurbishment of the existing substation and the installation of sanitary, sewer, gas, electrical, and water facilities. As previously discussed in Section 4.13(a), the proposed Project would not directly or indirectly induce population growth. Therefore, impacts associated with the construction of new water and wastewater facilities would be less than significant, and no mitigation is required.

c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact. The site is currently a disturbed site with an abandoned industrial building, unused compacted dirt areas, and paved areas used for miscellaneous storage and parking. Implementation of the proposed Project would include demolition of an existing industrial building, repairs to existing pavement, new pavement on currently dirt-graded areas, construction of a new industrial building, installation of ancillary tank farm, and repairs to the wharf. The proposed Project would involve the development of on-site structures and an increase in impervious surface. The proposed Project would involve the construction of new stormwater drainage facilities, which include the installation of BMPs in accordance with the City's Water Quality Compliance Master Plan for Urban Runoff (City of Los Angeles 2009). The construction of new stormwater drainage facilities associated with the proposed Project would not cause significant effects because the BMPs and Water Quality Compliance Master Plan for Urban Runoff compliance is required and designed to avoid significant impacts from stormwater. Therefore, impacts related to construction of new stormwater drainage facilities would be less than significant, and no mitigation is required.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Less Than Significant Impact. As discussed in Section 4.17(b), the Los Angeles Department of Water and Power provides potable water services to the proposed Project site. The proposed Project would involve the development of a new approximately 203,450-square-foot habitable structure with up to 500 employees at any one time, which would result in an increase in the consumption of potable water by 99,000 gallons per day. The Advanced Water Purification Facility attached to the TIWRP has the capacity to generate approximately 6 million gallons of potable water per day, and currently provides approximately 5 million gallons of potable water a day used as a potable water replacement to prevent seawater intrusion and saving potable water. As previously discussed in Section 4.13(a), the proposed Project would not directly or indirectly induce population growth. Therefore, impacts associated with water supply demand would be less than significant, and no mitigation is required.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less Than Significant Impact. As discussed in Section 4.17(b), wastewater treatment for the proposed Project site is served by the TIWRP. The proposed Project would involve the development of an approximately 203,450-square-foot habitable structures with up to 500 employees within at any one time. Based on the occupancy, use, and water demand of the building, the proposed Project would generate approximately 109,000 gallons of wastewater per day. TIWRP has the capacity to treat up to 30 million gallons of wastewater per day. It currently treats approximately 15 million gallons of wastewater every day, and thus, would have sufficient capacity to serve the proposed Project (LA Sanitation 2017). As previously discussed in Section 4.13(a), the proposed Project would not directly or indirectly induce population growth. Therefore, impacts associated with wastewater treatment capacity would be less than significant, and no mitigation is required.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less Than Significant Impact. The site is currently a disturbed site with an abandoned industrial building, unused compacted dirt areas, and paved areas used for miscellaneous storage and parking. Implementation of the proposed Project would include demolition of an existing industrial building, repairs to existing pavement, new pavement on currently dirt-graded areas, construction of a new industrial building, installation of ancillary tank farm, and repairs to the wharf. Construction activities, including demolition, would require the disposal of waste materials that would be disposed of in conformance with the City's waste management and recycling requirements. Waste generated during operation would potentially include composites considered hazardous waste, and more general waste and recyclables associated with the on-site workforce. All waste materials would be disposed of off-site in accordance with federal, state, and local statutes and regulations related to solid waste. The landfills that would receive solid waste from the proposed Project include Savage Canyon Landfill and Puente Hills Landfill for general solid waste and recyclables. Each of these landfills has the available capacity for solid waste of 3,350 and 13,200 tons per day, respectively (Savage Canyon Landfill Solid Waste Facility Permit 2013; Puente Hills Facility/Site Inspection Details 2010). It is estimated that the proposed Project would generate approximately 252.3 tons per year of solid waste (CAPCOA 2017). Based on existing capacities at the Savage Canyon Landfill and the Puente Hills Landfill, these landfills would have sufficient capacity to accommodate the proposed Project's estimated 252.3 tons per year of solid waste. Therefore, this impact would be less than significant, and no mitigation is required.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

Less Than Significant Impact. See Section 4.17(f). Construction and operation activities would require solid waste material disposal. All waste materials would be disposed of off-site in accordance with federal, state, and local statutes and regulations related to solid waste. Therefore, the impact would be less than significant, and no mitigation is required.

4.19 MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant Impact with Mitigation Incorporated. As discussed in Section 4.4, Biological Resources, impacts are less than significant, and no mitigation is required. As discussed in Section 4.4, Biological Resources, significant impacts have been identified for which mitigation is feasible, and the incorporation of which would reduce the impact to below the level of significance.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Less Than Significant Impact with Mitigation Incorporated. As discussed under each issue area of this IS/MND, the proposed Project would not result in significant impacts to aesthetics, agricultural and forestry resources, cultural resources, geology and soils, GHG emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, population and housing, public services, recreation, noise, and utilities and services systems. No mitigation would be required for these resource topics. Impacts have been identified in association with air quality and cumulative transportation and traffic, for which mitigation has been identified that reduces the impacts to below the level of significance. The implementation of the identified lease measure and/or compliance with applicable codes, ordinances, laws and other required regulations for air quality, greenhouse gas emissions, noise, and transportation and traffic would reduce the magnitude of any impacts associated with the proposed project to a level of less than significant. Many of these same lease measures and regulations would also apply to other cumulative projects in the area and serve to minimize the potential for cumulative impacts to occur. Because of the small scale and localized effects of the proposed project, the potential incremental contribution from the proposed project would not be cumulatively considerable. In the absence of significant impacts, the potential incremental contribution would not be cumulatively considerable and the incremental accumulation of effects associated with other projects would be less than significant.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact. Based on the analysis in this IS/MND, substantial adverse impacts on human beings would not occur as a result of the proposed Project, and no mitigation is required.

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5.0 Mitigation Monitoring and Reporting Program

CEQA requires public agencies to adopt a reporting or monitoring program for the changes to the proposed Project that have been adopted to mitigate or avoid significant effects on the environment (California Public Resources Code, Section 21081.6). The purpose of this program is to ensure that when an IS/MND identifies measures to reduce potential environmental impacts to less-than-significant levels, those measures are implemented as detailed in the environmental document. Both mitigation measures and lease measure are listed herein. As the lead agency, LAHD is responsible for implementation of a Mitigation Monitoring and Reporting Plan (MMRP). Once the Board of Harbor Commissioners adopts the MMRP, the applicable LAHD divisions would incorporate the mitigation monitoring/reporting requirements in the appropriate permits (i.e., real estate entitlements or lease permits). Therefore, in accordance with the aforementioned requirements, the MMRP lists each measure, describes the methods for implementation and verification, and identifies the responsible party or parties (see below).

Mitigation/Lease Measure	Timing and Methods	Responsible Party
Mitigation Measure MM AQ-1 – Architectural Coatings The tenant shall exclusively use zero VOC architectural coatings.	**Timing:** Annually **Method:** Tenant shall supply documentation to demonstrate compliance (sales records, MSDSs, etc.)	**Implementation**: Tenant **Monitoring and Reporting**: LAHD Environmental Management Division
Mitigation Measure MM-BIO-1: Prior to ground-disturbing activities, a qualified biologist shall conduct surveys for the presence of nesting birds protected under the Migratory Bird Treaty Act (MBTA) and/or similar provisions of the CDFG Code within areas of the proposed project study area that contain potential nesting bird habitat. Surveys shall be conducted 24 hours prior to the clearing, removal, or grubbing of any vegetation or ground disturbance. If active nests are located, then a barrier installed at a 50-foot radius from the nest(s) will be established and the tree/location containing the nest will be marked and will remain in place and undisturbed until a qualified biologist performs a survey to determine that the young have fledged or the nest is no longer active.	**Timing**: Throughout the construction phases of the project. **Methods**: The construction contractor shall instruct construction personnel as part of normal construction procedures. LAHD shall arrange for pre-construction surveys by and Environmental Management Division approved biologist(s). Additionally, LAHD shall arrange for the presence of an Environmental Management Division approved biologist(s) to monitor during construction activity.	**Implementation**: LAHD Environmental Management Division, LAHD Construction Management Division, Applicant, and Construction Contractor. **Monitoring and Reporting**: LAHD Environmental Management Division and Construction Contractor.
Mitigation Measure MM-TRA-1: As a condition of the lease and/Coastal Development Permit, the Applicant shall be required to establish shift start and end times outside of peak hours as follows: A) Early shift start times outside of the a.m. peak hours, either starting 7 a.m. or earlier, or no earlier than 10 a.m.; and B) Early shift end and late shift start times outside of the p.m. peak hours, either early shift ending and late shift starting at 3 p.m., or after 6 p.m. In the event that Caltrans implements	**Timing**: Prior to Occupancy **Method**: The requirements must be included in the lease.	**Implementation**: Applicant. **Monitoring and Reporting**: LAHD Environmental Management Division and LAHD Real Estate and Applicant

Mitigation/Lease Measure	Timing and Methods	Responsible Party
restriping of the westbound leg of the intersection of Ferry Street at the SR-47 ramps from a left-turn and a right-turn under baseline conditions to a left-turn and shared left- and right-turn lane, the restriction on shift start and end times may be lifted and a fair share (22.1%) contribution to the improvements may be assessed on the project Applicant.		
LAHD Lease and/or Permit Requirements: Although not required as CEQA mitigation, the following lease measures are included for tracking purposes.		
Lease Measure LM AQ-1 – VOC-Containing Material Usage The tenant shall limit usage to the equivalent of 260 gallons of VOC-containing materials per year and 1.4 million square feet of pre-impregnated material per year.	**Timing:** Annually **Method:** Tenant shall supply documentation to demonstrate compliance (purchase and usage records, pre-preg utilization, etc.)	**Implementation**: Tenant **Monitoring and Reporting**: LAHD Environmental Management Division
Lease Measure LM AQ-2 – Ridesharing The tenant shall ensure that 10% of the workforce carpools.	**Timing:** Annually **Method:** Tenant shall supply documentation to demonstrate compliance (rideshare records, Rule 2202 compliance, etc.)	**Implementation**: Tenant **Monitoring and Reporting**: LAHD Environmental Management Division
Lease Measure LM AQ-3 – Shore Power The tenant shall ensure 90 percent of vessels hoteling at the facility must use shore power or CARB approved equivalent alternative technology or methods. By 2026, 95 percent of all vessels hoteling at the facility must use shore power or equivalent alternative technology or methods. The equivalent alternative technology or methods must, at a minimum, meet the emissions reductions that would be achieved from shore power.	**Timing:** Annually **Method:** Tenant shall supply documentation to demonstrate compliance (shore power installation information, vessel hoteling records, shore power utilization hours, etc.)	**Implementation**: Tenant **Monitoring and Reporting**: LAHD Environmental Management Division
Lease Measure LM HAZ-1. Site Remediation Lease Requirement. Unless otherwise authorized by the lead regulatory agency for any given site, the Applicant shall address all contaminated soils within proposed Project boundaries discovered during demolition, excavation, and grading activities. Contamination existing at the time of discovery shall be the responsibility of the past and/or current property owner. Contamination as a result of the demolition process shall be the responsibility of the Applicant and/or the Applicant's contractors. Remediation shall occur in compliance with local, state, and federal regulations and as directed by the lead regulatory agency for the site. Any remediation necessitated as a result of the demolition process shall be coordinated through the APP process and will require Harbor Department EMD consultation and oversight. Soil removal during demolition or redevelopment shall be	**Timing**: During project demolition and construction. **Method**: The requirements must be included in the demolition specifications.	**Implementation**: LAHD Environmental Management Division, LAHD Construction Management Division, and Construction Contractor. LAHD Real Estate Division for lease requirements. **Monitoring and Reporting**: LAHD Environmental Management Division and Construction Contractor.

Mitigation/Lease Measure	Timing and Methods	Responsible Party
completed as defined and established in the DTSC-approved Southwest Marine Soil Management Plan (SGI, Pending). All imported soil to be used as backfill in excavated areas shall be sampled to ensure that it is suitable for use as backfill and that the soil meets the requirements of the Harbor Department's Import Fill Standards (LAHD, 2016). LAHD shall require tenants to comply upon lease approval.		
Lease Measure LM HAZ-2. Contamination Contingency Plan Lease Requirement Construction would be implemented under the auspices of an agency-approved Soil Management Plan being developed by LAHD, which will address proper management of the known residual PCB and metals concentrations in soils at the site. The following contingency plan shall be implemented to address unknown contamination discovered during demolition: (a) All trench excavation and filling operations shall be observed for the presence contamination using visual and olfactory devices. Soil suspected of contamination shall be segregated from other soil, stockpiled on plastic sheeting, and covered pending waste characterization and disposal. The contractor shall notify the Applicant and LAHD's environmental representative of any newly identified contaminated soils. LAHD shall confirm the presence of the suspect material and direct the contractor to remove, stockpile or contain, and characterize the suspect material. Continued work at a contaminated site shall require the approval of the LAHD environmental representative. Note that PCB-containing soil, regardless of concentration, that requires off-site disposal must be managed, transported, and disposed of as TSCA material. This will be described in the SMP. (b) Excavation of VOC-impacted soil will require obtaining and complying with a South Coast Air Quality Management District Rule 1166 permit. Additionally, the excavation of soil arsenic, asbestos, cadmium, hexavalent chromium, lead, mercury, nickel, and/or polychlorinated biphenyls (PCBs) will require obtaining and complying with a South Coast Air Quality Management District Rule 1466 permit. (c) The soil removal extents shall be dependent upon a suite of criteria (including types of chemical constituents, location and	**Timing**: During project demolition and construction. **Method**: The requirements must be included in the demolition specifications and in the lease.	**Implementation**: LAHD Environmental Management Division, LAHD Construction Management Division, and Construction Contractor. LAHD Real Estate Division for lease requirements. **Monitoring and Reporting**: LAHD Environmental Management Division and Construction Contractor.

Mitigation/Lease Measure	Timing and Methods	Responsible Party
depth, concentration of the chemicals, health and safety issues, time constraints, cost, etc.) and shall be determined on an area specific basis. An LAHD environmental representative may coordinate with relevant regulatory agencies regarding soil removal, if deemed necessary. (d) The extent of soil removal actions shall be determined on an area specific basis. At a minimum, the impacted area within the boundaries of the demolition area shall be excavated and managed to the satisfaction of the Applicant, LAHD, and the lead regulatory agency (if applicable) for the site. The LAHD environmental representative overseeing removal actions shall inform the contractor when the removal action is complete. (e) Copies of hazardous waste manifests or other documents indicating the volume, nature, and disposition of such materials shall be submitted to the LAHD environmental representative within 60 days of project completion. (f) In the event that contaminated soil is encountered, all on-site personnel handling or working in the vicinity of the contaminated material must be trained in accordance with EPA and Occupational Safety and Health and Administration (OSHA) regulations for hazardous waste operations or demonstrate they have completed the appropriate training. Training must provide protective measures and practices to reduce or eliminate hazardous materials/waste hazards at the work place. (g) When impacted soil must is excavated, dust control measures must be employed in accordance with SCAQMD Rule 403. To confirm that these dust control measures are effective, air monitoring shall be conducted, as appropriate, for related emissions adjacent to the excavation. (h) All excavations shall be backfilled with structurally suitable fill material that is free from contamination. LAHD shall require tenants to comply upon lease approval.		
Lease Measure LM CULT-1 Unanticipated Discovery of Archaeological Resources Condition In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the proposed project proposed Project, all construction work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist, meeting the	**Timing**: During project demolition and construction. **Method**: The requirements are included in the development permit.	**Implementation**: LAHD Environmental Management Division, LAHD Construction Management Division, and Construction Contractor. **Monitoring and Reporting**: LAHD Environmental Management Division and Construction Contractor.

Mitigation/Lease Measure	Timing and Methods	Responsible Party
Secretary of the Interior's Professional Qualification Standards, can evaluate the significance of the find and determine whether or not additional study is warranted. Depending upon the significance of the find under CEQA (14 CCR 15064.5(f); California Public Resources Code, PRC Section 21082), the archaeologist may simply record the find and allow work to continue. If the discovery proves significant under CEQA, additional work, such as preparation of an archaeological treatment plan, testing, or data recovery may be warranted.		

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6.0 Proposed Finding

LAHD has prepared this IS/MND to address the environmental effects of the proposed Project. Based on the analysis provided in this IS/MND, LAHD finds that with the incorporation of described revisions to the proposed Project and/or mitigation measures, the proposed Project would not have a significant effect on the environment.

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8.0 Acronyms and Abbreviations

Acronym/Abbreviation	Definition
ACM	asbestos-containing materials
AQMP	Air Quality Management Plan
BMP	best management practice
CAA	Clean Air Act
CAAP	Clean Air Action Plan
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CDPH	California Department of Public Health
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
CH_4	methane
CHE	Cargo-Handling Equipment
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO2-equivalent
COC	Contaminant of concern
CRHR	California Register of Historical Places
CWA	Clean Water Act
Dba	A-weighted sound level
DPM	Diesel Particulate Matter
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
GHG	greenhouse gas
GWP	global warming potential
HC	harbor craft
IS/MND	Initial Study/Mitigated Negative Declaration
LADWP	Los Angeles Department of Water and Power
LAFD	Los Angeles Fire Department
LAHD	Los Angeles Harbor Department
Leq	equivalent sound level
LOS	Level of Service
LST	Localized Significance Threshold
MGD	million gallons per day
MMRP	Mitigation Monitoring and Reporting Program
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NO_2	nitrogen dioxide

Acronym/Abbreviation	Definition
NO_X	nitrogen oxide
NPDES	National Pollution Discharge Elimination System
NRHP	National Register of Historic Places
O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
OSHA	Occupational Safety and Health and Administration
PCE	passenger car equivalent
PCM	polychlorinated biphenyl
PM10	diesel-emitted particulate matter less than 10 microns
PM2.5	directly emitted particulate matter less than 2.5 microns
Port	Port of Los Angeles
ppm	parts per million
PRC	Public Resources Code
RAP	Remedial Action Plan
RTG	rubber tired gantry
RWQCB	Regional Water Quality Control Board
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SEA	Significant Ecological Area
SIP	State Implementation Plan
SLR	sea-level rise
SMP	Site Mitigation Plan
SO_2	sulfur dioxide
SO_X	sulfur oxides
Sqft	square feet
SR-	State Route
SWPPP	Stormwater Pollution Prevention Plan
TAC	toxic air contaminant
TIWRP	Terminal Island Water Reclamation Plant
USEPA	U.S. Environmental Protection Agency
VDECS	Verified Diesel Emissions Control Strategy
VOC	volatile organic compound

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APPENDIX A
Air Quality and Greenhouse Gas Calculations

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Transportation Vessels Manufacturing Facility Project Port of Los Angeles, California

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TABLE OF CONTENTS

Section **Page No.**

TABLE OF CONTENTS (CONTINUED)

Section **Page No.**

APPENDICES

FIGURES

TABLE OF CONTENTS (CONTINUED)

Page No.

TABLES

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
°C	degrees Celsius
°F	degrees Fahrenheit
$\mu g/m^3$	micrograms per cubic meter
AB	Assembly Bill
amsl	above mean sea level
AQMP	Air Quality Management Plan
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CALGreen	California's Green Building Standards
CalRecycle	California Department of Resources Recycling and Recovery
CARB	California Air Resources Board
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH_4	methane
City	City of Torrance
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO_2	carbon dioxide
CPUC	California Public Utilities Commission
CY	cubic yard
DPM	diesel particulate matter
EO	Executive Order
EPA	U.S. Environmental Protection Agency
GHG	greenhouse gas
GWP	global warming potential
H_2S	hydrogen sulfide
HAPs	hazardous air pollutants
HFC	hydrofluorocarbon
IPCC	Intergovernmental Panel on Climate Change
LCFS	Low Carbon Fuel Standard
LEED	Leadership in Energy and Environmental Design
LOS	level of service
LST	localized significance thresholds
MMT	million metric ton
MT CO_2E	metric tons of CO_2 equivalent
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NHTSA	National Highway Traffic Safety Administration
NO_2	nitrogen dioxide

Acronym/Abbreviation	Definition
NO_x	oxides of nitrogen
O_3	ozone
PFC	perfluorocarbon
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to 10 microns
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than or equal to 2.5 microns
ppb	parts per billion
ppm	parts per million
RCP	Regional Comprehensive Plan
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
SB	Senate Bill
SBCCOG	South Bay Cities Council of Governments
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SF_6	sulfur hexafluoride
SO_2	sulfur dioxide
SO_4	sulfates
SO_x	sulfur oxides
SRA	source-receptor area
TAC	toxic air contaminants
TIS	traffic impact study
VOC	volatile organic compound

Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Transportation Vessels Manufacturing Facility Project

EXECUTIVE SUMMARY

The purpose of this technical report is to assess the potential air quality and greenhouse gas (GHG) emissions impacts associated with implementation of the proposed Transportation Vessels Manufacturing Facility Project (project). This assessment utilizes the significance thresholds in Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.).

Project Overview

The proposed project consists of constructing a facility to manufacture transportation vessels, at Berth 240 off South Seaside Avenue on Terminal Island. The site is adjacent to, and includes portions of, the former Southwest Marine shipyard that is currently vacant. This facility is intended to be a state of the art Research and Development center serving to prototype new ideas and technologies needed to advance specialized transportation vessels. This site would be used to develop and manufacture prototypes and first generation vessels and develop the manufacturing processes prior to implementing them on a larger, production scale. Operations would likely include general manufacturing procedures such as welding, composite curing, cleaning, painting, and assembly operations. The majority of operations would take place inside the facility, with exterior operations limited to transit vehicles, forklift traffic, and mobilization of manufactured products onto barge at the dockside. Finished products would be transported by water for either testing or delivery, which necessitates locating the facility within the Port of Los Angeles's (Port's) complex. A barge would depart for transportation of products for testing or delivery up to 3 times a month. In addition, up to one shipping delivery of parts would occur per month, and a further one barge movement per month would occur for recovery team operations. The recovery operations are ongoing activities currently located across the main channel at 2700 Miner Street, San Pedro. No changes to the existing recovery operations would occur, other than the relocation to Berth 240. Recovery operations facilities consist of a barge for recovering vessels, a crew boat, a shore stand for temporary holding of recovered vessels, a trailer for offices, and miscellaneous staging, maintenance, and repair equipment storage. The project site is located within the South Coast Air Basin (SCAB) under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

Air Quality

The air quality impact analysis evaluated the potential for adverse impacts to air quality due to project-generated construction and operational emissions. Impacts were evaluated for their significance based on the SCAQMD mass daily criteria air pollutant thresholds of significance

(SCAQMD 1993, as revised in March 2015). Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. Criteria air pollutants include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$), and lead. Pollutants that are evaluated include volatile organic compounds (VOCs) (also referred to as reactive organic gases), oxides of nitrogen (NO_x), CO, sulfur oxides (SO_x), PM_{10}, and $PM_{2.5}$. VOCs and NO_x are important because they are precursors to O_3.

Air Quality Plan Consistency

Implementation of the project would not exceed the demographic growth forecasts in the Southern California Association of Governments (SCAG) *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (2016 RTP/SCS); therefore, the project would also be consistent with the SCAQMD *2016 Air Quality Management Plan* (AQMP), which based future emission estimates on the SCAG 2016 RTP/SCS. In addition, the project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations. The project would also comply with all applicable measures in the San Pedro Ports Clean Air Action Plan. Based on these considerations, impacts related to the project's potential to conflict with or obstruct implementation of the applicable air quality plan would be **less than significant**.

Construction Criteria Air Pollutant Emissions

Construction of the project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (i.e., on-road haul trucks, vendor trucks, and worker vehicle trips). Maximum daily construction emissions would not exceed the SCAQMD daily significance thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$ during construction in all construction years (2017–2018). Therefore, the project would have a **less than significant** impact.

Operational Criteria Air Pollutant Emissions

Operational year 2019 was assumed consistent with the traffic impact study (TIS) (Iteris 2017). Operation of the project would generate operational criteria air pollutants from mobile sources (vehicles), off-road equipment, marine vessels, area sources (consumer product use, architectural coatings, and landscape maintenance equipment), and energy (natural gas). Maximum operational emissions would not exceed the SCAQMD daily operational significance thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$. Therefore, the project would have a **less than significant** impact.

Exposure of Sensitive Receptors

Construction activities would not generate emissions in excess of the SCAQMD site-specific localized significance thresholds (LSTs); therefore, site-specific construction impacts during construction of the project would be less than significant. In addition, diesel equipment would also be subject to the California Air Resources Board (CARB) air toxic control measures for in-use off-road diesel fleets, which would minimize diesel particulate matter (DPM) emissions. No residual toxic air contaminants (TAC) emissions and corresponding cancer risk are anticipated after construction, and no long-term sources of TAC emissions are anticipated during operation of the project. Therefore, the exposure of project-related TAC emission impacts to sensitive receptors would be **less than significant**.

The project is not expected to negatively affect the level of service (LOS) of intersections on the project site and would not significantly contribute to a CO hotspot. The SCAQMD recommends CO hotspots to be evaluated when (1) the LOS of an intersection or roadway decreases to LOS E or worse; (2) signalization and/or channelization is added to an intersection; and (3) sensitive receptors such as residences, schools, and hospitals are located in the vicinity of the affected intersection or roadway segment. A CO Hotspots analysis was performed for one intersection that met the criteria above. The analysis showed that the emissions would not exceed the 1-hour or 8-hour California Ambient Air Quality Standard, and thus the project would result in a **less than significant** impact.

Odors

Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment, architectural coatings, and asphalt pavement application, which would disperse rapidly from the project site and generally occur at magnitudes that would not affect substantial numbers of people. Impacts associated with odors during construction would be less than significant. The project is an industrial development that would not include land uses with sources that have the potential to generate substantial odors and impacts associated with odors during operation would be **less than significant**.

Cumulative Impacts

The potential for the project to result in a cumulatively considerable impact, per the SCAQMD guidance and thresholds, is based on the project's potential to exceed the project-specific daily thresholds. As discussed previously, maximum construction and operational emissions would not exceed the SCAQMD daily significance thresholds for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$.

Therefore, the project would not result in a cumulatively considerable increase in criteria air pollutants and the impact would be **less than significant**.

Greenhouse Gas Emissions

Global climate change is primarily considered a cumulative impact, but must also be evaluated on a project-level under CEQA. A project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHG emissions. GHGs are gases that absorb infrared radiation in the atmosphere. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature. Global climate change concerns are focused on whether human activities are leading to an enhancement of the greenhouse effect. Principal GHGs regulated under state and federal law and regulations include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). GHG emissions are measured in metric tons of CO_2 equivalent (MT CO_2E), which account for weighted global warming potential (GWP) factors for CH_4 and N_2O.

Project-Generated Construction and Operational Greenhouse Gas Emissions

The threshold applied to assess the potential for the project to generate GHG emissions either directly or indirectly that may have a significant impact on the environment was the recommended SCAQMD threshold of 10,000 MT CO_2E per year for industrial projects. Pursuant to SCAQMD recommendation, construction emissions were amortized over a 30-year project lifetime, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies (SCAQMD 2008). Project emissions were also amortized over 10 years to show a worst-case conservative estimate of emissions if the project does not renew its lease.

Construction of the project would result in GHG emissions primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. Total project-generated GHG emissions during construction were estimated to be 1,070 MT CO_2E over the construction period. Estimated project-generated construction emissions amortized over 30 years would be approximately 36 MT CO_2E per year.

The project would generate operational GHG emissions from vehicular sources, off-road equipment, marine vessels, area sources (natural gas combustion and landscape maintenance), electrical generation (including electrical generation associated with water supply and wastewater treatment), and solid waste. Estimated annual project-generated operational GHG emissions would be approximately 8,921 MT CO_2E per year. Estimated annual project-generated operational emissions in 2019 including amortized project construction emissions would be approximately 8,956 MT CO_2E per year. As such, annual operational GHG emissions with amortized construction emissions would not exceed the SCAQMD threshold of 10,000 MT CO_2E per year. Therefore, the project's GHG contribution would not be cumulatively considerable and is **less than significant**.

The City of Los Angeles Harbor Department enacted a Climate Action Plan (CAP) in December of 2007. The project would not conflict with any of the GHG reduction measures within the CAP and would support several of the measures; therefore, the project would be consistent with the CAP. In addition, development of the project site would not conflict with the overarching intent of the SCAG 2016 RTP/SCS. To the extent these regulations are applicable to the project, the project would comply with all applicable regulations adopted in furtherance of CARB's Climate Change Scoping Plan (adopted in 2008 to achieve the goals of Assembly Bill 32 and updated in 2014) to the extent required by law. As such, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs and no mitigation is required. This impact would be **less than significant**.

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Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Transportation Vessels Manufacturing Facility Project

1 INTRODUCTION

1.1 Report Purpose and Scope

The purpose of this technical report is to assess the potential air quality and greenhouse gas (GHG) emissions impacts associated with implementation of the proposed Transportation Vessels Manufacturing Facility Project (project). This assessment uses the significance thresholds in Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.), and is based on the emissions-based significance thresholds recommended by the South Coast Air Quality Management District (SCAQMD) and other applicable thresholds of significance.

This introductory section provides a description of the project and the project location. Section 2, Air Quality, describes the air quality–related environmental setting, regulatory setting, existing air quality conditions, and thresholds of significance and analysis methodology and presents an air quality impact analysis per Appendix G of the CEQA Guidelines. Section 3, Greenhouse Gas Emissions, follows the same format as Section 2 and similarly describes the GHG emissions–related environmental setting, regulatory setting, existing climate changes conditions, and thresholds of significance and analysis methodology and presents a GHG emissions impact analysis per Appendix G of the CEQA Guidelines. Section 4, References Cited, includes a list of the references cited. Section 5, List of Preparers, includes a list of those who prepared this technical report.

The analysis in this technical report incorporates project data as provided by the project applicant and the traffic impact study (TIS) prepared by Iteris (Iteris 2017).

1.2 Regional and Local Setting

The project is located within the Port of Los Angeles (Port), which is located in San Pedro Bay, 20 miles south of downtown City of Los Angeles (City). The Port encompasses 7,500 acres and 43 miles of waterfront and features approximately 270 commercial berths and 24 passenger and cargo terminals. Port operations are predominantly centered on shipping activities, including containerized, breakbulk, dry bulk, liquid bulk, automotive, and intermodal rail shipping. In addition to the large shipping industry, the Port also supports a cruise ship industry and a commercial fishing fleet. The Port also accommodates boat repair yards and provides slips for approximately 3,800 recreational vessels, 150 commercial fishing boats, 35 miscellaneous small-service crafts, and 15 charter vessels that handle sport fishing and harbor cruises. The Port has retail shops and restaurants primarily located along the west side of the Main Channel. It also accommodates recreation, community, and educational facilities, such as a public swimming beach, Cabrillo Beach Youth Waterfront Sports Center, the Cabrillo Marine Aquarium, the Los Angeles Maritime Museum, 22nd Street Park, and the Wilmington Waterfront Park.

The Los Angeles Harbor Department (LAHD) is a proprietary (self-funded) department of the City charged with the operation, maintenance, and protection of the Port. The LAHD is a landlord port that leases properties to more than 300 tenants, including private terminal, tug, and marine cargo and cruise industry entities. The LAHD administers the Port under the California Tidelands Trust Act of 1911 and the Los Angeles City Charter. The LAHD is chartered to develop and operate the Port to benefit maritime uses.

The proposed project is located at Berth 240, off South Seaside Avenue on Terminal Island in Master Plan Area 4 within the Port (Figures 1 and 2). The proposed project site is bounded to the north and east by South Seaside Avenue and the Al Larson boatyard, the south by the former Southwest Marine Shipyard, which is currently vacant, and the west by the Port's main channel. Access to the proposed Project is provided via South Seaside Avenue, State Route 47 (SR-47), the Harbor Freeway (Interstate (I) 110), the Long Beach Freeway (I-710), and the San Diego Freeway (I-405). Figures 1 and 2 show the regional location and local vicinity, respectively.

1.3 Project Description

The proposed project consists of constructing a facility to manufacture transportation vessels, which is intended to be a state of the art Research and Development center serving to prototype new ideas and technologies needed to advance specialized transportation vessels. This site would be used to develop and manufacture prototypes and first generation vessels and develop the manufacturing processes prior to implementing them on a larger, production scale. Operations would likely include general manufacturing procedures such as welding, composite curing, cleaning, painting, and assembly operations. The majority of operations would take place inside the facility, with exterior operations limited to transit vehicles, forklift traffic, and mobilization of manufactured products onto barge at the dockside. Finished products would be transported by water for either testing or delivery and necessitates the need for locating the facility within the Port's complex. A barge would depart for transportation of products for testing or delivery up to 3 times a month. In addition, up to one shipping delivery of parts would occur per month, and a further 1 barge movement per month would occur for recovery team operations. The recovery operations are ongoing activities currently located across the main channel at 2700 Miner Street, San Pedro. No changes to the existing recovery operations would occur, other than the relocation to Berth 240. Recovery operations facilities consist of a barge for recovering vessels, a crew boat, a shore stand for temporary holding of recovered vessels, a trailer for offices, and miscellaneous staging, maintenance, and repair equipment storage.

The facility would likely have up to 750 employees (max shift would be 500 employees) with up to 50 customers or visitors daily and approximately 10 deliveries daily. There are 347 parking spaces within the proposed lease area and an additional 203 spaces would be provided on a portion of the adjacent vacant lease around the former Southwest Marine shipyard buildings. There is no anticipated work to be performed on or over the water; any necessary repair to the existing dock at the facility would be to surface areas not directly in or over the water. The project would include the demolition of one structure that is approximately 9,150 square feet and 30 feet tall. The project would construct an approximately 203,450 square feet prefabricated building that would be approximately 90 feet tall. The project would also include up to 4 tanks as part of an ancillary tank farm to store materials needed for the manufacturing process, as well as paving and landscaping improvements.

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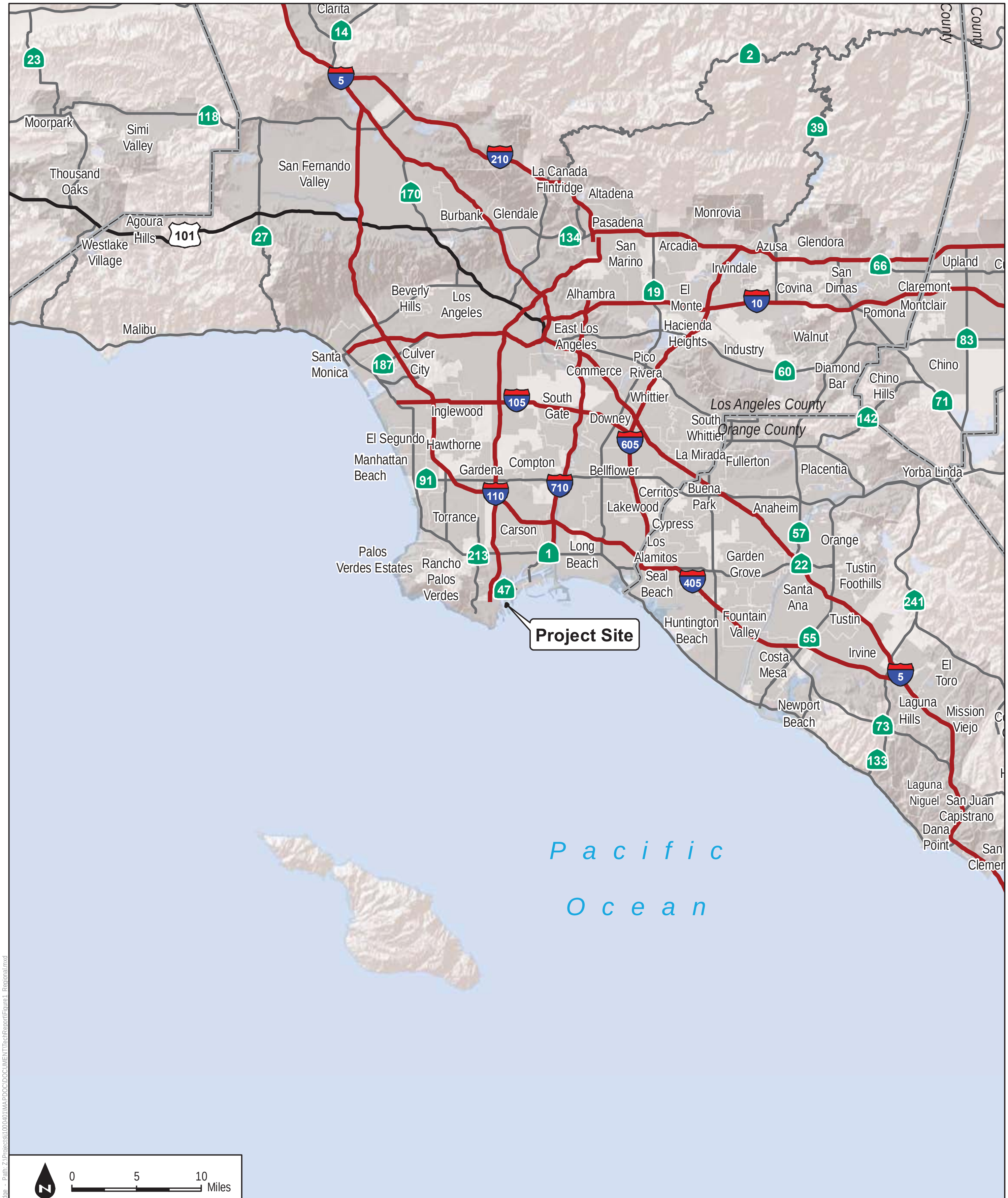

SOURCE: ESRI Basemaps

FIGURE 1

Regional Map

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SOURCE: USGS 7.5-Minute Series San Pedro Quadrangle
Township 5S, Range 13W, Section 20

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FIGURE 2

Vicinity Map

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2 AIR QUALITY

2.1 Environmental Setting

This section describes the existing conditions on the project site and identifies the resources that could be affected by the project.

2.1.1 Climate and Topography

As stated previously, the project site is located within the SCAB. The SCAB is characterized as having a Mediterranean climate (typified as semiarid with mild winters, warm summers, and moderate rainfall). The SCAB is a 6,745-square-mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild and tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the SCAB is a function of the area's natural physical characteristics (e.g., weather and topography) and of manufactured influences (e.g., development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and/or dispersion of pollutants throughout the SCAB.

Climate

Moderate temperatures, comfortable humidity, and limited precipitation characterize the climate in the SCAB. The average annual temperature varies little throughout the SCAB, averaging 75 degrees Fahrenheit (°F). However, with a less pronounced oceanic influence, the eastern inland portions of the SCAB show greater variability in annual minimum and maximum temperatures. All portions of the SCAB have recorded temperatures over 100°F in recent years. Although the SCAB has a semiarid climate, the air near the surface is moist because of the presence of a shallow marine layer. Except for infrequent periods when dry air is brought into the SCAB by offshore winds, the ocean effect is dominant. Periods with heavy fog are frequent, and low stratus clouds, occasionally referred to as "high fog," are a characteristic climate feature. Annual average relative humidity is 70% at the coast and 57% in the eastern part of the SCAB. Precipitation in the SCAB is typically 9 to 14 inches annually and is rarely in the form of snow or hail because of typically warm weather. The frequency and amount of rainfall is greater in the coastal areas of the SCAB.

The average low in the Port is reported at 47.3°F in January, and the average high is 74.7°F in September (Wester Regional Climate Center (WRCC) 2012). In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from November to April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast, with slightly heavier shower activity in the east and over the mountains. Rainfall averages around 10.69 inches per year in the Port (WRCC 2012).

Sunlight

The presence and intensity of sunlight are necessary prerequisites for the formation of photochemical smog. Under the influence of the ultraviolet radiation of sunlight, certain "primary" pollutants (mainly reactive hydrocarbons and oxides of nitrogen (NO_x)[1]) react to form "secondary" pollutants (primarily oxidants). Since this process is time dependent, secondary pollutants can be formed many miles downwind of the emission sources. Due to the prevailing daytime winds and time-delayed nature of photochemical smog, oxidant concentrations are highest in the inland areas of Southern California.

Temperature Inversions

Under ideal meteorological conditions and irrespective of topography, pollutants emitted into the air mix and disperse into the upper atmosphere. However, the Southern California region frequently experiences temperature inversions in which pollutants are trapped and accumulate close to the ground. The inversion, a layer of warm, dry air overlaying cool, moist marine air, is a normal condition in coastal Southern California. The cool, damp, and hazy sea air capped by coastal clouds is heavier than the warm, clear air, which acts as a lid through which the cooler marine layer cannot rise. The height of the inversion is important in determining pollutant concentration. When the inversion is approximately 2,500 feet above mean sea level (amsl), the sea breezes carry the pollutants inland to escape over the mountain slopes or through the passes. At a height of 1,200 feet amsl, the terrain prevents the pollutants from entering the upper atmosphere, resulting in the pollutants settling in the foothill communities. Below 1,200 feet amsl, the inversion puts a tight lid on pollutants, concentrating them in a shallow layer over the entire coastal basin. Usually, inversions are lower before sunrise than during the daylight hours. Mixing heights for inversions are lower in the summer and inversions are more persistent, being partly responsible for the high levels of ozone (O_3) observed during summer months in the SCAB. Smog in Southern California is generally the result of these temperature inversions combining with coastal day winds and local mountains to contain the pollutants for long periods, allowing them to form secondary pollutants by reacting in the presence of sunlight. The SCAB

1 NO_x is a general term pertaining to compounds of nitric oxide (NO), nitrogen dioxide (NO_2) and other oxides of nitrogen.

has a limited ability to disperse these pollutants due to typically low wind speeds and the surrounding mountain ranges.

The project site is located in an area that is susceptible to air inversions. This traps a layer of stagnant air near the ground where pollutants are further concentrated. These inversions produce haziness, which is caused by moisture, suspended dust, and a variety of chemical aerosols emitted by trucks, automobiles, furnaces, and other sources.

2.1.2 Pollutants and Effects

2.1.2.1 Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include O_3, nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter equal to or less than 10 microns (PM_{10}), particulate matter with an aerodynamic diameter equal to or less than 2.5 microns ($PM_{2.5}$), and lead. These pollutants, as well as toxic air contaminants (TACs), are discussed in the following text.[2] In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone. O_3 is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3 precursors, such as hydrocarbons and NO_x. These precursors are mainly NO_x and volatile organic compounds (VOCs). The maximum effects of precursor emissions on O_3 concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O_3 exists in the upper atmosphere O_3 layer (stratospheric ozone) and at the Earth's surface in the troposphere (ozone).

O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing

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[2] The descriptions of each of the criteria air pollutants and associated health effects are based on the EPA's Criteria Air Pollutants (2016a) and the CARB Glossary of Air Pollutant Terms (2016a).

pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. These health problems are particularly acute in sensitive receptors such as the sick, the elderly, and young children.

Nitrogen Dioxide. NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide, which is a colorless, odorless gas. NO_x plays a major role, together with VOCs, in the atmospheric reactions that produce O_3. NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_x is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections.

Carbon Monoxide. CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, such as the project location, automobile exhaust accounts for the majority of CO emissions. CO is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.

In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions.

Sulfur Dioxide. SO_2 is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels.

SO_2 is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. When combined with particulate matter, SO_2 can injure lung tissue and reduce visibility and the level of sunlight. SO_2 can also yellow plant leaves and erode iron and steel.

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Fine particulate matter ($PM_{2.5}$) is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOCs. Coarse particulate matter (PM_{10}) is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the blood stream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility.

People with influenza, people with chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death as a result of breathing particulate matter. People with bronchitis can expect aggravated symptoms from breathing in particulate matter. Children may experience a decline in lung function due to breathing in PM_{10} and $PM_{2.5}$. Other groups considered sensitive are smokers, people who cannot breathe well through their noses, and exercising athletes (because many breathe through their mouths).

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead.

Volatile Organic Compounds. Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O_3 are referred to and regulated as VOCs (also referred to as reactive organic gases). Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

The primary health effects of VOCs result from the formation of O_3 and its related health effects. High levels of VOCs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs. There are no separate health standards for VOCs as a group.

2.1.2.2 Non-Criteria Air Pollutants

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic noncancer health effects. A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence. In the state of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics “Hot Spots” Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

Diesel Particulate Matter. Diesel particulate matter (DPM) is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. The California Air Resources Board (CARB) classified "particulate emissions from diesel-fueled engines" (i.e., DPM; 17 CCR 93000) as a TAC in August 1998. DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars and off-road diesel engines including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000).

Odorous Compounds. Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can become desensitized to almost any odor and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

2.1.3 Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where these air pollution-sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses where air pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses) (CARB 2005). The SCAQMD identifies sensitive receptors as residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes (SCAQMD 1993).

Residential land uses are located to the west of the proposed project. The closest off-site sensitive receptors to the project site include residences located approximately 3,000 feet west of the project site boundary.

2.2 Regulatory Setting

This section describes the applicable regulatory plans, policies, and ordinances for the project.

2.2.1 Federal Regulations

2.2.1.1 Criteria Air Pollutants

The federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The U.S. Environmental Protection Agency (EPA) is responsible for implementing most aspects of the Clean Air Act, including setting National Ambient Air Quality Standards (NAAQS) for major air pollutants; setting hazardous air pollutant (HAP) standards; approving state attainment plans; setting motor vehicle emission standards; issuing stationary source emission standards and permits; and establishing acid rain control measures, stratospheric O_3 protection measures, and enforcement provisions. Under the Clean Air Act, NAAQS are established for the following criteria pollutants: O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The NAAQS (other than for O_3, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for O_3, NO_2, SO_2, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over 1- to 3-year periods, depending on the pollutant. The Clean Air Act requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a state implementation plan that demonstrates how those areas will attain the standards within mandated time frames.

2.2.1.2 Hazardous Air Pollutants

The 1977 federal Clean Air Act amendments required the EPA to identify National Emission Standards for Hazardous Air Pollutants to protect public health and welfare. HAPs include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 federal Clean Air Act Amendments, which expanded the control program for HAPs, 189 substances and chemical families were identified as HAPs.

2.2.2 State Regulations

2.2.2.1 Criteria Air Pollutants

The federal Clean Air Act delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the federal Clean Air Act, and regulating emissions from motor vehicles and consumer products.

CARB has established California Ambient Air Quality Standards (CAAQS), which are generally more restrictive than the NAAQS. The CAAQS describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. Air quality is considered "in attainment" if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The CAAQS for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM_{10}, and $PM_{2.5}$ and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. The NAAQS and CAAQS are presented in Table 1.

Table 1
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	*Primary*[c,d]	*Secondary*[c,e]
O_3	1 hour	0.09 ppm (180 μg/m^3)	—	Same as Primary Standard[f]
	8 hours	0.070 ppm (137 μg/m^3)	0.070 ppm (137 μg/m^3)[f]	
NO_2[g]	1 hour	0.18 ppm (339 μg/m^3)	0.100 ppm (188 μg/m^3)	Same as Primary Standard
	Annual Arithmetic Mean	0.030 ppm (57 μg/m^3)	0.053 ppm (100 μg/m^3)	
CO	1 hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	None

Table 1
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	*Primary[c,d]*	*Secondary[c,e]*
	8 hours	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	
SO_2[h]	1 hour	0.25 ppm (655 μg/m^3)	0.075 ppm (196 μg/m^3)	—
	3 hours	—	—	0.5 ppm (1,300 μg/m^3)
	24 hours	0.04 ppm (105 μg/m^3)	0.14 ppm (for certain areas)[g]	—
	Annual	—	0.030 ppm (for certain areas)[g]	—
PM_{10}[i]	24 hours	50 μg/m^3	150 μg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	20 μg/m^3	—	
$PM_{2.5}$[i]	24 hours	—	35 μg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	12 μg/m^3	12.0 μg/m^3	15.0 μg/m^3
Lead[j,k]	30-day Average	1.5 μg/m^3	—	—
	Calendar Quarter	—	1.5 μg/m^3 (for certain areas)[k]	Same as Primary Standard
	Rolling 3-Month Average	—	0.15 μg/m^3	
Hydrogen sulfide	1 hour	0.03 ppm (42 μg/m^3)	—	—
Vinyl chloride[j]	24 hours	0.01 ppm (26 μg/m^3)	—	—
Sulfates	24- hours	25 μg/m^3	—	—
Visibility reducing particles	8 hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to the number of particles when the relative humidity is less than 70%	—	—

Source: CARB 2016b.

Notes: μg/m^3 = micrograms per cubic meter; CO = carbon monoxide; mg/m^3= milligrams per cubic meter; NO_2 = nitrogen dioxide; O_3 = ozone; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns; ppm = parts per million by volume; SO_2 = sulfur dioxide

a California standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, suspended particulate matter (PM_{10}, $PM_{2.5}$), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

b National standards (other than O_3, NO_2, SO_2, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m^3 is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[e] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[f] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[g] To attain the national 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[h] On June 2, 2010, a new 1-hour SO_2 standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the national 1-hour standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[i] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM_{10} standards (primary and secondary) of 150 $\mu g/m^3$ were also retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.

[j] CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[k] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

2.2.2.2 Toxic Air Contaminants

The state Air Toxics Program was established in 1983 under AB 1807 (Tanner). The California TAC list identifies more than 700 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. In accordance with AB 2728, the state list includes the (federal) HAPs. The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources; however, AB 2588 does not regulate air toxics emissions. TAC emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. The regulation is anticipated to result in an 80% decrease in statewide diesel health risk in 2020 compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment program. All of these regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel powered equipment. Several Airborne Toxic Control Measures that reduce diesel emissions including In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

California Health and Safety Code Section 41700

This section of the Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any of those persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property. This section also applies to sources of objectionable odors.

2.2.3 Local Regulations

The following local/regional regulations pertaining to air quality would apply to the project.

2.2.3.1 South Coast Air Quality Management District

The SCAQMD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the SCAB, where the project is located. The SCAQMD operates monitoring stations in the SCAB, develops rules and regulations for stationary sources and equipment, prepares emissions inventory and air quality management planning documents, and conducts source testing and inspections. The SCAQMD's Air Quality Management Plans (AQMPs) include control measures and strategies to be implemented to attain state and federal ambient air quality standards in the SCAB. The SCAQMD then implements these control measures as regulations to control or reduce criteria pollutant emissions from stationary sources or equipment. Each AQMP update incorporates significant new scientific data, including updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools.

The most recently adopted AQMP is the 2016 AQMP, which was adopted by the SCAQMD governing board on March 3, 2017 (SCAQMD 2017). The previous AQMP was the 2012 AQMP, which was adopted in February 2013 (SCAQMD 2013). However, since revisions were made to the 2016 AQMP during the adoption hearing and the Final AQMP was not available at the time of publication, this analysis provides a summary of both the 2016 AQMP and the 2012 AQMP.

The 2012 AQMP proposed policies and measures to achieve federal and state standards for improved air quality in the SCAB and those portions of the Salton Sea Air Basin (formerly named the Southeast Desert Air Basin) that are under SCAQMD jurisdiction. The 2012 AQMP is designed to meet applicable federal and state requirements for O_3 and particulate matter. The 2012 AQMP documents that attainment of the federal 24-hour $PM_{2.5}$ standard is impracticable by 2015 and the SCAB should be classified as a Serious nonattainment area along with the appropriate federal requirements. The 2012 AQMP includes the planning requirements to meet the 1-hour O_3 standard. Finally, the 2012 AQMP updates the EPA-approved 8-hour O_3 control plan with new measures designed to reduce reliance on the Clean Air Act Section 182(e)(5) long-term measures for NO_x and VOC reductions. Based on general plans for cities and counties in the SCAB, demographic growth forecasts for various socioeconomic categories (i.e., population, housing, employment by industry) developed by the Southern California Association of Governments (SCAG) for its 2012 *Regional Transportation Plan/Sustainable Communities Strategy* (2012 RTP/SCS) were used in the 2012 AQMP. The 2012 AQMP reduction and control measures, which are outlined to mitigate emissions, are based on existing and projected land use and development. The EPA, with a final ruling on April 14, 2016, approved the Clean Air Act planning requirements for the 24-hour $PM_{2.5}$ standard portion and on September 3, 2014, approved the 1-hour ozone Clean Air Act planning requirements.

In December 2016, the SCAQMD released the Draft Final 2016 AQMP for public review. The Draft Final 2016 AQMP is a regional blueprint for achieving air quality standards and healthful air. The Draft Final 2016 AQMP represents a new approach, focusing on available, proven, and cost-effective alternatives to traditional strategies, while seeking to achieve multiple goals in partnership with other entities promoting reductions in greenhouse gases (GHGs) and toxic risk, as well as efficiencies in energy use, transportation, and goods movement (SCAQMD 2016). Because mobile sources are the principal contributor to the SCAB's air quality challenges, the SCAQMD has been and will continue to be closely engaged with the ARB and EPA, who have primary responsibility for these sources. The Draft Final 2016 AQMP recognizes the critical importance of working with other agencies to develop funding and other incentives that encourage the accelerated transition of vehicles, buildings, and industrial facilities to cleaner technologies in a manner that benefits not only air quality but also local businesses and the regional economy. These "win-win" scenarios are key to implementation of this Draft Final 2016 AQMP with broad support from a wide range of stakeholders.

While striving to achieve the NAAQS for O_3 and $PM_{2.5}$ and the CAAQS for O_3, PM_{10}, and $PM_{2.5}$ through a variety of air quality control measures, the 2016 AQMP also accommodates planned growth in the SCAB. Projects are considered consistent with, and would not conflict with or obstruct, implementation of the AQMP if growth in socioeconomic factors (e.g., population, employment) is consistent with the underlying regional plans used to develop the AQMP. The demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) developed by SCAG based on general plans for cities and counties in the SCAB was used in the 2016–2040 RTP/SCS (2016 RTP/SCS) to estimate future emissions in the 2016 AQMP (SCAQMD 2016).

Applicable Rules

Emissions that would result from mobile, area, and stationary sources during construction and operation of the project are subject to the rules and regulations of the SCAQMD. The SCAQMD rules applicable to the project may include the following:

- **Rule 401 – Visible Emissions:** This rule establishes the limit for visible emissions from stationary sources.
- **Rule 402 – Nuisance:** This rule prohibits the discharge of air pollutants from a facility that cause injury, detriment, nuisance, or annoyance to the public or damage to business or property.
- **Rule 403 – Fugitive Dust:** This rule requires fugitive dust sources to implement best available control measures for all sources and prohibits all forms of visible particulate matter from crossing any property line. SCAQMD Rule 403 is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust.
- **Rule 431.2 – Sulfur Content of Liquid Fuels:** The purpose of this rule is to limit the sulfur content in diesel and other liquid fuels for the purpose of reducing the formation of SO_x and particulates during combustion and of enabling the use of add-on control devices for diesel-fueled internal combustion engines. The rule applies to all refiners, importers, and other fuel suppliers such as distributors, marketers, and retailers, as well as to users of diesel, low-sulfur diesel, and other liquid fuels for stationary-source applications in the SCAQMD. The rule also affects diesel fuel supplied for mobile sources.
- **Rule 1110.2 – Emissions from Gaseous- and Liquid-Fueled Engines:** This rule applies to stationary and portable engines rated at greater than 50 horsepower. The purpose of Rule 1110.2 is to reduce NO_x, VOCs, and CO emissions from engines. Emergency engines, including those powering standby generators, are generally exempt from the emissions and monitoring requirements of this rule because they have permit conditions that limit operation to 200 hours or less per year as determined by an elapsed operating time meter.

- **Rule 1113 – Architectural Coatings:** This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

- **Rule 1124 – Aerospace Assembly and Component Manufacturing Operations:** The purpose of this rule is to reduce VOC emissions from aerospace assembly and component manufacturing operations. This rule limits the VOC content of coatings applied to any operation associated with manufacturing and assembling products for aircraft and space vehicles for which an aerospace material is used.

2.2.3.2 Southern California Association of Governments

The SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SCAG serves as the federally designated metropolitan planning organization for the Southern California region and is the largest metropolitan planning organization in the United States. With respect to air quality planning and other regional issues, the SCAG has prepared the *2008 Regional Comprehensive Plan: Helping Communities Achieve a Sustainable Future* (2008 RCP) for the region (SCAG 2008). The 2008 RCP is a problem-solving guidance document that directly responds to what the SCAG has learned about Southern California's challenges through the annual State of the Region report card (SCAG 2008).

On April 7, 2016, the SCAG's Regional Council adopted the 2016 RTP/SCS. The 2016 RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. The 2016 RTP/SCS charts a course for closely integrating land use and transportation so that the region can grow smartly and sustainably. The 2016 RTP/SCS was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, nonprofit organizations, businesses, and local stakeholders within the Counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. In June 2016, SCAG received its conformity determination from the Federal Highway Administration and the Federal Transit Administration indicating that all air quality conformity requirements for the 2016 RTP/SCS and associated 2015 Federal Transportation Improvement Program Consistency Amendment through Amendment 15-12 have been met (SCAG 2016).

As previously noted, the SCAQMD Draft Final 2016 AQMP applies the updated SCAG growth forecasts assumed in the 2016 RTP/SCS.

2.2.3.3 San Pedro Bay Ports

In March 2006, the Ports of Los Angeles and Long Beach enacted a joint Clean Air Action Plan (CAAP) which describes the measures that the Ports will take toward reducing emissions related to port operations (San Pedro Bay Ports 2006). The Ports will leverage a number of implementation mechanisms for attaining the proposed standards -- including but not limited to: lease requirements, tariff changes, California Environmental Quality Act (CEQA) mitigation, and incentives. The following project specific standards were implemented with the enactment of the CAAP:

- Projects must meet the 10 in 1,000,000 excess residential cancer risk threshold, as determined by health risk assessments conducted subject to CEQA statute, regulations and guidelines and implemented through required CEQA mitigations associated with lease negotiations.

- Projects that exceed the SCAQMD CEQA significance thresholds for criteria pollutants must implement the maximum available controls and feasible mitigations for any emissions increases.

- The contribution of emissions from a particular project to the cumulative effects, in conjunction with Clean Air Action Plan and other adopted/implemented control measures, will allow for the timely achievement of the San Pedro Bay Standards.

The CAAP also put into place source specific standards for heavy-duty vehicles/trucks, ocean-going vessels, cargo handling equipment, harbor craft, and railroad locomotives. The CAAP was updated in 2010 with progress towards the 2006 goals and measures. The most significant addition to the CAAP Update is the San Pedro Bay Standards, which establish long-term goals for emissions and health-risk reductions for the ports. The source specific standards are shown below:

- **HDV1 – Performance Standards for On-Road Heavy-Duty Vehicles:** This measure requires that all trucks servicing both ports comply with 2007 USEPA heavy-duty on-road emissions standards, in addition to safety and security requirements, by January 1, 2012.

- **HDV2 – Alternative Fuel Infrastructure for Heavy-Duty Natural Gas Vehicles:** In order to encourage use of alternative fueled trucks, the ports will support development of alternative-fuel infrastructure in the port complex.

- **OGV1 – Ocean Going Vessel (OGV) Vessel Speed Reduction (VSR):** This measure reduces emissions from OGVs during their approach and departure from the ports, by slowing vessel speed to 12 knots at a distance of 20 nm and 40 nm from Point Fermin.

- **OGV2 – Reduction of At-Berth OGV Emissions:** The use of shore power to reduce hoteling emissions implemented at all container and cruise terminals and one liquid bulk terminal at the Port of Los Angeles and all container, one crude, and one bulk terminal at the Port of Long Beach by 2014.

- **OGV3 – OGV Low Sulfur Fuel for Auxiliary Engines and Auxiliary Boilers:** This measure reduces emissions from the auxiliary engines and auxiliary boilers of OGVs during their approach and departure from the ports, by switching to ≤0.2% sulfur distillate fuel (MGO or MDO) within 40 nm from Point Fermin. Compliance with the CARB rule limit of ≤0.1% sulfur distillate fuel (MGO or MDO) starts on January 1, 2012.

- **OGV4 – OGV Low Sulfur Fuel for Main Engines:** This measure reduces emissions from main engines of OGVs during their approach and departure from the ports, by switching to ≤0.2% sulfur distillate (MGO or MDO) fuel within 40 nm from Point Fermin; Compliance with the CARB rule limit of ≤0.1% sulfur distillate fuel (MGO or MDO) starts on January 1, 2012.

- **OGV5 – Cleaner OGV Engines:** Measure seeks to maximize the number of vessels meeting the IMO NOx limit of 3.4 g/kW-hr that visit the ports.

- **OGV6 – OGV Engine Emissions Reduction Technology Improvements:** This measure seeks to encourage demonstration and deployment of cleaner OGV engine technologies that are validated through the Technology Advancement Program (TAP) or by the regulatory agencies. The goal of this measure is to reduce DPM and NOx emissions of in-use vessels.

- **CHE1 – Performance Standards for Cargo Handling Equipment (CHE):** This measure places emissions specific requirements on CHE beginning in 2007. By the end of 2014, all CHE must meet a minimum US EPA Tier 4 off-road engine standard.

- **HC1 – Performance Standards for Harbor Craft:** All harbor craft operating in the ports of Long Beach and Los Angeles are required to comply with the CARB harbor craft (HC) regulation.
- **RL1 – Pacific Harbor Line (PHL) Rail Switch Engine Modernization:** This measure seeks to reduce emissions from PHL rail switch engines through mandatory compliance with Tier specific requirements.
- **RL2 – Class 1 Line-Haul and Switcher Fleet Modernization:** This is a long term measure affecting all Class 1 line-haul and switcher operations used for the goods movement in and out of the ports. The focus of this measure is to identify the emission reductions associated with the CARB Class 1 railroads MOU and the 2008 USEPA locomotive engine standards.
- **RL3 – New and Redeveloped Near-Dock Rail Yards:** This measure focuses on new and redeveloped near-dock rail facilities located on port properties. These facilities are intended to be utilized for intermodal operations. The goal of this measure is to incorporate the cleanest locomotive, CHE, and HDV technologies into near-dock rail operations. This measure will be in near-dock rail projects, in support of CARB's goals for emission reductions from locomotives statewide.
- **Construction Activity:** In the 2006 CAAP, the ports committed to develop Best Management Practices (BMPs) for port-related construction activity. To meet this commitment, the Port of Los Angeles adopted its "Sustainable Construction Guidelines for Reducing Air Emissions" and the Port developed guidelines for reducing air emissions from construction operations. These BMPs will be evaluated on a project-specific basis and applicable practices will be incorporated into construction project contracts.

In November 2016, the San Pedro Bay Ports released the CAAP 2017 Draft Discussion Document which serves as a roadmap for continued emission reduction activities in collaboration with industry stakeholders, local communities, environmental groups, and regulatory agencies (collectively, "stakeholders") for the next 20 years (San Pedro Bay Ports 2016). Although not final, the draft document outlines updated strategies for reducing emissions through the following strategies: clean vehicles and equipment technology and fuels; freight infrastructure planning and investments; freight efficiency; and energy resource planning.

2.2.3.4 Port of Los Angeles Master Plan

The Port Master Plan establishes policies and guidelines to direct the future development of the Port of Los Angeles. The Port Master Plan was originally adopted and certified in 1980 in conformance with the policies of the California Coastal Act (Port of Los Angeles 2014). The major objectives of the Port Master Plan are:

- To develop the Port in a manner that is consistent with federal, state, county and city laws, including the California Coastal Act of 1976 and the Charter of the City of Los Angeles.
- To integrate economic, engineering, environmental and safety considerations into the Port development process for measuring the long-term impact of varying development options on the Port's natural and economic environment.
- To promote the orderly long-term development and growth of the Port by establishing functional areas for Port facilities and operations.
- To allow the Port to adapt to changing technology, cargo trends, regulations, and competition from other U.S. and foreign seaports.

The projects location falls within Planning Area 4 – Fish Harbor of the Port Master Plan. Planning Area 4 includes Fish Harbor and focuses on commercial fishing and maritime support uses. Commercial fishing will remain focused in the northern and eastern portions of Fish Harbor, while maritime support and other institutional uses will be located along the western portion of Fish Harbor. Breakbulk cargo and/or maritime support uses are anticipated at Berths 240- 241 and the backland area. A memorial, honoring the Japanese Fishing Village on Terminal Island shall be preserved at its existing site, barring relocation to an expanded museum/facility. A total of 48 acres is dedicated to commercial fishing, supported by more than 4,500 linear feet of wharf length. A recent analysis of the commercial fishing industry in the Terminal Island Land Use Plan concluded that the commercial fishing industry could support market demand based on forecasted fish landings. Commercial fishing uses have priority in Planning Area 4 and commercial fishing projects are appealable under Section 30715 of the Coastal Act. South of Planning Area 4 is Federal land, which is exempt from Port Master Plan provisions.

2.3 Regional and Local Air Quality Conditions

2.3.1 South Coast Air Basin Attainment Designation

Pursuant to the 1990 federal Clean Air Act amendments, the EPA classifies air basins (or portions thereof) as “attainment” or “nonattainment” for each criteria air pollutant, based on whether the NAAQS have been achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as “attainment” for that pollutant. If an area exceeds the standard, the area is classified as “nonattainment” for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as “unclassified” or “unclassifiable.” The designation of “unclassifiable/attainment” means that the area meets the standard or is expected to be meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are re-designated as maintenance areas and must have approved Maintenance Plans to ensure continued attainment of the standards. The California Clean Air Act, like its federal counterpart, called for the designation of areas as “attainment” or “nonattainment,” but based on CAAQS rather than the NAAQS. Table 2 depicts the current attainment status of the project site with respect to the NAAQS and CAAQS. The attainment classifications for the criteria pollutants are outlined in Table 2.

Table 2
South Coast Air Basin Attainment Classification

Pollutant	Averaging Time	Designation/Classification
Federal Standards		
O_3	8 hours	Nonattainment/Extreme
NO_2	1 hour	Unclassifiable/attainment
	Annual arithmetic mean	Attainment (maintenance)
CO	1 hour; 8 hours	Attainment (maintenance)
SO_2	24 hours; annual arithmetic mean	Unclassifiable/attainment
PM_{10}	24 hours	Attainment (maintenance)
$PM_{2.5}$	24 hours; annual arithmetic mean	Nonattainment
Lead	Quarter	Unclassifiable/attainment
	3-month average	Nonattainment
State Standards		
O_3	1 hour; 8 hours	Nonattainment
NO_2	1 hour; annual arithmetic mean	Attainment
CO	1 hour; 8 hours	Attainment
SO_2	1 hour; 24 hours	Attainment
PM_{10}	24 hours; annual arithmetic mean	Nonattainment
$PM_{2.5}$	Annual arithmetic mean	Nonattainment

Table 2
South Coast Air Basin Attainment Classification

Pollutant	Averaging Time	Designation/Classification
Lead[a]	30-day average	Attainment
SO_4	24 hours	Attainment
H_2S	1 hour	Unclassified
Vinyl chloride[a]	24 hours	No designation
Visibility-reducing particles	8 hours (10:00 a.m.–6:00 p.m.)	Unclassified

Sources: EPA 2016b (federal); CARB 2016c (state).
Notes: CO = carbon monoxide; H_2S = hydrogen sulfide; NO_2 = nitrogen dioxide; O_3 = ozone; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SO_2 = sulfur dioxide; SO_4 = sulfates
[a] CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined.

In summary, the SCAB is designated as a nonattainment area for federal and state O_3 standards and federal and state $PM_{2.5}$ standards. The SCAB is designated as a nonattainment area for state PM_{10} standards; however, it is designated as an attainment area for federal PM_{10} standards. The SCAB is designated as an attainment area for federal and state CO standards, federal and state NO_2 standards, and federal and state SO_2 standards. While the SCAB has been designated as nonattainment for the federal rolling 3-month average lead standard, it is designated attainment for the state lead standard (EPA 2016b; CARB 2016c).

2.3.2 Local Ambient Air Quality

CARB, air districts, and other agencies monitor ambient air quality at approximately 250 air quality monitoring stations across the state. The project site's local ambient air quality is monitored by the SCAQMD. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. The most recent background ambient air quality data from 2014 to 2016 are presented in Table 3. The Long Beach Webster Street monitoring station, located at 2425 Webster Street,[3] Long Beach, California 90810, is the nearest air quality monitoring station to the project site, located approximately 5.4 miles north-east from the project site. The data collected at this station are considered representative of the air quality experienced in the project vicinity. Air quality data for O_3, NO_2, CO, SO_2, PM_{10}, and $PM_{2.5}$ from the Long Beach Webster Street monitoring station are provided in Table 3. Because $PM_{2.5}$ and PM_{10} in 2014 are not monitored at the Webster Street monitoring station, $PM_{2.5}$ and 2013 PM_{10} measurements were taken from the Long Beach North Long Beach Boulevard monitoring station (3648 North Long Beach Boulevard, Long Beach,

[3] The address of 2425 Webster Street has been changed to 2425 Webster Avenue; however, the location is the same.

California, 90807, approximately 7.73 miles north-east from the project site). The number of days exceeding the ambient air quality standards is also shown in Table 3.

Table 3
Local Ambient Air Quality Data

Concentration or Exceedances	Ambient Air Quality Standard	2014	2015	2016
Ozone (O_3) (Long Beach Webster Street Monitoring Station)				
Maximum 1-hour concentration (ppm)	0.09 ppm (state)	0.087	0.087	0.079
Number of days exceeding state standard (days)		0	0	0
Maximum 8-hour concentration (ppm)	0.070 ppm (state)	0.072	0.067	0.059
	0.070 ppm (federal)	0.063	0.066	0.059
Number of days exceeding state standard (days)		*1*	*0*	*0*
Number of days exceeding federal standard (days)		*0*	*0*	*0*
Nitrogen Dioxide (NO_2) (Long Beach Webster Street Monitoring Station)				
Maximum 1-hour concentration (ppm)	0.18 ppm (state)	0.135	0.101	0.076
	0.100 ppm (federal)	0.1359	0.1018	0.076
Number of days exceeding state standard (days)		*0*	*0*	*0*
Number of days exceeding federal standard (days)		*2*	*1*	*0*
Annual concentration (ppm)	0.030 ppm (state)	ND	0.020	0.018
	0.053 ppm (federal)	—	—	—
Carbon Monoxide (CO) (Long Beach Webster Street Monitoring Station)				
Maximum 1-hour concentration (ppm)	20 ppm (state)	3.7	3.3	3.3
	35 ppm (federal)	3.7	3.3	3.3
Number of days exceeding state standard (days)		*0*	*0*	*0*
Number of days exceeding federal standard (days)		*0*	*0*	*0*
Maximum 8-hour concentration (ppm)	9.0 ppm (state)	2.6	2.2	2.2
	9 ppm (federal)	2.6	2.2	2.2
Number of days exceeding state standard (days)		*0*	*0*	*0*
Number of days exceeding federal standard (days)		*0*	*0*	*0*
Sulfur Dioxide (SO_2) (Long Beach Webster Street Monitoring Station)				
Maximum 1-hour concentration (ppm)	0.075 ppm (federal)	0.0147	0.0375	0.0178
Number of days exceeding federal standard (days)		*0*	*0*	*0*
Maximum 24-hour concentration (ppm)	0.14 ppm (federal)	0.030	0.046	0.036
Number of days exceeding federal standard (days)		*0*	*0*	*0*
Annual concentration (ppm)	0.030 ppm (federal)	0.0132[a]	0.0099[a]	0.0092[a]

Table 3
Local Ambient Air Quality Data

Concentration or Exceedances	Ambient Air Quality Standard	2014	2015	2016
Coarse Particulate Matter (PM_{10}) (Long Beach North Long Beach Boulevard Monitoring Station (2013) and Webster Street Monitoring Station (2014, 2015)				
Maximum 24-hour concentration (μg/m³)	50 μg/m³ (state)	84.0	79.0	-
	150 μg/m³ (federal)	84	80	75.0
Number of days exceeding state standard (days)[b]		*19.3 (3)*	*37.6 (6)*	-
Number of days exceeding federal standard (days) [b]		*0.0 (0)*	*0.0 (0)*	*0 (0.0)*
Annual concentration (state method) (μg/m³)	20 μg/m³ (state)	29.5	31.3	31.9
Fine Particulate Matter ($PM_{2.5}$) (Long Beach North Long Beach Boulevard Monitoring Station)				
Maximum 24-hour concentration (μg/m³)	35 μg/m³ (federal)	51.5	54.6	28.9
Number of days exceeding federal standard (days) [b]		*ND (2)*	*3.1 (3)*	*0.0 (0)*
Annual concentration (μg/m³)	12 μg/m³ (state)	11.5[a]	10.8	9.6
	12.0 μg/m³ (federal)	11.5[a]	10.8	9.6

Sources: CARB 2016d; EPA 2016c.
Notes: — = not available; μg/m3 = micrograms per cubic meter; ND = insufficient data available to determine the value; ppm = parts per million
Data taken from CARB iADAM (http://www.arb.ca.gov/adam) and EPA AirData (http://www.epa.gov/airdata/) represent the highest concentrations experienced over a given year.
Exceedances of federal and state standards are only shown for O_3 and particulate matter. Daily exceedances for particulate matter are estimated days because PM_{10} and $PM_{2.5}$ are not monitored daily. All other criteria pollutants did not exceed federal or state standards during the years shown. There is no federal standard for 1-hour ozone, annual PM_{10}, or 24-hour SO_2, nor is there a state 24-hour standard for $PM_{2.5}$.
Long Beach Webster Street Monitoring Station is located at 2425 Webster Street, Long Beach, California 90810.
Long Beach North Long Beach Boulevard Monitoring Station is located at 3648 North Long Beach Boulevard, Long Beach, California 90807.
[a] Mean does not satisfy minimum data completeness criteria.
[b] Measurements of PM_{10} and $PM_{2.5}$ are usually collected every 6 days and every 1 to 3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored. The numbers in parentheses are the measured number of samples that exceeded the standard.

2.4 Significance Criteria and Methodology

2.4.1 Thresholds of Significance

Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) provides guidance for evaluating whether a development project may result in significant impacts. Based on Appendix G of the CEQA Guidelines, the project would have a significant impact on air quality if the project would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
4. Expose sensitive receptors to substantial pollutant concentrations.
5. Create objectionable odors affecting a substantial number of people.

Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) indicates that, where available, the significance criteria established by the applicable air quality management district or pollution control district may be relied upon to determine whether the project would have a significant impact on air quality. The SCAQMD *CEQA Air Quality Handbook* (2015), as revised in March 2015, sets forth quantitative emission significance thresholds below which a project would not have a significant impact on ambient air quality. Project-related air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 4, SCAQMD Air Quality Significance Thresholds, are exceeded.

A project would result in a substantial contribution to an existing air quality violation of the NAAQS or CAAQS for O_3 (see Table 2), which is a nonattainment pollutant, if the project's construction or operational emissions would exceed the SCAQMD VOC or NO_x thresholds shown in Table 4. These emission-based thresholds for O_3 precursors are intended to serve as a surrogate for an "ozone significance threshold" (i.e., the potential for adverse O_3 impacts to occur) because O_3 itself is not emitted directly (see the discussion of O_3 and its sources in Section 2.1, Environmental Setting), and the effects of an individual project's emissions of O_3 precursors (VOC and NO_x) on O_3 levels in ambient air cannot be determined through air quality models or other quantitative methods.

Table 4
SCAQMD Air Quality Significance Thresholds

Criteria Pollutants Mass Daily Thresholds		
Pollutant	*Construction (pounds per day)*	*Operation (pounds per day)*
VOCs	75	55
NO_x	100	55
CO	550	550
SO_x	150	150
PM_{10}	150	150
$PM_{2.5}$	55	55
Lead[a]	3	3

Table 4
SCAQMD Air Quality Significance Thresholds

TACs and Odor Thresholds	
TACs[b]	Maximum incremental cancer risk ≥ 10 in 1 million Chronic and acute hazard index ≥ 1.0 (project increment)
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402
Ambient Air Quality Standards for Criteria Pollutants[c]	
  NO_2 1-hour average NO_2 annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.030 ppm (state) and 0.0534 ppm (federal)
  CO 1-hour average CO 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)
PM_{10} 24-hour average PM_{10} annual average	10.4 $\mu g/m^3$ (construction)[d] 2.5 $\mu g/m^3$ (operation) 1.0 $\mu g/m^3$
$PM_{2.5}$ 24-hour average	10.4 $\mu g/m^3$ (construction)[d] 2.5 $\mu g/m^3$ (operation)

Source: SCAQMD 2015.
Notes: $\mu g/m^3$ = micrograms per cubic meter; CO = carbon monoxide; NO_2 = nitrogen dioxide; NO_x = oxides of nitrogen; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; ppm = parts per million; SCAQMD = South Coast Air Quality Management District; SO_x = sulfur oxides; TAC = toxic air contaminant; VOC = volatile organic compounds
GHG emissions thresholds for industrial projects, as added in the March 2015 revision to the SCAQMD Air Quality Significance Thresholds, were not include included in Table 4 as they will be addressed within the GHG emissions analysis and not the air quality study.

a The phaseout of leaded gasoline started in 1976. Since gasoline no longer contains lead, the project is not anticipated to result in impacts related to lead; therefore, it is not discussed in this analysis.
b TACs include carcinogens and noncarcinogens.
c Ambient air quality standards for criteria pollutants are based on SCAQMD Rule 1303, Table A-2, unless otherwise stated.
d Ambient air quality threshold are based on SCAQMD Rule 403.

In addition to the emission-based thresholds listed in Table 4, the SCAQMD also recommends the evaluation of localized air quality impacts to sensitive receptors in the immediate vicinity of the project as a result of construction activities. Such an evaluation is referred to as a LST analysis. For project sites of 5 acres or less, the SCAQMD LST Methodology (2009) includes lookup tables that can be used to determine the maximum allowable daily emissions that would satisfy the localized significance criteria (i.e., the emissions would not cause an exceedance of the applicable concentration limits for NO_2, CO, PM_{10}, and $PM_{2.5}$) without performing project-specific dispersion modeling. Although the proposed development area of the site is greater than 5 acres (estimated to be 10 acres), the project would disturb less than 5 acres in 1 day, as discussed in detail in the following text, so it is appropriate to use the lookup tables for the LST evaluation.

The LST significance thresholds for NO_2 and CO represent the allowable increase in concentrations above background levels in the vicinity of a project that would not cause or contribute to an exceedance of the relevant ambient air quality standards, while the threshold for PM_{10} represents compliance with Rule 403 (Fugitive Dust). The LST significance threshold for $PM_{2.5}$ is intended to ensure that construction emissions do not contribute substantially to existing exceedances of the $PM_{2.5}$ ambient air quality standards. The allowable emission rates depend on the following parameters:

- Source-receptor area (SRA) in which the project is located
- Size of the project site
- Distance between the project site and the nearest sensitive receptor (e.g., residences, schools, hospitals)

The project site is located in SRA 4 (South Coastal Los Angeles County). The SCAQMD provides guidance for applying California Emissions Estimator Model (CalEEMod) to the LSTs. LST pollutant screening level concentration data is currently published for 1-, 2-, and 5-acre sites for varying distances. The maximum number of acres disturbed on the peak day was estimated using the “Fact Sheet for Applying CalEEMod to Localized Significance Thresholds” (SCAQMD 2011), which provides estimated acres per 8-hour day for crawler tractors, graders, rubber tired dozers, and scrapers. Based on the SCAQMD guidance, and assuming an excavator can grade 0.5 acres per 8-hour day (similar to graders, dozers, and tractors), it was estimated that the maximum acres on the project site that would be disturbed by off-road equipment would be 1 acre per day (two excavators operating during the grading phase). Because the total disturbed acreage would be 10 acres over approximately 40 days, the estimate of 1 acre per day of disturbance is conservative. Because the SCAQMD does not provide lookup table values for sites less than 1 acre, the LST values for a 1 acre within SRA 4 were used.

The nearest sensitive-receptor land uses (a residence) is located approximately 3,000 feet west of the project site. As such, the LST receptor distance was assumed to be 1,640 feet (500 meters), which is the furthest distance provided by the SCAQMD lookup tables. The LST values from the SCAQMD lookup tables for SRA 4 (South Coastal Los Angeles County) for a 1-acre project site and a receptor distance of 500 meters are shown in Table 5.

Table 5
Localized Significance Thresholds for Source Receptor Area 4
(South Coastal Los Angeles County)

Pollutant	Threshold (pounds/day)
NO_2	142
CO	7,558
PM_{10}	158
$PM_{2.5}$	93

Source: SCAQMD 2009.
Notes: CO = carbon monoxide; NO_2 = nitrogen dioxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; ppm = parts per million
LST thresholds were determined based on the values for 1-acre site at a distance of 500 meters from the nearest sensitive receptor.

2.4.2 Approach and Methodology

2.4.2.1 Construction

Emissions from the construction phase of the project were estimated using CalEEMod, Version 2016.3.2. Construction scenario assumptions, including phasing, equipment mix, and vehicle trips, were based on information provided by the project applicant and CalEEMod default values when project specifics were not known.

For purposes of estimating project emissions, and based on information provided by the project applicant, it is assumed that construction of the project would commence in 2017[4] and would last approximately 12 months, ending in 2018. The project would take an additional 4-6 months after construction to install equipment. The analysis contained herein is based on the following assumptions (duration of phases is approximate):

- Demolition: 1 month
- Site Preparation: 0.5 month
- Grading: 1.5 months
- Building Construction: 11 months

[4] The analysis assumes a construction start date of June 2017, which represents the earliest date construction would initiate. Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant and GHG emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

- Paving: 1 month
- Application of Architectural Coatings: 1 month

Installation of utilities was assumed to occur during the grading phase. The applicant will utilize architectural coatings for the exterior and interior of the building that contain zero VOCs. The building construction phase and the architectural coating phase end during the same month because the building construction phase duration includes finalization of the project construction and exterior improvements, as well as demobilization. For the analysis, it was generally assumed that heavy construction equipment would be operating at the site for approximately 12 hours per day, 5 days per week (22 days per month), during project construction.

Construction-worker estimates and vendor truck trips by construction phase were based on CalEEMod default values. Haul truck trips during the demolition phase were based on the square footage of the building being demolished and CalEEMod defaults. Grading is currently estimated to be fully balanced with no soil imported or exported. CalEEMod default trip length values were used for the distances for all construction-related trips. Construction equipment were based on CalEEMod defaults which take into account the land-use type and construction duration. The San Pedro Bay Ports CAAP has a requirement for all construction equipment to be at least Tier 4 by 2012. It was assumed that all construction equipment used on this project would meet that requirement.

The construction equipment mix and vehicle trips used for estimating the project-generated construction emissions are shown in Table 6.

Table 6
Construction Scenario Assumptions

Construction Phase	One-way Vehicle Trips			Equipment		
	Average Daily Worker Trips	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Demolition	16	0	42	Concrete/Industrial Saws	1	12
				Excavators	3	12
				Rubber Tired Dozers	2	12
Site Preparation	18	0	0	Rubber Tired Dozers	3	12
				Tractors/loaders/backhoes	4	12
Grading	20	0	0	Excavators	2	12
				Graders	1	12
				Rubber tired loaders	1	12
				Scrapers	2	12
				Tractors/loaders/backhoes	2	12

Table 6
Construction Scenario Assumptions

Construction Phase	One-way Vehicle Trips			Equipment		
	Average Daily Worker Trips	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Building construction	130	50	0	Cranes	1	12
				Forklifts	3	12
				Generator Sets	2	12
				Tractors/loaders/backhoes	3	12
				Welders	1	12
Paving	16	0	0	Pavers	2	12
				Paving equipment	2	12
				Rollers	2	12
Architectural coating	26	0	0	Air Compressors	1	12

Notes: See Appendix A for details.

2.4.2.2 Operation

Emissions from the operational phase of the project were estimated using the CalEEMod, Version 2016.3.2 and a spreadsheet based model. Operational year 2019 was assumed consistent with the traffic impact study (Iteris 2017).

Area Sources

CalEEMod was used to estimate operational emissions from area sources, including emissions from consumer product use, architectural coatings, and landscape maintenance equipment. Emissions associated with natural gas usage in space heating, water heating, and the curing ovens are calculated in the building energy use module of CalEEMod, as described in the following text.

Consumer products are chemically formulated products used by household and institutional consumers, including detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. In addition to consumer products, it is anticipated that the project would utilize various VOC containing products for aerospace parts manufacturing. These products would be used for parts cleaning, finishing, prepping, and painting. To estimate product VOC usage for the project, the usage and historical emissions from a similar facility were scaled to conservatively estimate product usage emissions. The scaled emissions include similar sources of emissions as those of the project and the usage was tailored to the expected output of the proposed facility. Chemical usage estimate is scaled on the actual usage at an existing permitted facility. Chemicals used include architectural coatings, prepreg, solvents, epoxies, adhesives, and lubricants. Usage is not expected to exceed 260 gallons of chemicals or 1,400,000 square feet of prepreg per year.

The project is also expected to utilize abrasive blasting as a means to prepare parts for painting and to strip parts of existing paint. The abrasive blasting historical emissions from the same facility that was used to model product usage was also used to model the emissions from abrasive blasting for the project. It was assumed that the project would emit approximately half of the modelled facility based on projected usage.

VOC off-gassing emissions result from evaporation of solvents contained in surface coatings such as in paints and primers using during building maintenance. Consistent with the architectural coatings used during the construction phase, the applicant will utilize architectural coatings that contain zero VOCs for any reapplication during operation.

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers. The emissions associated from landscape equipment use are estimated based on CalEEMod default values for emission factors (grams per square foot of nonresidential building space per day) and number of summer days (when landscape maintenance would generally be performed) and winter days. For Los Angeles County, the average annual “summer” days are estimated to 365 days; however, it is assumed that landscaping equipment would likely only operate during the week (not weekends), so operational days were assumed to be 250 days per year in CalEEMod (CAPCOA 2016). By design, the project would not include turf, and the proposed landscaped area would be minimal. Nonetheless, emissions associated with potential landscape maintenance equipment were included to conservatively capture potential project operational emission sources.

Energy Sources

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage (non-hearth). Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for GHGs in CalEEMod, since criteria pollutant emissions occur at the site of the power plant, which is typically off site. The project would include the use of a 18.26 million british thermal units per hour (MMBtu/hr) autoclave that would operate exclusively on pipeline natural gas.

Mobile Sources

Mobile sources for the project would primarily be motor vehicles (automobiles and light-duty trucks) traveling to and from the project site. Motor vehicles may be fueled with gasoline, diesel, or alternative fuels. Based on the TIS (2017) prepared for the project by Iteris, the proposed Project is anticipated to generate up to 750 one-way trips per day, resulting in 5,619,120 annual vehicle miles travelled (Iteris 2017). A spreadsheet based model was used to estimate emissions from mobile sources using emission factors from the CARB EMFAC2014 model and activity date from the TIS. Project-related traffic was assumed to include a mixture of vehicles in accordance with the model outputs for traffic. Emission factors representing the vehicle mix and emissions for 2019 were used to estimate emissions associated with operation of the project.

The project is also anticipated to generate emissions from marine vessel operations during operation. The project was conservatively estimated to operate one shipping operation per month which includes the loading of parts onto a barge, a tug boat pulling the barge, and an assist tug for operation within the port. For emissions estimation purposes, the tug boat and barge were estimated to operate from the Port to the edge of the SCAB 40 nautical miles away based on the anticipated route. Emissions from the tug boat were estimated using a spreadsheet based model and emission factors assuming Tier 3 engines: two 1,500 horsepower propulsion and two 133 horsepower auxiliary diesel engines. The assist tug was also assumed to be Tier 3 with two 500 horsepower propulsion and two 44 horsepower auxiliary engines. The detailed emission calculations for the marine operations can be found in Appendix A.

Off-Road Equipment

The project is expected to use various types of off-road equipment during the operational phase. For the purposes of estimating emissions for this equipment, a spreadsheet model was used to estimate emissions based on type, number, frequency of use, and size of equipment used. For purposes of estimating emissions, the off-road diesel equipment that would be used includes up to 8 aerial lifts, 3 cranes, and 8 forklifts. All off-road equipment was expected to meet or exceed Tier 3 emission standards. The project is anticipated to operate 6 days per week, or 312 days per year, for all equipment except off-road equipment only used for marine vessel loading.

Stationary Sources

The project is expected to operate an emergency generator at the facility in order to ensure that any parts that begin the curing cycle in the ovens are able to be completed. It was estimated that the emergency generator was 500 horsepower and diesel fueled, and operated up to 0.5 hours per day and 250 hours per year. The daily estimate was based on the CARB Air Toxics Control Measure for stationary compression ignition engines. The annual operational limit is based on the SCAQMD Rule 1470 limit of 50 hours of maintenance operation and 200 hours of emergency operation per year. The emergency generator was assumed to be Tier 3.

2.5 Impact Analysis

This section evaluates the air quality impacts associated with the project. The SCAQMD significance criteria described in Section 2.4, Significance Criteria and Methodology, was used to evaluate impacts associated with the construction and operation of the project.

2.5.1 Would the project conflict with or obstruct implementation of the applicable air quality plan?

As previously discussed, the project site is located within the SCAB under the jurisdiction of the SCAQMD, which is the local agency responsible for administration and enforcement of air quality regulations for the area. The SCAQMD has established criteria for determining consistency with the 2012 AQMP in Chapter 12, Sections 12.2 and 12.3, in the SCAQMD *CEQA Air Quality Handbook* (SCAQMD 1993). The criteria are as follows (SCAQMD 1993):

- **Consistency Criterion No. 1:** The proposed project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards of the interim emissions reductions specified in the AQMP.
- **Consistency Criterion No. 2:** The proposed project will not exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

Consistency Criterion No. 1

Section 2.5.2 evaluates the project's potential impacts in regards to CEQA Guidelines Appendix G Threshold 2 (the project's potential to violate any air quality standard or contribute substantially to an existing or projected air quality violation impact analysis). As discussed in Section 2.5.2, the project would not result in a significant and unavoidable impact associated with the violation of an air quality standard. Because the project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, the project would not conflict with Consistency Criterion No. 1 of the SCAQMD *CEQA Air Quality Handbook*.

Consistency Criterion No. 2

While striving to achieve the NAAQS for O_3 and $PM_{2.5}$ and the CAAQS for O_3, PM_{10}, and $PM_{2.5}$ through a variety of air quality control measures, the 2016 AQMP also accommodates planned growth in the SCAB. Projects are considered consistent with, and would not conflict with or obstruct implementation of, the AQMP if the growth in socioeconomic factors (e.g., population, employment) is consistent with the underlying regional plans used to develop the AQMP (per Consistency Criterion No. 2 of the SCAQMD *CEQA Air Quality Handbook*). As discussed in Section 2.2.3 (Local Regulations), the demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) developed by SCAG for their 2016–2040 RTP/SCS, which are based on general plans for cities and counties in the SCAB, were used to estimate future emissions in the 2016 AQMP (SCAQMD 2016). Accordingly, the 2016 AQMP is generally consistent with local government plans.

As discussed in Section 2.2.3.4, Port of Los Angeles Master Plan, the Port Master Plan (Port of Los Angeles 2014) land use designation for the project development footprint is within the Planning Area 4 – Fish Harbor. Under Section 5.6.2 of the Port Master Plan, Berth 240 is planned as a mixed land use area as maritime support/breakbulk. The project would be consistent with the designated land use of Berth 240 and thus consistent with the Port Master Plan.

Per the SCAG 2016 RTP/SCS regional growth forecast, the employment estimates and projections for the City of Los Angeles were as follows: 1,696,400 jobs in 2012 and 2,169,100 jobs in 2040. The projection would indicate that the City of Los Angeles would add 16,882 jobs per year. The project is expected to add up to 750 total jobs to Terminal Island, which is within the City of Los Angeles upon full build-out. The expected employment impact of the project would not exceed the SCAG 2016 RTP/SCS regional growth forecast that were the basis for the 2016 AQMP; therefore, the project is expected to have less than a significant impact.

Based on these considerations, it is reasonable to assume vehicle trip generation and planned development for the site has been anticipated in the SCAG growth projections because the land use designation would remain the same (i.e., maritime support/breakbulk). Because the City's estimated employment (SCAG 2015) is within the SCAG 2016 RTP/SCS forecasted job growth estimates between 2012 and 2040, and because the addition of project-generated employment to the City's estimated job base would not exceed the SCAG 2016 RTP/SCS forecasted employment, implementation of the project would not result in a conflict with, or obstruct implementation of, the applicable air quality plan (i.e., SCAQMD 2016 AQMP). Accordingly, the project would meet Consistency Criterion No. 2 of the SCAQMD *CEQA Air Quality Handbook*.

San Pedro Ports Clean Air Action Plan

The Ports of Los Angeles and Long Beach enacted a joint CAAP (as discussed in Section 2.2.3), which describes the measures that the Ports will take toward reducing emissions related to port operations (San Pedro Bay Ports 2006). The following control measures identified in the CAAP would apply to the project.

The San Pedro Bay Ports CAAP Control Measure HDV-1, Performance Standards for On-Road Heavy Duty Vehicles

The control measure is focused on maximizing the reductions from frequent (7 or more calls per week) and semi-frequent (3.5 to less than 7 calls per week) caller trucks that service both Ports. This control measure sets forth the following "clean" truck definitions:

> All frequent caller trucks, and semi-frequent caller container trucks model year (MY) 1992 and older, calling at the San Pedro Bay Ports will meet or be cleaner than the EPA 2007 on-road emissions standard (0.01 g/bhp-hr for PM) and the cleanest available NOX at time of replacement.
>
> Semi-frequent caller container trucks MY1993-2003 will be equipped with the maximum CARB verified emissions reduction technologies currently available.

San Pedro Bay Ports CAAP Control Measure HC-1, Performance Standards for Harbor Craft Lease Measure.

All harbor craft operating in the ports of Long Beach and Los Angeles are required to comply with the CARB harbor craft (HC) regulation. This measure seeks to further reduce emissions by encouraging compliance with the following goals:

> By 2008, all HC home-ported in the San Pedro Bay will meet USEPA Tier 2 standards for harbor craft, or equivalent reductions.
>
> After Tier 3 engines become available between 2009 and 2014, within five years all HC homebased in the San Pedro Bay will be repowered with the new engines.
>
> All tugs will use shore power while at their home port location.

Through its Port Leasing Policy, LAHD tenants are required to comply with environmental requirements included in lease agreements in order to meet the requirements of the CAAP. The proposed project could utilize forklifts that would be subject to CAAP Cargo- Handling Equipment (CHE)-1 requirements, as shown below:

San Pedro Bay Ports CAAP Measure CHE-1 Lease Requirement. Upon lease approval, LAHD shall require the tenant to implement CAAP measure CHE-1, which includes the following requirement:

- Beginning 2007, all CHE purchases will meet one of the following performance standards:
  - Cleanest available on-road or off-road Nitrogen Oxides (NOX) standard alternative-fueled engine, meeting 0.01 grams per brake-horsepower hour (g/bhphr) Diesel Particulate Matter (DPM), available at time of purchase, or
  - Cleanest available off-road or on-road NOX standard diesel-fueled engine, meeting 0.01 g/bhp-hr PM, available at time of purchase.
  - If there are no engines available that meet 0.01 g/bhp-hr PM, then must purchase cleanest available engine (either fuel type) and install cleanest CARB Verified Diesel Emissions Control Strategy (VDECS) available.
- By the end of 2010, all yard tractors operating at the San Pedro Bay Ports will meet, at a minimum, the USEPA 2007 on-road or Tier 4 off-road engine standards.
- By the end of 2012, all pre-2007 on-road or pre-Tier 4 top picks, forklifts, reach stackers, rubber tired gantry (RTG) cranes, and straddle carriers <750 hp will meet, at a minimum, the USEPA 2007 on-road engine standards or Tier 4 offroad engine standards.
- By end of 2014, all CHE with engines >750 hp will meet, at a minimum, the USEPA Tier 4 off-road engine standards. Starting 2007 (until equipment is replaced with Tier 4), all CHE with engines >750 hp will be equipped with the cleanest available CARB VDECS.

To summarize the proposed project would not conflict with or obstruct implementation of the CAAP. Lease requirements have been provided to ensure compliance with the CAAP. Based on the discussion provided above, the proposed project would have less than significant impact as it would not conflict with or obstruct implementation of applicable air quality plans or clean air programs.

Summary

As described previously, the project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, and would not conflict with Consistency Criterion No. 1. Implementation of the project would be not exceed the employment growth forecasts in the SCAG 2012 RTP/SCS; therefore, the project would also be consistent with the SCAQMD 2012 AQMP, which based future emission estimates on the SCAG 2012 RTP/SCS. Thus, the project would not conflict with Consistency Criterion No. 2. To summarize the proposed project would not conflict with or obstruct implementation of the CAAP. Lease requirements have been provided to ensure compliance with the CAAP. Based on these considerations, impacts related to the project’s potential to conflict with or obstruct implementation of the applicable air quality plan would be less than significant.

Mitigation Measures

None required.

Level of Significance After Mitigation

Impacts would be less than significant without mitigation.

2.5.2 Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Construction Emissions

Construction of the project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and VOC off-gassing) and off-site sources (i.e., on-road haul trucks, vendor trucks, and worker vehicle trips). There is no marine equipment associated with the construction phase of the proposed project. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts.

As discussed in Section 2.4.2.1, Construction, criteria air pollutant emissions associated with temporary construction activity were quantified using CalEEMod. Construction emissions were calculated for the estimated worst-case day over the construction period associated with each phase and reported as the maximum daily emissions estimated during each year of construction (2017 and 2018). Construction schedule assumptions, including phase type, duration, and sequencing, were based on information provided by the project applicant and is intended to represent a reasonable scenario based on the best information available. Default values provided in CalEEMod were used where detailed project information was not available.

Implementation of the project would generate air pollutant emissions from entrained dust, off-road equipment, vehicle emissions, architectural coatings, and asphalt pavement application. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. The project would be required to comply with SCAQMD Rule 403 to control dust emissions generated during the grading activities. Standard construction practices that would be employed to reduce fugitive dust emissions include watering of the active sites three times per day depending on weather conditions. Internal combustion engines used by construction equipment, vendor trucks (i.e., delivery trucks), and worker vehicles would result in emissions of VOCs, NO_x, CO, PM_{10}, and $PM_{2.5}$. The application of architectural coatings, such as exterior application/interior paint and other finishes, and application of asphalt pavement would also produce VOC emissions; however, the contractor is required to procure architectural coatings from a supplier in compliance with the requirements of SCAQMD's Rule 1113 (Architectural Coatings) and the project applicant has included the use of zero VOC architectural coatings for interior and exterior application for the project.

Table 7 presents the estimated maximum daily construction emissions generated during construction of the project. The values shown are the maximum summer or winter daily emissions results from CalEEMod. Details of the emission calculations are provided in Appendix A.

Table 7
Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	pounds per day					
2017	1.73	11.04	50.54	0.10	10.86	5.96
2018	2.14	10.55	41.66	0.08	1.91	0.61
Maximum Daily Emissions	2.14	11.04	50.54	0.10	10.86	5.96
SCAQMD Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded?	No	No	No	No	No	No

Notes:
VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SCAQMD = South Coast Air Quality Management District. See Appendix A for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod. These emissions reflect CalEEMod "mitigated" output, which accounts for compliance with SCAQMD Rule 403 (Fugitive Dust) and Rule 1113 (Architectural Coatings).

Maximum daily emissions of NO_x, CO, SO_x, and $PM_{2.5}$ emissions would occur during the grading phase in 2017 as a result of off-road equipment operation and on-road vendor trucks and haul trucks. The overlap of the building construction phase and the architectural coatings phases in 2018 would produce the maximum daily VOC emissions. As shown in Table 7, daily construction emissions would not exceed the SCAQMD significance thresholds for VOC, NO_x. CO, SO_x, PM_{10}, or $PM_{2.5}$ during construction in all construction years. Construction-generated emissions would be temporary and would not represent a long-term source of criteria air pollutant emissions. As such, impacts would be less than significant.

Operational Emissions

The project involves development of an industrial specialized vessel prototype development and manufacturing site with associated parking. Operation of the project would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from mobile sources, including vehicle trips from future employees; marine vessels; area sources, including the use of consumer products, architectural coatings for repainting, and landscape maintenance equipment; and energy sources, including combustion of fuels used for space and water heating, emergency power generation, product curing, and cooking appliances. As discussed in Section 2.4.2.2, Operation, criteria air pollutant emissions associated with long-term operations were quantified using CalEEMod and a spreadsheet based model. CalEEMod default values were used to estimate emissions from the project area and energy sources.

Table 8 presents the maximum daily area, energy, and mobile source emissions associated with operation (year 2019) of the project. Details of the emission calculations are provided in Appendix A.

Table 8
Estimated Maximum Daily Operational Criteria Air Pollutant Emissions

Emission Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	pounds per day					
Area	43.02	0.00	0.06	0.00	0.00	0.00
Energy	0.57	3.94	32.87	0.06	0.79	0.16
Mobile	5.51	29.67	43.85	0.20	4.30	1.32
Off-road	1.83	16.51	20.78	0.03	1.49	0.30
Stationary	0.12	1.08	1.05	0.00	1.53	0.30
Total	51.05	51.20	98.61	0.29	8.11	2.08
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold Exceeded?	No	No	No	No	No	No

Notes:
VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SCAQMD = South Coast Air Quality Management District. See Appendix A for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod. These emissions reflect CalEEMod "mitigated" output and operational year 2019. The total values may not add up exactly due to rounding.

As shown in Table 8, the combined daily area, energy, mobile, off-road, and stationary source emissions would not exceed the SCAQMD operational thresholds for VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$. Impacts associated with project-generated operational criteria air pollutant emissions would be less than significant.

Mitigation Measures

None required.

Level of Significance After Mitigation

Impacts would be less than significant without mitigation.

2.5.3 Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the SCAQMD develops and implements plans for future attainment of ambient air quality standards. Based on these considerations, project-level thresholds of significance for criteria pollutants are relevant in the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality.

In considering cumulative impacts from the proposed project, the analysis must specifically evaluate a project's contribution to the cumulative increase in pollutants for which the SCAB is designated as nonattainment for the CAAQS and NAAQS. If a project's emissions would exceed the SCAQMD significance thresholds, it would be considered to have a cumulatively considerable contribution to nonattainment status in the SCAB. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant (SCAQMD 2003).

As discussed in Section 2.3.1, South Coast Air Basin Attainment Designation, the SCAB has been designated as a federal nonattainment area for O_3 and $PM_{2.5}$ and a state nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. The nonattainment status is the result of cumulative emissions from various sources of air pollutants and their precursors within the SCAB including motor vehicles, off-road equipment, and commercial and industrial facilities. Construction and operation of the project would generate VOC and NO_x emissions (which are precursors to O_3) and emissions of PM_{10} and $PM_{2.5}$. However, as indicated in Tables 8 and 9, project-generated construction and operational emissions, respectively, would not exceed the SCAQMD emission-based significance thresholds for VOC, NOx, PM_{10}, or $PM_{2.5}$.

Cumulative localized impacts would potentially occur if a construction project were to occur concurrently with another off-site project. Construction schedules for potential future projects near the project site are currently unknown; therefore, potential construction impacts associated with two or more simultaneous projects would be considered speculative.[5] However, future projects would be subject to CEQA and would require air quality analysis and, where necessary, mitigation if the project would exceed SCAQMD thresholds. Criteria air pollutant emissions associated with construction activity of future projects would be reduced through implementation of control measures required by the SCAQMD and LAHD. Cumulative PM_{10} and $PM_{2.5}$ emissions would be reduced because all future projects would be subject to SCAQMD Rule 403 (Fugitive Dust), which sets forth general and specific requirements for all construction sites in the SCAQMD.

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5 The CEQA Guidelines state that if a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact (14 CCR 15145). This discussion is nonetheless provided in an effort to show good-faith analysis and comply with CEQA's information disclosure requirements.

Based on the previous considerations, the project would not result in a cumulatively considerable increase in emissions of nonattainment pollutants. Impacts would be less than significant.

Mitigation Measures

None required.

Level of Significance After Mitigation

Impacts would be less than significant without mitigation.

2.5.4 Would the project expose sensitive receptors to substantial pollutant concentrations?

Localized Significance Thresholds Analysis

As discussed in Section 2.1.3, Sensitive Receptors, sensitive receptors are those individuals more susceptible to the effects of air pollution than the population at large. People most likely to be affected by air pollution include children, the elderly, and people with cardiovascular and chronic respiratory diseases. According to the SCAQMD, sensitive receptors include residences, schools, playgrounds, childcare centers, long-term healthcare facilities, rehabilitation centers, convalescent centers, and retirement homes (SCAQMD 1993). Residential land uses are located to the west of the proposed project. The closest off-site sensitive receptors to the project site include residences located approximately 3,000 feet west of the project site boundary.

An LST analysis has been prepared to determine potential impacts to nearby sensitive receptors during construction of the project. As indicated in the discussion of the thresholds of significance (Section 2.4), the SCAQMD also recommends the evaluation of localized NO_2, CO, PM_{10}, and $PM_{2.5}$ impacts as a result of construction activities to sensitive receptors in the immediate vicinity of the project site. The impacts were analyzed using methods consistent with those in the SCAQMD's *Final Localized Significance Threshold Methodology* (2009). According to the *Final Localized Significance Threshold Methodology*, "off-site mobile emissions from the project should not be included in the emissions compared to the LSTs" (SCAQMD 2009). Hauling of soils and construction materials associated with the project construction are not expected to cause substantial air quality impacts to sensitive receptors along off-site roadways. Emissions from the trucks would be relatively brief in nature and would cease once the trucks pass through the main streets.

Construction activities associated with the project would result in temporary sources of on-site fugitive dust and construction equipment emissions. Off-site emissions from vendor trucks, haul trucks, and worker vehicle trips are not included in the LST analysis. The maximum allowable daily emissions that would satisfy the SCAQMD localized significance criteria for SRA 4 are presented in Table 9 and compared to the maximum daily on-site construction emissions generated during the project, which are rounded up to the nearest whole number.

Table 9
Localized Significance Thresholds Analysis for Project Construction

Pollutant	Project Construction Emissions (pounds/day)	LST Criteria (pounds/day)	Exceeds LST?
NO_2	11	142	No
CO	51	7,558	No
PM_{10}	11	158	No
$PM_{2.5}$	6	93	No

Source: SCAQMD 2009.
Notes:
VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SCAQMD = South Coast Air Quality Management District. See Appendix A for detailed results.
Localized significance thresholds are shown for 1-acre project sites corresponding to a distance to a sensitive receptor of 500 meters for SRA 4 (South Coastal Los Angeles County).
These estimates reflect control of fugitive dust required by Rule 403.

As shown in Table 9, construction activities would not generate emissions in excess of site-specific LSTs; therefore, site-specific construction impacts during construction of the project would be less than significant. In addition, diesel equipment would also be subject to the CARB air toxic control measures for in-use off-road diesel fleets, which would minimize d DPM emissions.

Health Impacts of Toxic Air Contaminants

In addition to impacts from criteria pollutants, project impacts may include emissions of pollutants identified by the state and federal government as TACs or HAPs. State law has established the framework for California's TAC identification and control program, which is generally more stringent than the federal program and aimed at TACs that are a problem in California. The state has formally identified more than 200 substances as TACs, including the federal HAPs, and is adopting appropriate control measures for sources of these TACs. The following measures are required by state law to reduce diesel particulate emissions:

- Fleet owners of mobile construction equipment are subject to the CARB Regulation for In-Use Off-road Diesel Vehicles (Title 13 California Code of Regulations, Chapter 9, Section 2449), the purpose of which is to reduce DPM and criteria pollutant emissions from in-use (existing) off-road diesel-fueled vehicles.

- All commercial diesel vehicles are subject to Title 13, Section 2485 of the California Code of Regulations, limiting engine idling time. Idling of heavy-duty diesel construction equipment and trucks during loading and unloading shall be limited to 5 minutes; electric auxiliary power units should be used whenever possible.

The greatest potential for TAC emissions during construction would be diesel particulate emissions from heavy equipment operations and heavy-duty trucks during construction of the project and the associated health impacts to sensitive receptors. The closest sensitive receptors are existing residences located over ½ a mile away. As shown in Table 7, maximum daily particulate matter (PM_{10} or $PM_{2.5}$) and TAC emissions generated by construction equipment operation and from hauling of soil during grading (exhaust particulate matter, or DPM), combined with fugitive dust generated by equipment operation and vehicle travel, would be well below the SCAQMD significance thresholds. Moreover, total construction of the project would last approximately 12 months, with installation of machinery and equipment internally lasting an additional 4-6 months, after which project-related TAC emissions would cease.

No residual TAC emissions and corresponding cancer risk are anticipated after construction, and no long-term sources of TAC emissions are anticipated during operation of the project. Thus, the project would not result in a long-term (i.e., 9-year, 30-year, or 70-year) source of TAC emissions. Therefore, the exposure of project-related TAC emission impacts to sensitive receptors would be less than significant.

Health Impacts of Carbon Monoxide

Mobile source impacts occur basically on two scales of motion. Regionally, project-related travel will add to regional trip generation and increase the vehicle miles traveled within the local airshed and the SCAB. Locally, project traffic will be added to the Port's roadway system near the project area. If such traffic occurs during periods of poor atmospheric ventilation, is composed of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds, and is operating on roadways already crowded with non-project traffic, there is a potential for the formation of microscale CO hotspots in the area immediately around points of congested traffic. Because of continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SCAB is steadily decreasing.

CO transport is extremely limited and disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels, affecting sensitive receptors such as residents, school children, hospital patients, and older adults. Typically, high CO concentrations are associated with roadways or intersections operating at an unacceptable level of service (LOS). Projects contributing to adverse traffic impacts may result in the formation of such CO hotspots.

To verify that the project would not cause or contribute to a violation of the CO standards, a screening evaluation of the potential for CO hotspots was conducted. The California Department of Transportation (Caltrans) and the U.C. Davis Institute of Transportation Studies *Transportation Project-Level Carbon Monoxide Protocol* (CO Protocol) (Caltrans 2010), and the SCAQMD *CEQA Air Quality Handbook* (SCAQMD 1993) were followed. CO hotspots are typically evaluated when (1) the LOS of an intersection or roadway decreases to LOS E or worse; (2) signalization and/or channelization is added to an intersection; and (3) sensitive receptors such as residences, schools, and hospitals are located in the vicinity of the affected intersection or roadway segment. According to the CO Protocol, if project traffic volume worsens an intersection's LOS to E or F from a LOS D or above, this intersection represents a potential for a CO violation and would be required to be further analyzed. The screening evaluation is included as Appendix B.

The project's Traffic Impact Analysis (TIA) Report (Iteris 2017) evaluated whether there would be a decrease in the LOS (e.g., congestion) at the intersections affected by the project. The project's TIA Report evaluated five intersections. Of the five intersections analyzed, one of the key study intersections operated at an unacceptable LOS in the Future Year 2037 scenario. Ferry Street at SR-47 Ramps during the PM peak hour went from an LOS E to LOS F with the project. The remaining key intersections currently operate at an acceptable LOS during the AM and PM peak hours.

Based on the forecasted project trip generation and distribution, the most project trips in either direction, during either the A.M. or P.M. weekday peak hours would be 135 trips in the AM peak hour southbound along I-110 and the SR-47 freeway at the Vincent Thomas Bridge. Therefore, Project does not meet the minimum study requirements for the Los Angeles County Metropolitan Transportation Authority (Metro) Congestion Management Program (CMP) as described in Appendix D of the CMP guidelines (Los Angeles County Metropolitan Transportation Authority 2010). Therefore, the project has less than a significant impact on freeway facilities.

For each scenario (existing with project; existing with ambient growth and the proposed project; existing with ambient growth, cumulative projects, and the proposed project), the screening evaluation presents LOS with project improvements (mitigation), whether the recommended improvements (mitigation measures) are feasible, and whether a quantitative CO hotspots analysis may be required. According to the CO Protocol, there is a cap on the number of intersections that need to be analyzed for any one project. For a single project with multiple intersections, only the three intersections representing the worst LOS ratings of the project, and, to the extent they are different intersections, the three intersections representing the highest traffic volumes, need be analyzed. For each intersection failing a screening test as described in this protocol, an additional intersection should be analyzed (Caltrans 2010).

Based on the CO hotspot screening evaluation (Appendix B), the intersection of Ferry Street at SR-47 Ramps during the PM peak hour was evaluated based on the CO Hotspot protocol. The potential impact of the project on local CO levels was assessed at this intersection with the Caltrans CL4 interface based on the California LINE Source Dispersion Model (CALINE4), which allows microscale CO concentrations to be estimated along each roadway corridor or near intersections (Caltrans 1998a).

The emissions factor represents the weighted average emissions rate of the local South Coast Air Basin vehicle fleet expressed in grams per mile per vehicle. Consistent with the traffic report, emissions factors for 2037 were used for the analysis. Emissions factors for 2037 were predicted by EMFAC2014 based on a 5-mile-per-hour (mph) average speed for all of the intersections for approach and departure segments. The hourly traffic volume anticipated to travel on each link, in units of vehicles per hour, was based on the traffic report. Modeling assumptions are outlined in Appendix B.

Four receptor locations at each intersection were modeled to determine CO ambient concentrations. Although the existing conditions do not include paved sidewalks or sensitive receptors adjacent to any of the modeled intersections, a receptor was assumed on the sidewalk at each corner of the modeled intersections, for a total of four receptors adjacent to the intersection, to represent the future possibility of extended outdoor exposure. CO concentrations were modeled at these locations to assess the maximum potential CO exposure that could occur in 2037. A receptor height of 5.9 feet (1.8 meters) was used in accordance with Caltrans recommendations for all receptor locations (Caltrans 1998b).

The SCAQMD provides projected future concentrations of CO emissions in order to assist the CEQA practitioner with a CO Hotspots Analysis. The projected future 1-hour CO background concentration of 5.1 parts per million for 2020 for the Long Beach monitoring station was assumed in the CALINE4 model for 2037 (SCAQMD 2002). The maximum CO concentration measured at the Long Beach Webster Street monitoring station over the last 3 years was 4.1 parts per million, which was measured in 2013; as such, the SCAQMD projected 1-hour CO ambient concentration of 5.1 parts per million is conservative assumption. To estimate an 8-hour average CO concentration, a persistence factor of 0.67, as is recommended for urban locations, was applied to the output values of predicted concentrations in parts per million at each of the receptor locations.

The results of the model are shown in Table 10, CALINE4 Predicted Carbon Monoxide Concentrations. Model input and output data are provided in Appendix B.

Table 10
CALINE4 Predicted Carbon Monoxide Concentrations

Intersection	Maximum Modeled Impact (ppm)	
	1-hour	*8-hour[a]*
Year 2037 Future Condition with Cumulative Projects with Project		
SR-47 and Ferry Street (PM Peak Hour)	5.4	3.6

Source: Caltrans 1998a (CALINE4).
Notes: CO = carbon monoxide; ppm = parts per million.
[a] 8-hour concentrations were obtained by multiplying the 1-hour concentration by a persistence factor of 0.67, as referenced in SCAQMD 1993.

As shown in Table 10, the maximum CO concentration predicted for the 1-hour averaging period at the studied intersections would be 5.4 ppm, which is below the 1-hour CO CAAQS of 20 ppm (CARB 2016c). The maximum predicted 8-hour CO concentration of 3.6 ppm at the studied intersections would be below the 8-hour CO CAAQS of 9.0 ppm (CARB 2016c). Neither the 1-hour nor 8-hour CAAQS would be equaled or exceeded at any of the intersections studied. Accordingly, the project would not cause or contribute to violations of the CAAQS, and would not result in exposure of sensitive receptors to localized high concentrations of CO. As such, impacts would be less than significant to sensitive receptors with regard to potential CO hotspots resulting from project contribution to cumulative traffic-related air quality impacts, and no mitigation is required.

Health Impacts of Other Criteria Air Pollutants

Construction and operation of the project would result in emissions that would not exceed the SCAQMD thresholds for any criteria air pollutants including VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$. VOCs would be associated with motor vehicles, construction equipment, and architectural coatings; however, project-generated VOC emissions would not result in the exceedances of the SCAQMD thresholds as shown in Table 7. Generally, the VOCs in architectural coatings are of relatively low toxicity. Additionally, SCAQMD Rule 1113 restricts the VOC content of coatings for both construction and operational applications and the applicant has committed to using VOC free products.

VOCs and NO_x are precursors to O_3, for which the SCAB is designated as nonattainment with respect to the NAAQS and CAAQS. The health effects associated with O_3 are generally associated with reduced lung function. The contribution of VOCs and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the SCAB due to O_3 precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O_3 concentrations would also depend on the time of year that the VOC emissions would occur because exceedances of the O_3 AAQS tend to occur between April and October when solar radiation is highest. The holistic effect of a single project's emissions of O_3 precursors is speculative due to the lack of quantitative methods to assess this impact. Nonetheless, the VOC and NO_x emissions associated with project construction and operation could minimally contribute to regional O_3 concentrations and the associated health impacts. Because of to the minimal contribution during construction and operation, health impacts would be considered less than significant.

Construction and operation of the project would also not exceed thresholds for PM_{10} or $PM_{2.5}$ and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter or would obstruct the SCAB from coming into attainment for these pollutants. The project would also not result in substantial DPM emissions during construction and operation, and therefore, would not result in significant health effects related to DPM exposure. Additionally, the project would be required to comply with SCAQMD Rule 403, which limits the amount of fugitive dust generated during construction. Due to the minimal contribution of particulate matter during construction and operation, health impacts would be considered less than significant.

Construction and operation of the project would not contribute to exceedances of the NAAQS and CAAQS for NO_2. Health impacts that result from NO_2 and NO_x include respiratory irritation, which could be experienced by nearby receptors during the periods of heaviest use of off-road construction equipment. However, project construction would be relatively short term, and off-road construction equipment would be operating at various portions of the site and would not be concentrated in one portion of the site at any one time. In addition, existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards. Construction and operation of the project would not require use of any stationary sources (e.g., diesel generators, boilers) that would create substantial, localized NO_x impacts. Therefore, potential health impacts associated with NO_2 and NO_x would be considered less than significant.

CO tends to be a localized impact associated with congested intersections. The associated potential for CO hotspots were discussed previously and are determined to be a less-than-significant impact. Thus, the project's CO emissions would not contribute to significant health effects associated with this pollutant.

In summary, construction and operation of the project would not result in exceedances of the SCAQMD significance thresholds for criteria pollutants and potential health impacts associated with criteria air pollutants would be less than significant.

Mitigation Measures

None required.

Level of Significance After Mitigation

Impacts would be less than significant without mitigation.

2.5.5 Would the project create objectionable odors affecting a substantial number of people?

The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and generate citizen complaints.

Odors would be potentially generated from vehicles and equipment exhaust emissions during construction of the project. Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment, architectural coatings, and asphalt pavement application. Such odors would disperse rapidly from the project site and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be less than significant.

Land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (SCAQMD 1993). The project entails operation of a vessel manufacturing facility, which would be undertaken within the proposed structure, and would not result in the creation of a land use that is commonly associated with odors. Therefore, project operations would result in an odor impact that is less than significant.

Mitigation Measures

None required.

Level of Significance After Mitigation

Impacts would be less than significant without mitigation.

3 GREENHOUSE GAS EMISSIONS

3.1 Environmental Setting

3.1.1 The Greenhouse Effect

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period of time (decades or longer). A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. The greenhouse effect is the trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. The greenhouse effect traps heat in the troposphere through a threefold process as follows: Short-wave radiation emitted by the Sun is absorbed by the Earth, the Earth emits a portion of this energy in the form of long-wave radiation, and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature. Without it, the temperature of the Earth would be about 0°F (−18°C) instead of its present 57°F (14°C). If the atmospheric concentrations of GHGs rise, the average temperature of the lower atmosphere will gradually increase. Global climate change concerns are focused on whether human activities are leading to an enhancement of the greenhouse effect.

3.1.2 Greenhouse Gases and Global Warming Potential

GHGs include, but are not limited to, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), O_3, water vapor, hydrofluorocarbons (HFCs), hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Some GHGs, such as CO_2, CH_4, and N_2O, occur naturally and are emitted to the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as HFCs, HCFCs, PFCs, and SF_6, which are associated with certain industrial products and processes. A summary of the most common GHGs and their sources is included in the following text.[6]

Carbon Dioxide. CO_2 is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO_2 include respiration of bacteria, plants, animals, and fungus; evaporation from oceans,

[6] The descriptions of GHGs are summarized from the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report (1995), IPCC Fourth Assessment Report (2007), CARB's Glossary of Terms Used in GHG Inventories (2015), and EPA's Glossary of Climate Change Terms (2016d).

volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO_2 are from the combustion of coal, oil, natural gas, and wood.

Methane. CH_4 is a flammable gas and is the main component of natural gas. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide. Sources of N_2O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and the use of N_2O as a propellant (such as in rockets, racecars, aerosol sprays).

Fluorinated Gases. Fluorinated gases (also referred to as F-gases) are synthetic, powerful GHGs that are emitted from a variety of industrial processes. Fluorinated gases are commonly used as substitutes for stratospheric ozone-depleting substances (e.g., CFCs, HCFCs, and halons). The most prevalent fluorinated gases include the following:

- **Hydrofluorocarbons:** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals that are used as alternatives to ozone-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are used in manufacturing.
- **Perfluorocarbons:** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives, along with HFCs, to the ozone depleting substances. The two main sources of PFCs are primarily aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.
- **Sulfur Hexafluoride:** SF_6 is a colorless gas that is soluble in alcohol and ether and slightly soluble in water. SF_6 is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.

Chlorofluorocarbons and Hydrochlorofluorocarbons. CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere) and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric O_3. HCFCs are a large group of compounds, whose structure is very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo) (EPA 2016e). The Intergovernmental Panel on Climate Change (IPCC) developed the global warming potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons of CO_2 equivalent (MT CO_2E). CalEEMod 2016.3.2 assumes that the GWP for CH_4 is 25 (which means that emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2), and the GWP for N_2O is 298, based on the IPCC Fourth Assessment Report (IPCC 2007).

3.2 Regulatory Setting

3.2.1 Federal Regulations

Massachusetts vs. EPA. On April 2, 2007, in *Massachusetts v. EPA*, the Supreme Court directed the EPA Administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the EPA Administrator is required to follow the language of Section 202(a) of the Clean Air Act. On December 7, 2009, the EPA Administrator signed a final rule with the following two distinct findings regarding GHGs under Section 202(a) of the CAA:

- The Administrator found that elevated concentrations of GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the "endangerment finding."

- The Administrator further found the combined emissions of GHGs—CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is referred to as the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the CAA.

Energy Independence and Security Act of 2007. On December 19, 2007, President George W. Bush signed the Energy Independence and Security Act of 2007. Among other key measures, the Act would do the following, which would aid in the reduction of national GHG emissions:

1. Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
2. Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020 and directs National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
3. Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy-efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

EPA and NHTSA Joint Final Rules for Vehicle Standards. On April 1, 2010, the EPA and NHTSA announced a joint final rule to establish a national program consisting of new standards for light-duty vehicles model years 2012 through 2016 that is intended to reduce GHG emissions and improve fuel economy. The EPA approved the first-ever national GHG emissions standards under the Clean Air Act, and NHTSA approved Corporate Average Fuel Economy standards under the Energy Policy and Conservation Act (75 FR 25324–25728), which became effective on July 6, 2010. The EPA's GHG standards require new passenger cars, light-duty trucks, and medium-duty passenger vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile in model year 2016. The Corporate Average Fuel Economy standards for passenger cars and light trucks will be phased in between 2012 and 2016. The rules will simultaneously reduce GHG emissions, improve energy security, increase fuel savings, and provide clarity and predictability for manufacturers (EPA 2010). In August 2012, the EPA and NHTSA approved a second round of GHG and Corporate Average Fuel Economy standards for model years 2017 and beyond (77 FR 62624–63200). These standards will reduce motor vehicle GHG emissions for cars and light-duty trucks by model year 2025.

Clean Power Plan and New Source Performance Standards for Electric Generating Units. On October 23, 2015, EPA published a final rule (effective December 22, 2015) establishing the Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (80 FR 64510–64660), also known as the Clean Power Plan. These guidelines prescribe how states must develop plans to reduce GHG emissions from existing fossil-fuel-fired electric generating units. The guidelines establish CO_2 emission performance rates representing the best system of emission reduction for two subcategories of existing fossil-fuel-fired electric generating units: (1) fossil-fuel-fired electric utility steam-generating units, and (2) stationary combustion turbines. Concurrently, EPA published a final rule (effective October 23, 2015) establishing Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units (80 FR 64661–65120). The rule prescribes CO_2 emission standards for newly constructed, modified, and reconstructed affected fossil-fuel-fired electric utility generating units. Implementation of the Clean Power Plan has been stayed by the U.S. Supreme Court pending resolution of several lawsuits.

3.2.2 State Regulations

The statewide GHG emissions regulatory framework is summarized below by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, solid waste, water, and other state regulations and goals. The following text describes executive orders (EOs), assembly bills (ABs), senate bills (SBs), and other regulations and plans that would directly or indirectly reduce GHG emissions.

State Climate Change Targets

EO S-3-05. EO S-3-05 (June 2005) established California's GHG emissions reduction targets and laid out responsibilities among the state agencies for implementing the EO and for reporting on progress toward the targets. This EO established the following targets:

- By 2010, reduce GHG emissions to 2000 levels
- By 2020, reduce GHG emissions to 1990 levels
- By 2050, reduce GHG emissions to 80% below 1990 levels

EO S-3-05 directed the California EPA to report biannually on progress made toward meeting the GHG targets and the impacts to California due to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. The Climate Action Team was formed, which subsequently issued reports from 2006 to 2010.

In adopting AB 32, the Global Warming Solutions Act of 2006, and SB 32, the Global Warming Solutions Act of 2006: emissions limit, discussed below, the Legislature did not adopt the 2050 horizon-year goal from EO S-3-05.

AB 32 and CARB Climate Change Scoping Plan. In furtherance of the goals established in EO S-3-05, the legislature enacted AB 32 (Núñez and Pavley), the California Global Warming Solutions Act of 2006 (September 27, 2006). AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020, representing a reduction of approximately 15% below emissions expected under a "business-as-usual" scenario.

CARB has been assigned responsibility for carrying out and developing the programs and requirements necessary to achieve the goals of AB 32. Under AB 32, CARB must adopt regulations requiring the reporting and verification of statewide GHG emissions. This program will be used to monitor and enforce compliance with the established standards. CARB is also required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 also authorized CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted.

Of relevance to this analysis, in 2007, CARB approved a statewide limit on the GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 million metric tons (MMT) CO_2E). CARB's adoption of this limit is in accordance with Health and Safety Code Section 38550. In addition to the 1990 emissions inventory, CARB also adopted regulations requiring mandatory reporting of GHGs for the large facilities that account for 94% of GHG emissions from industrial and commercial stationary sources in California.

Further, in 2008, CARB adopted the *Climate Change Scoping Plan: A Framework for Change* (*Scoping Plan*) in accordance with Health and Safety Code Section 38561. The *Scoping Plan* establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions for various emission sources/sectors to 1990 levels by 2020. The 2020 emissions limit was set at 427 MMT of CO_2E. The Scoping Plan establishes an overall framework for a suite of measures that will be adopted to sharply reduce California's GHG emissions. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction features by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards
2. Achieving a statewide renewable energy mix of 33%
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard (LCFS)
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation

In the *Scoping Plan*, CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of approximately 28.5% from the otherwise projected 2020 emissions level; i.e., those emissions that would occur in 2020, absent GHG-reducing laws and regulations (referred to as "Business-As-Usual" [BAU]).

In the 2011 Final Supplement to the *Scoping Plan's* Functional Equivalent Document, CARB revised its estimates of the projected 2020 emissions level in light of the economic recession and the availability of updated information about GHG reduction regulations. Based on the new economic data, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7% (down from 28.5%) from the BAU conditions. When the 2020 emissions level projection also was updated to account for newly implemented regulatory measures, including Pavley I (model years 2009–2016) and the Renewable Portfolio Standard (12% to 20%), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of 16% (down from 28.5%) from the BAU conditions.

In 2014, CARB adopted the *First Update to the Climate Change Scoping Plan: Building on the Framework* (*First Update*). The stated purpose of the *First Update* is to "highlight California's success to date in reducing its GHG emissions and lay the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80% below 1990 levels by 2050." The *First Update* found that California is on track to meet the 2020 emissions reduction mandate established by AB 32, and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80% below 1990 levels by 2050 if the state realizes the expected benefits of existing policy goals.

In conjunction with the *First Update*, CARB identified "six key focus areas comprising major components of the state's economy to evaluate and describe the larger transformative actions that will be needed to meet the state's more expansive emission reduction needs by 2050." Those six areas are: (1) energy; (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure); (3) agriculture; (4) water; (5) waste management; and, (6) natural and working lands. The *First Update* identifies key recommended actions for each sector that will facilitate achievement of EO S-3-05's 2050 reduction goal.

Based on CARB's research efforts presented in the *First Update*, it has a "strong sense of the mix of technologies needed to reduce emissions through 2050." Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings and industrial machinery; decarbonizing electricity and fuel supplies; and, the rapid market penetration of efficient and clean energy technologies.

As part of the *First Update*, CARB recalculated the state's 1990 emissions level using more recent global warming potentials identified by the Intergovernmental Panel on Climate Change. Using the recalculated 1990 emissions level (431 MMT CO_2E) and the revised 2020 emissions level projection identified in the 2011 Final Supplement, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15% (instead of 28.5% or 16%) from the BAU conditions. The update also recommends that a statewide mid-term target and mid-term and long-term sector targets be established toward meeting the 2050 goal established by EO S-3-05 (i.e., reduce California's GHG emissions to 80% below 1990 levels), although no specific recommendations are made.

CARB is currently undertaking a second update to the Scoping Plan in order to reflect the 2030 target established in EO B-30-115. To date, CARB has held a number of public workshops in the Natural and Working Lands, Agriculture, Energy and Transportation sectors to inform development of the 2030 Scoping Plan Update (CARB 2016).

EO B-18-12. EO B-18-12 (April 2012) directs state agencies, departments, and other entities under the governor's executive authority to take action to reduce entity-wide GHG emissions by at least 10% by 2015 and 20% by 2020, as measured against a 2010 baseline. EO B-18-12 also established goals for existing state buildings for reducing grid-based energy purchases and water use.

EO B-30-15. EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in S-3-05. To facilitate achievement of this goal, EO B-30-15 calls for an update to CARB's Scoping Plan to express the 2030 target in terms of MMT CO_2E. The EO also calls for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets. Sector-specific agencies in transportation, energy, water, and forestry were required to prepare GHG reduction plans by September 2015, followed by a report on action taken in relation to these plans in June 2016. EO B-30-15 does not require local agencies to take any action to meet the new interim GHG reduction threshold.

SB 32 and AB 197. SB 32 and AB 197 (enacted in 2016) are companion bills that set a new statewide GHG reduction targets; make changes to CARB's membership, and increase legislative oversight of CARB's climate change-based activities; and expand dissemination of GHG and other air quality-related emissions data to enhance transparency and accountability. SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state's climate policies. AB 197 also added two members of the Legislature to CARB as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and TACs from reporting facilities; and, requires CARB to identify specific information for GHG emissions reduction measures when updating the scoping plan.

Short-Lived Climate Pollutant Reduction Strategy — SB 605 and SB 1383. SB 605 (September 2014) requires CARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants in the state no later than January 1, 2016. As defined in the statute, short-lived climate pollutant means "an agent that has a relatively short lifetime in the atmosphere, from a few days to a few decades, and a warming influence on the climate that is more potent than that of carbon dioxide" (SB 605). SB 605, however, does not prescribe specific compounds as short-lived climate pollutants or add to the list of GHGs regulated under AB 32. In developing the strategy, the CARB must complete an inventory of sources and emissions of short-lived climate pollutants in the state based on available data, identify research needs to address any data gaps, identify existing and potential new control measures to reduce emissions, and prioritize the development of new measures for short-lived climate pollutants that offer co-benefits by improving water quality or reducing other criteria air pollutants that impact community health and benefit disadvantaged communities. The *Proposed Short-Lived Climate Pollution Reduction Strategy* released by CARB in April 2016 focuses on methane, black carbon, and fluorinated gases, particularly HFCs, as important short-lived climate pollutants. The strategy recognizes emission reduction efforts implemented under AB 32 (e.g., refrigerant management programs) and other regulatory programs (e.g., in-use diesel engines, solid waste diversion) along with additional measures to be developed.

SB 1383 (Lara) codifies emission reduction targets for short-lived climate pollutants (SLCP) and require CARB to approve and implement a strategy to decrease emissions of these pollutants to achieve a reduction in methane by 40%, hydrofluorocarbon by 40%, and anthropogenic black carbon by 50% below 2013 levels by 2030.

Building Energy

Title 24, Part 6. Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically establishes Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. The California Energy Commission (CEC) is required by law to adopt standards every 3 years that are cost effective for homeowners over the 30-year lifespan of a building. These standards are updated to consider and incorporate new energy efficient technologies and construction methods. As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The current Title 24 standards are the 2013 standards, which became effective on July 1, 2014. Buildings constructed in accordance with the 2013 standards will use 25% less energy for lighting, heating, cooling, ventilation, and water heating than the 2008 standards (CEC 2012).

The 2016 Title 24 building energy efficiency standards, which will be effective January 1, 2017, will further reduce energy used and associated GHG emissions. In general, single-family homes built to the 2016 standards are anticipated to use about 28% less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2013 standards, and nonresidential buildings built to the 2016 standards will use an estimated 5% less energy than those built to the

2013 standards (CEC 2015a). Although the project would be required to comply with 2016 Title 24 standards because its building construction phase would commence after January 1, 2017, this analysis conservatively does not quantify the increase energy efficiency associated with the more stringent 2016 Title 24 standards.

Title 24, Part 11. In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CALGreen, and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings and schools and hospitals. The CALGreen 2016 standards will become effective January 1, 2017. The mandatory standards require the following (24 CCR Part 11):

- Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings
- Mandatory reduction in outdoor water use through compliance with a local water efficient landscaping ordinance or the California Department of Water Resources' Model Water Efficient Landscape Ordinance
- 65% of construction and demolition waste must be diverted from landfills
- Mandatory inspections of energy systems to ensure optimal working efficiency
- Inclusion of electric vehicle charging stations or designated spaces capable of supporting future charging stations
- Low-pollutant emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle boards

The CALGreen standards also include voluntary efficiency measures that are provided at two separate tiers and implemented at the discretion of local agencies and applicants. CALGreen's Tier 1 standards call for a 15% improvement in energy requirements; stricter water conservation, 65% diversion of construction and demolition waste, 10% recycled content in building materials, 20% permeable paving, 20% cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30% improvement in energy requirements, stricter water conservation, 75% diversion of construction and demolition waste, 15% recycled content in building materials, 30% permeable paving, 25% cement reduction, and cool/solar-reflective roofs.

The California Public Utilities Commission, CEC, and CARB also have a shared, established goal of achieving zero net energy (ZNE) for new construction in California. The key policy timelines include: (1) all new residential construction in California will be ZNE by 2020, and (2) all new commercial construction in California will be ZNE by 2030.[7]

Title 20. Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. Performance of appliances must be certified through the CEC to demonstrate compliance with standards. New appliances regulated under Title 20 include: refrigerators, refrigerator-freezers and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing for each type of appliance covered under the regulations and appliances must meet the standards for energy performance, energy design, water performance and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

Senate Bill 1. SB 1 (Murray) (August 2006) established a $3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts through 2016. SB 1 added sections to the Public Resources Code, including Chapter 8.8 (California Solar Initiative), that require building projects applying for ratepayer-funded incentives for photovoltaic systems to meet minimum energy efficiency levels and performance requirements. Section 25780 established that it is a goal of the state to establish a self-sufficient solar industry in which solar energy systems are a viable mainstream option for both homes and businesses within 10 years of adoption, and to place solar energy systems on 50 percent of new homes within 13 years of adoption. SB 1, also termed "GoSolarCalifornia", was previously titled "Million Solar Roofs".

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[7] See, e.g., CPUC, California's Zero Net Energy Policies and Initiatives, Sept. 18, 2013, accessed at http://www.cpuc.ca.gov/NR/rdonlyres/C27FC108-A1FD-4D67-AA59- 7EA82011B257/0/3.pdf. It is expected that achievement of the zero net energy goal will occur via revisions to the Title 24 standards.

California AB 1470 (Solar Water Heating). This bill established the Solar Water Heating and Efficiency Act of 2007. The bill makes findings and declarations of the Legislature relating to the promotion of solar water heating systems and other technologies that reduce natural gas demand. The bill defines several terms for purposes of the act. The bill requires the commission to evaluate the data available from a specified pilot program, and, if it makes a specified determination, to design and implement a program of incentives for the installation of 200,000 solar water heating systems in homes and businesses throughout the state by 2017.

Renewable Energy and Energy Procurement

SB 1078. SB 1078 (Sher) (September 2002) established the Renewable Portfolio Standard (RPS) program, which requires an annual increase in renewable generation by the utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20% of their power from renewable sources by 2010 (see SB 107, EO S-14-08, and S-21-09).

SB 1368. SB 1368 (September 2006), requires the California Energy Commission (CEC) to develop and adopt regulations for GHG emission performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the California Public Utilities Commission (CPUC).

AB 1109. Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general purpose lighting, to reduce electricity consumption 50% for indoor residential lighting and 25% for indoor commercial lighting.

EO S-14-08. EO S-14-08 (November 2008) focuses on the contribution of renewable energy sources to meet the electrical needs of California while reducing the GHG emissions from the electrical sector. This EO requires that all retail suppliers of electricity in California serve 33% of their load with renewable energy by 2020. Furthermore, the EO directs state agencies to take appropriate actions to facilitate reaching this target. The CNRA, through collaboration with the CEC and California Department of Fish and Wildlife (formerly the California Department of Fish and Game), is directed to lead this effort.

EO S-21-09. EO S-21-09 (September 2009) directed CARB to adopt a regulation consistent with the goal of EO S-14-08 by July 31, 2010. CARB is further directed to work with the CPUC and CEC to ensure that the regulation builds upon the RPS program and is applicable to investor-owned utilities, publicly owned utilities, direct access providers, and community choice providers. Under this order, CARB is to give the highest priority to those renewable resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health and can be developed the most quickly in support of reliable, efficient, cost-effective electricity system operations. In September 2010, CARB adopted regulations to implement a Renewable Electricity Standard, which would achieve the goal of the EO with the following intermediate and final goals: 20% for 2012–2014, 24% for 2015–2017, 28% for 2018–2019, and 33% for 2020 and beyond. Under the regulation, wind; solar; geothermal; small hydroelectric; biomass; ocean wave, thermal, and tidal; landfill and digester gas; and biodiesel would be considered sources of renewable energy. The regulation would apply to investor-owned utilities and public (municipal) utilities.

SB X1 2. SB X1 2 (April 2011) expands the Renewables Portfolio Standard by establishing a target of 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation (30 megawatts or less), digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location.

SB 350. SB 350 (October 2015) further expands the RPS by establishing a goal of 50% of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 includes the goal to double the energy efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the CPUC, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal.

Mobile Sources

AB 1493. In a response to the transportation sector accounting for more than half of California's CO_2 emissions, AB 1493 (Pavley) was enacted in July 2002. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards will result in a reduction of about 22% in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term (2013–2016) standards will result in a reduction of about 30%.

EO S-1-07. EO S-1-07 (January 2007, implementing regulation adopted in April 2009) sets a declining LCFS for GHG emissions measured in CO_2E grams per unit of fuel energy sold in California. The target of the LCFS is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020. The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered.

SB 375. SB 375 (Steinberg) (September 2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans, was enacted into law. SB 375 required CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035. The targets are required to consider the emission reductions associated with vehicle emission standards (see SB 1493), the composition of fuels (see EO S-1-07), and other CARB-approved measures to reduce GHG emissions. Regional metropolitan planning organizations (MPOs) are then responsible for preparing a Sustainable Communities Strategy (SCS) within their Regional Transportation Plan (RTP). The goal of the SCS is to establish a forecasted development pattern for the region that, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. If a SCS is unable to achieve the GHG reduction target, the MPO must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Pursuant to Government Code Section 65080(b)(2)(K), a SCS does not: (i) regulate the use of land; (ii) supersede the land use authority of cities and counties; or (iii) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

In September 2010, CARB adopted the SB 375 targets for the regional metropolitan planning organizations. The targets for the Southern California Association of Governments (SCAG) are an 8% reduction in emissions per capita by 2020 and a 13% reduction by 2035. Achieving these goals through adoption of a SCS will be the responsibility of the metropolitan planning organizations. SCAG prepared its RTP/SCS, which was adopted by the SCAG Regional Council in April 2012. The plan quantified a 9% reduction by 2020 and a 16% reduction by 2035 (SCAG 2013). On June 4, 2012, the CARB executive officer issued an executive order accepting SCAG's quantification of GHG reductions and the determination that implementation of the SCS would achieve the GHG emission reduction targets established by CARB. On April 4, 2016, the SCAG Regional Council adopted the 2016 RTP/SCS which builds upon the progress made in the 2012 RTP/SCS. The updated RTP/SCS quantified an 8% reduction by 2020 and a 18% reduction by 2013 (SCAG 2016).

Advanced Clean Cars Program and Zero-Emissions Vehicle Program. The Advanced Clean Cars program (January 2012) is a new emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2011). To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75% less smog-forming pollution than the average new car sold today. To reduce GHG emissions, CARB, in conjunction with the EPA and the NHTSA, has adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% in 2025. The ZEV program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in the 2018 to 2025 model years. The Clean Fuels Outlet regulation will ensure that fuels such as electricity and hydrogen are available to meet the fueling needs of the new advanced technology vehicles as they come to the market.

EO B-16-12. EO B-16-12 (March 2012) requires that state entities under the governor’s direction and control support and facilitate the rapid commercialization of ZEVs. It orders CARB, the CEC, the CPUC, and other relevant agencies work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve benchmark goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 establishes a target reduction of GHG emissions from the transportation sector equaling 80% less than 1990 levels by 2050. This directive does not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare.

Water

EO B-29-15. In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have become permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources has modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

Solid Waste

AB 939 and AB 341. In 1989, AB 939, known as the Integrated Waste Management Act (Public Resources Code Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by the year 2000.

AB 341 (Chapter 476, Statutes of 2011 (Chesbro)) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal. CalRecycle conducted several general stakeholder workshops and several focused workshops and in August 2015 published a discussion document titled AB 341 Report to the Legislature, which identifies five priority strategies that CalRecycle believes would assist the state in reaching the 75% goal by 2020, legislative and regulatory recommendations and an evaluation of program effectiveness.

Other State Regulations and Goals

Senate Bill 97. SB 97 (Dutton) (August 2007) directs the Governor's Office of Planning and Research (OPR) to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, OPR issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents, which indicated that a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities, should be identified and estimated (OPR 2008). The advisory further recommended that the Lead Agency determine significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The CNRA adopted the CEQA Guidelines amendments in December 2009, which because effective in March 2010.

Under the amended Guidelines, a Lead Agency has the discretion to determine whether to use a quantitative or qualitative analysis or apply performance standards to determine the significance of GHG emissions resulting from a particular project (Section 15064.4(a)). The Guidelines require that a Lead Agency to consider the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (Section 15064.4(b)). The Guidelines also allow lead agencies to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures, the adopted amendments do not establish a GHG emission threshold, instead allowing a Lead Agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. The CNRA also acknowledges that a Lead Agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions (CNRA 2009a).

EO S-13-08. EO S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. It directs state agencies to take specified actions to assess and plan for such impacts. It directs the CNRA, in cooperation with the California Department of Water Resources, CEC, California's coastal management agencies, and the Ocean Protection Council, to request that the National Academy of Sciences prepare a Sea Level Rise Assessment Report by December 1, 2010. The Ocean Protection Council, California Department of Water Resources, and CEC, in cooperation with other state agencies, are required to conduct a public workshop to gather information relevant to the Sea Level Rise Assessment Report. The Business, Transportation, and Housing Agency was ordered to assess within 90 days of issuance of the EO the vulnerability of the state's transportation systems to sea-level rise. The Governor's Office of Planning and Research and the CNRA are required to provide land use planning guidance related to sea-level rise and other climate change impacts. The EO also required the other state agencies to develop adaptation strategies by June 9, 2009, to respond to the impacts of global climate change that are predicted to occur over the next 50 to 100 years. A discussion draft adaptation strategies report was released in August 2009, and the final *2009 California Climate Adaptation Strategy* report was issued in December 2009 (CNRA 2009). An update to the 2009 report, *Safeguarding California: Reducing Climate Risk*, was issued in July 2014 (CNRA 2014). To assess the state's vulnerability, the report summarizes key climate change impacts to the state for the following areas: Agriculture, Biodiversity and Habitat, Emergency Management, Energy, Forestry, Ocean and Coastal Ecosystems and Resources, Public Health, Transportation, and Water.

EO S-13-08. EO S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise, and directs state agencies to take specified actions to assess and plan for such impacts. It directed the CNRA, in cooperation with other state agencies, to request the National Academy of Sciences to prepare a sea level rise assessment report and also requires the other state agencies to develop adaptation strategies by June 9, 2009, to respond to the impacts of global climate change that are predicted to occur over the next 50 to 100 years.

2015 State of the State Address. In January 2015, Governor Brown in his inaugural address and annual report to the Legislature established supplementary goals which would further reduce GHG emissions over the next 15 years. These goals include an increase in California's renewable energy portfolio from 33% to 50%, a reduction in vehicle petroleum use for cars and trucks by up to 50%, measures to double the efficiency of existing buildings, and decreasing emissions associated with heating fuels.

2016 State of the State Address. In his January 2016 address, Governor Brown established a statewide goal to bring per capita GHG emission down to two tons per person, which reflects the goal of the Global Climate Leadership Memorandum of Understanding (Under 2 MOU) to limit global warming to less than two degrees Celsius by 2050. The Under 2 MOU agreement pursues emission reductions of 80 to 95% below 1990 levels by 2050 and/or reach a per capita annual emissions goal of less than two metric tons by 2050. A total of 135 jurisdictions representing 32 countries and six continents, including California, have signed or endorsed the Under 2 MOU (Under 2 2016).

AB 900. Governor Brown signed the "Jobs and Economic Improvement through Environmental Leadership Act" (AB 900) in September 2011. The Act requires the Governor to establish procedures for applying for streamlined judicial review for certain qualified projects. As described in the guidelines, for purposes of California Public Resources Code section 21183 (c), an applicant shall submit electronically to the ARB a proposed methodology for quantifying a project's net additional GHG and documentation that the project does not result in any net additional GHGs.

SB 743. The Jobs and Economic Improvement Through Environmental Leadership Act of 2011 (SB 743) requires a party bringing an action or proceeding alleging that a lead agency's approval of a project certified by the Governor as an environmental leadership development project is in violation of the CEQA to file the action or proceeding with the Court of Appeal with geographic jurisdiction over the project and requires the Court of Appeal to issue its decision within 175 days of the filing of the petition. SB 743 requires the lead agency to concurrently prepare the record of proceeding for the leadership project with the review and consideration of the project. It also provides that the above provision does not apply to a project for which a lead agency fails to certify an environmental impact report on or before June 1, 2014.

3.2.3 Local Regulations

3.2.3.1 South Coast Air Quality Management District

Air districts typically act in an advisory capacity to local governments in establishing the framework for environmental review of air pollution impacts under CEQA. This may include recommendations regarding significance thresholds, analytical tools to estimate emissions and assess impacts, and mitigations for potentially significant impacts. Although air districts will also address some of these issues on a project-specific basis as responsible agencies, they may provide general guidance to local governments on these issues (SCAQMD 2008). As discussed in Section 3.4.1.3, Proposed South Coast Air Quality Management District Thresholds, the SCAQMD has recommended numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts of residential and commercial development projects; however, these thresholds were not adopted.

See Section 2.2.3.1, South Coast Air Quality Management District, for additional discussion on the SCAQMD.

3.2.3.2 Southern California Association of Governments

SB 375 requires metropolitan planning organizations to prepare an SCS in their RTP. The SCAG Regional Council adopted the 2012 RTP/SCS in April 2012 (SCAG 2012), and the 2016–2040 RTP/SCS (2016 RTP/SCS) was adopted in April 2016. Both the 2012 and 2016 RTP/SCSs establish a development pattern for the region that, when integrated with the transportation network and other policies and measures, would reduce GHG emissions from transportation (excluding goods movement). Specifically, the 2012 RTP/SCS links the goals of sustaining mobility with the goals of fostering economic development; enhancing the environment; reducing energy consumption; promoting transportation-friendly development patterns; and encouraging all residents affected by socioeconomic, geographic, and commercial limitations to be provided with fair access. The 2012 and 2016 RTP/SCSs do not require that local general plans, specific plans, or zoning be consistent with it but provide incentives for consistency for governments and developers. Because the current SCAQMD AQMP (2016 AQMP) is based on the SCAG 2016 RTP/SCS demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) developed by SCAG for their 2016–2040 RTP/SCS, the SCAG 2016 RTP/SCS is discussed in Section 3.4.

Please see Section 2.2.3.2, Southern California Association of Governments, for an additional discussion of the SCAG.

3.2.3.3 South Bay Cities Council of Governments

The South Bay Cities Council of Governments (SBCCOG) is a joint powers authority of 16 cities and the County of Los Angeles that share the goal of maximizing the quality of life and productivity of the South Bay area. SBCCOG includes the Port and San Pedro surrounding communities. The SBCCOG has been working on climate action planning since 2008, employing a subregional approach to the management and coordination of climate action planning to assist its cities in complying with legislation such as AB 32 and SB 375. The SBCCOG completed the South Bay Sustainable Strategy to address land use and mobility in an area that is transit poor. While the SBCCOG does not intend to produce an SCS, it hopes to use its South Bay Sustainable Strategy as a guide to develop a scenario-planning model that will allow the SBCCOG to independently plan and evaluate its member cities' development scenarios. This approach will supplement the regional SCS with a concrete tool to demonstrate a strategy that best fits the conditions in the South Bay to SCAG, the Los Angeles County Metropolitan Transportation Authority, and the South Bay cities' planning staffs.

3.2.3.4 Port of Los Angeles

The LAHD implemented a Climate Action Plan (CAP) in 2007 to reduce GHG emissions from Port related activities 35 per cent below 1990 levels by 2030, which is consistent with the goal of *Green LA: An Action Plan to Lead the Nation in Fighting Global Warming* (City of Los Angeles 2007). The CAP focuses on measures meant to reduce GHG emissions from POLA activities, not tenant GHG emissions. As discussed in Section 2.2.3.3, the San Pedro Bay Ports CAAP enacted measures to reduce air emissions from POLA and Port of Long Beach tenant activities. Some of the CAAP air quality reduction measures will also reduce GHG emissions. Those specific measures were identified in the CAP and include OGV1 – Vessel Speed Reduction, OGV2 – Reduction of At-Berth OGV Emissions, HC1 – Performance Standards for Harbor Craft, RL1 – PHL Rail Switch Engine Modification, RL2 – Existing Class I Railroad Operations, and RL3 – New and Redeveloped Rail Yards. The CAP requires the LAHD to implement the GHG reduction measures and track GHG emissions from both LAHD and tenant activities. The CAP also tracks the progress of CAAP reduction measures on GHG emissions within the POLA.

3.3 Climate Change Conditions and Inventories

3.3.1 Contributions to Greenhouse Gas Emissions

Per the EPA's *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2014* (2016e), total United States GHG emissions were approximately 6,870.5 MMT CO_2E in 2014. The primary GHG emitted by human activities in the United States was CO_2, which represented approximately 80.9% of total GHG emissions (5,556.0 MMT CO_2E). The largest source of CO_2, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 93.7% of CO_2 emissions in 2014 (5,208.2 MMT CO_2E). Total United States GHG emissions have increased by 7.4% from 1990 to 2014, and emissions increased from 2013 to 2014 by 1.0% (70.5 MMT CO_2E). Since 1990, United States GHG emissions have increased at an average annual rate of 0.3%; however, overall, net emissions in 2014 were 8.6% below 2005 levels (EPA 2016e).

According to California's 2000–2014 GHG emissions inventory (2016 edition), California emitted 441.5 MMT CO_2E in 2014, including emissions resulting from out-of-state electrical generation (CARB 2016e). The sources of GHG emissions in California include transportation, industry, electric power production from both in-state and out-of-state sources, residential and commercial activities, agriculture, high global-warming potential substances, and recycling and waste. The California GHG emission source categories and their relative contributions in 2014 are presented in Table 11.

Table 11
GHG Emissions Sources in California

Source Category	Annual GHG Emissions (MMT CO_2E)	Percent of Total[a]
Transportation	159.53	36%
Industrial uses	93.32	21%
Electricity generation[b]	88.24	20%
Residential and commercial uses	38.34	9%
Agriculture	36.11	8%
High global-warming potential substances	17.15	4%
Recycling and waste	8.85	2%
Totals	441.54	100%

Source: CARB 2016e.
Notes: Emissions reflect the 2014 California GHG inventory.
MMT CO_2E = million metric tons of carbon dioxide equivalent per year
[a] Percentage of total has been rounded, and total may not sum due to rounding.
[b] Includes emissions associated with imported electricity, which account for 36.51 MMT CO_2E annually.

During the 2000 to 2014 period, per capita GHG emissions in California have continued to drop from a peak in 2001 of 13.9 MT per person to 11.4 MT per person in 2014, representing an 18% decrease. In addition, total GHG emissions in 2014 were 2.8 MMT CO_2E less than 2013 emissions. The declining trend in GHG emissions, coupled with programs that will continue to provide additional GHG reductions going forward, demonstrates that California is on track to meet the 2020 target of 431 MMT CO_2E (CARB 2016e).

3.3.2 Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The 2014 *Intergovernmental Panel on Climate Change Synthesis Report* (IPCC 2014) indicated that warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. Signs that global climate change has occurred include warming of the atmosphere and ocean, diminished amounts of snow and ice, and rising sea levels (IPCC 2014).

In California, climate change impacts have the potential to affect sea-level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, and electricity demand and supply (CCCC 2006). The primary effect of global climate change has been a 0.2°C rise in average global tropospheric temperature per decade, determined from meteorological measurements worldwide between 1990 and 2005. Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. A warming of about 0.2°C (0.36°F) per decade is projected, and there are identifiable signs that global warming could be taking place.

Sea level along California's coastline has risen about seven inches in the last century (CCCC 2012). This rate is expected to accelerate considerably in the future. Assuming that sea-level changes along the California coast continue to track global trends, sea level along the state's coastline in 2050 could be 10-18 inches higher than in 2000, and 31-55 inches higher by the end of this century (CCCC 2012). This represents a four- to eightfold increase in the rate of sea-level rise over that observed in the last century

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The average temperatures in California have increased, leading to more extreme hot days and fewer cold nights. Shifts in the water cycle have been observed, with less winter precipitation falling as snow, and both snowmelt and rainwater running off earlier in the year. Sea levels have risen, and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (CAT 2010a).

An increase in annual average temperature is a reasonably foreseeable effect of climate change. Observed changes over the last several decades across the western United States reveal clear signals of climate change. Statewide average temperatures increased by about 1.7°F from 1895 to

2011, and warming has been greatest in the Sierra Nevada (CCCC 2012). By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1°F to 8.6°F, depending on emissions levels. Springtime warming—a critical influence on snowmelt—will be particularly pronounced. Summer temperatures will rise more than winter temperatures, and the increases will be greater in inland California, compared to the coast. Heat waves will be more frequent, hotter, and longer. There will be fewer extremely cold nights (CCCC 2012). A decline of Sierra Nevada snowpack, which accounts for approximately half of the surface water storage in California, by 30% to as much as 90% is predicted over the next 100 years (CAT 2006).

Model projections for precipitation over California continue to show the Mediterranean pattern of wet winters and dry summers with seasonal, year-to-year, and decade-to-decade variability. For the first time, however, several of the improved climate models shift toward drier conditions by the mid-to-late twenty-first century in central, and most notably, Southern California. By the late century, all projections show drying, and half of them suggest 30-year average precipitation will decline by more than 10% below the historical average (CCCC 2012).

Wildfire risk in California will increase as a result of climate change. Earlier snowmelt, higher temperatures, and longer dry periods over a longer fire season will directly increase wildfire risk. Indirectly, wildfire risk will also be influenced by potential climate-related changes in vegetation and ignition potential from lightning. However, human activities will continue to be the biggest factor in ignition risk. It is estimated that the long-term increase in fire occurrence associated with a higher emissions scenario is substantial, with increases in the number of large fires statewide ranging from 58% to 128% above historical levels by 2085. Under the same emissions scenario, estimated burned area will increase by 57% to 169%, depending on the location (CCCC 2012).

Reduction in the suitability of agricultural lands for traditional crop types may occur. While effects may occur, adaptation could allow farmers and ranchers to minimize potential negative effects on agricultural outcomes by adjusting timing of plantings or harvesting and changing crop types.

Public health-related effects of increased temperatures and prolonged temperature extremes, including heat stroke, heat exhaustion, and exacerbation of existing medical conditions, could be particular problems for the elderly, infants, and those who lack access to air conditioning or cooled spaces (CNRA 2009a).

3.4 Significance Criteria and Methodology

3.4.1 Thresholds of Significance

3.4.1.1 Office of Planning and Research's Guidance

The Office of Planning and Research's Technical Advisory titled *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review* (2008) states that "public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to "a significant, cumulative climate change impact." Furthermore, the advisory document indicates that "in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice" (OPR 2008).

Section 15064.4 of the CEQA Guidelines, Determining the Significance of Impacts from Greenhouse Gas Emissions, states the following:

A. The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in Section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

    i. Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or

    ii. Rely on a qualitative analysis or performance based standards.

B. A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:

    i. The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;

ii. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

iii. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR [environmental impact report] must be prepared for the project (14 CCR 15064.4).

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established thresholds for assessing whether the GHG emissions of a project in the SCAB, such as the proposed project, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project's contribution to global climate change.

While the project would result in emissions of GHGs during construction and operation, no guidance exists to indicate what level of GHG emissions would be considered substantial enough to result in a significant adverse impact on global climate. However, it is generally believed that an individual project is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory since scientific uncertainty regarding the significance of a project's individual and cumulative effects on global climate change remains.

Thus, GHG impacts are recognized exclusively as cumulative impacts; there are no noncumulative GHG emission impacts from a climate change perspective (CAPCOA 2008). This approach is consistent with that recommended by the CNRA, which noted in its public notice for the proposed CEQA amendments that the evidence before it indicates that, in most cases, the impact of GHG emissions should be considered in the context of a cumulative impact rather than a project-level impact (CNRA 2009b). Similarly, the *Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97* (CNRA 2009c) confirm that an environmental impact report or other environmental document must analyze the incremental contribution of a project to GHG levels and determine whether those emissions are cumulatively considerable. Accordingly, further discussion of the project's GHG emissions and their impact on global climate are addressed in the following text.

3.4.1.2 CEQA Guidelines

The CNRA adopted amendments to the CEQA Guidelines on December 30, 2009, which became effective on March 18, 2010. With respect to GHG emissions, the amended CEQA Guidelines state in Section 15064.4(a) that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a "model or methodology" to quantify the emissions or by relying on "qualitative analysis or other performance based standards" (14 CCR 15064.4(a)). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment:

- The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

In addition, Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence." Similarly, the revisions to Appendix G, Environmental Checklist Form, which is often used as a basis for lead agencies' selection of significance thresholds, do not prescribe specific thresholds. Rather, the CEQA Guidelines establish two new CEQA thresholds related to GHGs, and these will be used to discuss the significance of project impacts (14 CCR 15000 et seq.):

1. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Accordingly, the CEQA Guidelines do not prescribe specific methodologies for performing an assessment, establish specific thresholds of significance, or mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance that are consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009c).

3.4.1.3 Proposed South Coast Air Quality Management District Thresholds

The SCAQMD has not adopted recommended numeric CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts of residential and commercial development projects. In October 2008, SCAQMD presented to the Governing Board the *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold* (2008). The guidance document was not adopted or approved by the Governing Board. This document, which builds on the previous guidance prepared by the California Air Pollution Control Officers Association, explored various approaches for establishing a significance threshold for GHG emissions.

The SCAQMD formed a GHG CEQA Significance Threshold Working Group to work with SCAQMD staff on developing GHG CEQA significance thresholds until statewide significance thresholds or guidelines are established. In December 2008, the SCAQMD adopted an interim 10,000 MT CO_2E per year screening level threshold for stationary source/industrial projects for which the SCAQMD is the lead agency. From December 2008 to September 2010, the SCAQMD hosted working group meetings and revised the draft threshold proposal several times, although it did not officially provide these proposals in a subsequent document. The SCAQMD has continued to consider adoption of significance thresholds for residential and general land use development projects. The most recent proposal, issued in September 2010, uses the following tiered approach to evaluate potential GHG impacts from various uses (SCAQMD 2010):

Tier 1 Determine if CEQA categorical exemptions are applicable. If not, move to Tier 2.

Tier 2 Consider whether or not the proposed project is consistent with a locally adopted GHG reduction plan that has gone through public hearing and CEQA review, that has an approved inventory, includes monitoring, etc. If not, move to Tier 3.

Tier 3 Consider whether the project generates GHG emissions in excess of screening thresholds for individual land uses. The 10,000 MT CO_2E per year threshold for industrial uses would be recommended for use by all lead agencies. Under option 1, separate screening thresholds are proposed for residential projects (3,500 MT CO_2E per year), commercial projects (1,400 MT CO_2E per year), and mixed-use projects (3,000 MT CO_2E per year). Under option 2, a single numerical screening threshold of 3,000 MT CO_2E per year would be used for all non-industrial projects. If the project generates emissions in excess of the applicable screening threshold, move to Tier 4.

Tier 4 Consider whether the project generates GHG emissions in excess of applicable performance standards for the project service population (population plus employment). The efficiency targets were established based on the goal of AB 32 to reduce statewide GHG emissions to 1990 levels by 2020. The 2020 efficiency targets are 4.8 MT CO_2E per service population for project level analyses and 6.6 MT CO_2E per service population for plan level analyses. If the project generates emissions in excess of the applicable efficiency targets, move to Tier 5.

Tier 5 Consider the implementation of CEQA mitigation (including the purchase of GHG offsets) to reduce the project efficiency target to Tier 4 levels.

Because the project consists of an industrial development, the recommended SCAQMD threshold to apply to the project is the 10,000 MT CO_2E per year for industrial use projects. Per the SCAQMD guidance, construction emissions should be amortized over the operational life of the project, which is assumed to be 30 years (SCAQMD 2008). This impact analysis, therefore, adds amortized construction emissions to the estimated annual operational emissions and then compares operational emissions to the proposed SCAQMD threshold of 10,000 MT CO_2E per year.

3.4.2 Approach and Methodology

3.4.2.1 Construction

CalEEMod Version 2016.3.2 was used to estimate potential project-generated GHG emissions during construction. Construction of the project would result in GHG emissions primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. All details for construction criteria air pollutants discussed in Section 2.4.2.1, are also applicable for the estimation of construction-related GHG emissions. As such, see Section 2.4.2.1 for a discussion of construction emissions calculation methodology and assumptions.

3.4.2.2 Operation

CalEEMod Version 2016.3.2 and a spreadsheet based model was used to estimate potential project-generated operational GHG emissions from vehicular sources, stationary (emergency generator), marine operations, area sources (natural gas combustion and landscape maintenance), electrical generation (including electrical generation associated with water supply and wastewater treatment), and solid waste. Emissions from each category—area sources, energy sources, mobile sources, marine operations, solid waste, and water supply and wastewater treatment—is discussed in the following text with respect to the project. For additional details, see Section 2.4.2.3, Operation, for a discussion of operational emission calculation methodology and assumptions, specifically for area, energy (natural gas), and mobile sources. Operational year 2019 was assumed to be consistent with the Traffic Technical Memorandum (Iteris 2017).

Area Sources

CalEEMod was used to estimate GHG emissions from the project's area sources, which include operation of gasoline-powered landscape maintenance equipment, which produce minimal GHG emissions. It was assumed that 100% of the landscaping equipment would be gasoline powered. See Section 2.4.2.2, for a discussion of landscaping equipment emissions calculations. Consumer product use and architectural coatings result in VOC emissions, which are analyzed in air quality analysis only, and little to no GHG emissions.

Energy Sources

Energy use for the project was provided by the applicant. To reflect the actual GHG emissions for the project build-out year, emissions intensity factors were adjusted to reflect achievement of the RPS goals by LADWP. LADWP reported a CO_2 intensity factor of 1,132 pounds per megawatt-hour (lbs/MWh) in 2015 in its *2016 Power Integrated Resources Plan* (PIRP) (LADWP 2016). LADWP also has set a goal in the 2016 PIRP to have a CO_2 intensity of 500 lb/MWh by 2026. This goal incorporates the state mandated goals of the renewable portfolio standard of 33% renewable energy by 2020 and 50% by 2030. Using the 2015 CO_2 factor and the goal for 2026, a linear trend was calculated between the two points to estimate the intensity factor for 2019 (the buildout year for the project), giving a CO_2 intensity factor of 902.18 lb/MWh. Since the CH_4 and N_2O factors were not provided by LADWP, the CalEEMod default factors were used.

As explained in Section 3.2.2, State Regulations, Title 24 of the California Code of Regulations serves to enhance and regulate California's building standards. The most recent amendments to Title 24, Part 6, referred to as the 2016 standards, will become effective on January 1, 2017. The building electricity use was provided by the applicant based on anticipated usage from operation of similar type facilities they operate.

Mobile Sources

All details for criteria air pollutants discussed in Section 2.4.2.2 are also applicable for the estimation of operational mobile source GHG emissions. Regulatory measures related to mobile sources include AB 1493 (Pavley) and related federal standards. AB 1493 required that CARB establish

GHG emission standards for automobiles, light-duty trucks, and other vehicles determined by CARB to be vehicles that are primarily used for noncommercial personal transportation in the state. In addition, the NHTSA and EPA have established corporate fuel economy standards and GHG emission standards, respectively, for automobiles and light-, medium-, and heavy-duty vehicles. Implementation of these standards and fleet turnover (replacement of older vehicles with newer ones) will gradually reduce emissions from the project's motor vehicles. In addition, the Low Carbon Fuel Standard calls for a 10% reduction in the "carbon intensity" of motor vehicle fuels by 2020. The effectiveness of fuel economy improvements and the Low Carbon Fuel Standard was evaluated by using the EMFAC2014 emission factors for motor vehicles in 2019.

In addition to vehicle GHG emissions, the Marine Vessel operations would generate GHG emissions from the primary and auxiliary engines from combustion of diesel fuel. For GHG emissions calculations purposes, it was assumed that the ocean going tug boat would operate up to the operational boundary of the POLA, consistent with the 2016 Emission Inventory for the POLA (Starcrest 2017), which is assumed to be 40 nautical miles one-way. There would also be an assist tug boat used only within the port. The tug boats would be required to comply with the LAHD CAAP and CAP emission reductions measures. These reduction measures, although targeted at criteria pollutants, will also reduce GHG emissions from applicable sources over time.

Solid Waste

The project would generate solid waste, and therefore, result in CO_2E emissions associated with landfill off-gassing. CalEEMod default values for solid waste generation were used to estimate GHG emissions associated with solid waste. Project compliance with the 75% diversion rate by 2020, consistent with AB 341 (25% increase from the solid waste diversion requirements of AB 939, Integrated Waste Management Act), has been included in the GHG assessment.

Water and Wastewater

Supply, conveyance, treatment, and distribution of water for the project require the use of electricity, which would result in associated indirect GHG emissions. Similarly, wastewater generated by the proposed project requires the use of electricity for conveyance and treatment, along with GHG emissions generated during wastewater treatment. Water consumption estimates for both indoor and outdoor water use and associated electricity consumption from water use and wastewater generation were estimated using CalEEMod default values.

3.5 Impact Analysis

This section evaluates the GHG emissions impacts associated with the project. The SCAQMD significance criteria described in Section 3.4, Significance Criteria and Methodology, were used to evaluate impacts associated with the construction and operation of the project.

3.5.1 Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction GHG Emissions

Construction of the project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road vendor trucks, and worker vehicles. The SCAQMD *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold* (2009) recommends that "construction emissions be amortized over a 30-year project lifetime, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies." Thus, the total construction GHG emissions were calculated, amortized over 30 years, and added to the total operational emissions for comparison with the GHG significance threshold of 10,000 MT CO_2E per year. The determination of significance, therefore, is addressed in the operational emissions discussion following the estimated construction emissions.

CalEEMod was used to calculate the annual GHG emissions based on the construction scenario described in Section 2.4.2.1. Construction of the project is anticipated to commence in June 2017 and reach completion in June 2018, lasting a total of 12 months. On-site sources of GHG emissions include off-road equipment and off-site sources including vendor trucks and worker vehicles. Table 12 presents construction GHG emissions for the project in 2017 and 2018 from on-site and off-site emission sources.

Table 12
Estimated Annual Construction GHG Emissions

Year	CO_2	CH_4	N_2O	CO_2E
	Metric Tons per Year			
2017	556.41	0.12	0.00	559.34
2018	507.30	0.08	0.00	509.40
Total	1,063.71	0.20	0.00	1,069.74

Notes:
CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2E = carbon dioxide equivalent.
See Appendix A for complete results.

As shown in Table 12, the estimated total GHG emissions during construction of would be approximately 559 MT CO_2E in 2017 and 509 MT CO_2E in 2018, for a total of 1,070 MT CO_2E over the construction period. Estimated project-generated construction emissions amortized over 30 years would be approximately 36 MT CO_2E per year. As with project-generated construction air quality pollutant emissions, GHG emissions generated during construction of the project would be short-term in nature, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions. Because there is no separate GHG threshold for construction, the evaluation of significance is discussed in the operational emissions analysis in the following text.

Operational Emissions

Operation of the project would generate GHG emissions through motor vehicle trips to and from the project site; marine vessels; off-road equipment; landscape maintenance equipment operation; energy use (natural gas and generation of electricity consumed by the project); solid waste disposal; and generation of electricity associated with water supply, treatment, and distribution and wastewater treatment. CalEEMod was used to calculate the annual GHG emissions based on the operational assumptions described in Section 3.4.2.2, Operation.

The estimated operational (year 2019) project-generated GHG emissions from area sources, energy usage, motor vehicles, marine vessel operation, solid waste generation, and water usage and wastewater generation are shown in Table 13.

Table 13
Estimated Annual Operational GHG Emissions

Emission Source	CO_2	CH_4	N_2O	CO_2E
	metric tons per year			
Area	0.01	0.00	0.00	0.01
Energy	6,025.68	0.17	0.03	6,039.29
Mobile	2,149.75	0.50	0.19	2,220.33
Off-road	279.50	0.00	0.00	280.44
Stationary	46.58	0.00	0.00	46.74
Solid waste	51.21	3.03	0.00	126.87
Water supply and wastewater	174.39	1.01	0.03	207.09
Total	8,727.12	4.71	0.25	8,920.77
Amortized Construction Emissions				*35.66*
Operation + Amortized Construction Total				8,956.43

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2E = carbon dioxide equivalent
See Appendix A for detailed results. These emissions reflect CalEEMod “mitigated” output and operational year 2019.

As shown in Table 13, estimated annual project-generated GHG emissions would be approximately 8,921 MT CO_2E per year as a result of project operation. Estimated annual project-generated operational emissions in 2019 and amortized project construction emissions would be approximately 8,956 MT CO_2E per year.

As discussed in Section 3.4.1, the SCAQMD significance threshold for industrial source GHG emissions is 10,000 MT CO_2E per year. As shown in Table 13, annual operational GHG emissions with amortized construction emissions would not exceed the SCAQMD threshold. Therefore, the project's GHG contribution would not be cumulatively considerable and is less than significant.

Informational assessment: Consider whether the Project is consistent with certain statewide, regional and local plans and policies.

CEQA Guidelines Section 15064.4(b) provides that another factor to be considered in assessing the significance of GHG emissions on the environment is "the extent to which a project complies with regulations or requirements adopted to implement a statewide, regional or local plan for the reduction or mitigation of GHG emissions."

Several state, regional and local plans have been developed that set goals for the reduction of GHG emissions over the next few years and decades. Some of these plans and policies (notably, EO S-3-05 and AB 32) were taken into account by the SCAQMD in developing the 10,000 mty CO_2e threshold. However, no regulations or requirements have been adopted by relevant public agencies to implement those plans for specific projects, within the meaning of CEQA Guidelines Section 15064.4(b)(3). (See *Center for Biological Diversity v. Cal. Dept. of Fish and Wildlife* (*Newhall Ranch*) (2015) 62 Cal.4th 204, 223.) Consequently, no CEQA significance assessment based upon compliance with such regulations or requirements can be made for the proposed Project. Nevertheless, for the purpose of disclosure, LAHD has considered, for informational purposes only, whether the proposed Project activities and features, are consistent with federal, state or local plans, policies or regulations for the reduction of GHG emissions, as set forth below.

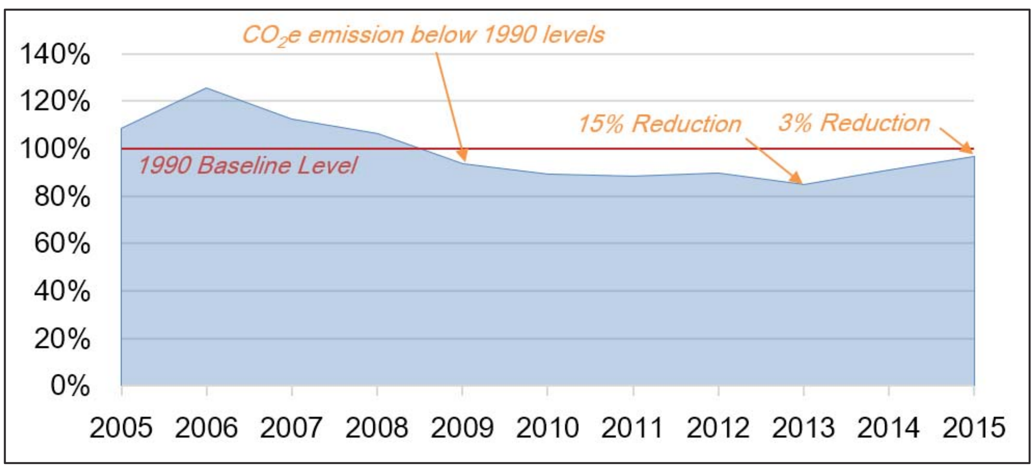
The State of California is leading the way in the United States, related to GHG reductions. Several legislative and municipal targets for reducing GHG emissions, below 1990 levels have been established. Key examples include:

- Senate Bill 32 (SB 32)
  1990 levels by 2020
  40% below 1990 levels by 2030

- Assembly Bill 32 (AB 32)
  80% below 1990 levels by 2050
- City of Los Angeles Sustainable City pLAn
  45% below 1990 levels by 2025
  60% below 1990 levels by 2035
  80% below 1990 levels by 2050

LAHD has been tracking GHG emissions, in terms of CO_2e since 2005 through the LAHD municipal GHG inventory and the annual inventory of air emissions (see Figure 3). As illustrated below in Figure 3, Port-related GHG emissions (all three scopes) started making significant reductions since 2006, reaching a maximum reduction in CO_2e of 15% from 1990 levels in 2013. Subsequently, 2014 and 2015 saw GHG levels rise due to a period of port congestion that arose from circumstances outside of the control of either the LAHD or its tenants. This event illustrates a major challenge related to managing GHG-related emissions, as events outside the control of LAHD or its individual tenants will continue to have a varying degree of impact on the progress of reduction efforts.

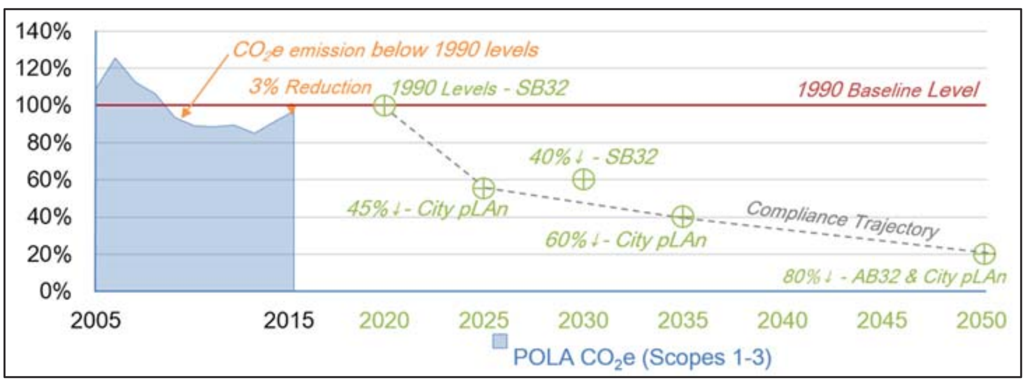
Figure 3: GHG Emissions 2005–2015



LAHD and its tenants have initiated a number of wide-ranging strategies to reduce all port-related GHGs, which includes the benefits associated with the Clean Air Action Plan (CAAP), operational efficiency improvements, and land use and planning initiatives. Looking toward 2050, there are several unknowns that will affect future GHG emission levels. These unknowns include grid power portfolios; maritime industry preferences of power sources and fuel types for ships, harbor craft, terminal equipment, locomotives, and trucks; advances in cargo movement efficiencies; the locations of manufacturing centers for products and commodities moved; and increasing consumer demand for goods. The key relationships that have led to operational efficiency improvements to date are the cost of energy, current and upcoming regulatory programs, and the competitive nature of the goods movement industry. We anticipate these relationships will continue to produce benefits with regards to GHG emissions for the foreseeable future.

Figure 4 shows the key GHG targets listed above with a postulated 'compliance trajectory' set to meet the most stringent targets. It is important to note that the targets shown in Figure 4 are not project specific targets and that no specific project level regulations or requirements have been developed by agencies for implementation of these plans. Instead, these targets are goals meant to apply to all applicable GHG sources in aggregate, which means some sources will need to go beyond these targets, while others may not be able to meet the target level.

Figure 4: Actual GHG Emissions
2005–2015 and 2015–2050 GHG Compliance Trajectory



Nevertheless, with the very aggressive targets shown in Figure 4, it is not possible at this time to determine whether Port-wide emissions or any particular Project applicant will be able to meet the compliance trajectories shown. Compliance will depend on future regulations or requirements that may be adopted, future technologies that have not been identified or fully developed at this time, or any other Port-wide GHG reduction strategies that may be established. As a result, while LAHD will continue to work with its tenants to implement aggressive GHG reduction measures to meet the compliance trajectory that is shown, LAHD cannot with certainty confirm compliance with these future plans and policies at this time.

Port of Los Angeles Climate Action Plan

As discussed in Section 3.2.3.4, the LAHD implemented a CAP in 2007 to reduce GHG emissions from Port related activities 35 per cent below 1990 levels by 2030, which is consistent with the goal of *Green LA: An Action Plan to Lead the Nation in Fighting Global Warming* (City of Los Angeles 2007). The majority of the CAP measures are focused on LAHD operations. The CAP does not have GHG reductions measures specific to tenant operations; however, the CAP does identify measures within the CAAP that reduce GHG emissions in addition to criteria pollutants. Table 14 below shows the Project's consistency with those GHG reduction measures.

Table 14
Project Consistency with CAAP GHG Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Harbor Craft		
Performance Standards for Harbor Craft	HC1	All harbor craft used in the project will be have a home port of the POLA and thus will be required to maintain compliance with this measure including meeting EPA Tier II emission standards. All tugs will also use shore power during the project.
Cargo Handling Equipment		
Performance Standards for Cargo Handling Equipment	Performance Standards for Cargo Handling Equipment	Performance Standards for Cargo Handling Equipment

Source: San Pedro Bay Ports 2010..

Based on the analysis in Table 14, the project would be consistent with the applicable strategies and measures in the CAP and CAAP.

CARB Scoping Plan

As discussed in Section 3.2.2, the Scoping Plan, approved by CARB on December 12, 2008, provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. As such, the Scoping Plan is not directly applicable to specific projects. Relatedly, in the Final Statement of Reasons for the Amendments to the CEQA Guidelines, the CNRA observed that "[t]he [Scoping Plan] may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009c). Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., LCFS), among others.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32 and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. The Scoping Plan as a policy document is not designed to be used to determine significance on a project level. However, the project would not conflict with any of the Scoping Plan's outlined measures.

SCAG RTP/SCS

SCAG's 2016 RTP/SCS is a regional growth-management strategy that targets per capita GHG reduction from passenger vehicles and light-duty trucks in the Southern California region. The 2016 RTP/SCS incorporates local land use projections and circulation networks in city and county general plans. The 2016 RTP/SCS is not directly applicable to the project because the underlying purpose of the 2016 RTP/SCS is to provide direction and guidance by making the best transportation and land use choices for future development, though project would support the goals and policies of the 2016 RTP/SCS.

In regards to consistency with EO B-30-15 (goal of reducing GHG emissions to 40% below 1990 levels by 2030) and EO S-3-05 (goal of reducing GHG emissions to 80% below 1990 levels by 2050), there are no established protocols or thresholds of significance for that future year analysis. However, CARB forecasts that compliance with the current Scoping Plan puts the state on a trajectory of meeting these long-term GHG goals, although the specific path to compliance is unknown (CARB 2014). As discussed previously, the project is consistent with the GHG emission reduction measures in the Scoping Plan and would not conflict with the state's trajectory toward future GHG reductions. In addition, since the specific path to compliance for the state in regards to the long-term goals will likely require development of technology or other changes that are not currently known or available, specific additional mitigation measures for the project would be speculative and cannot be identified at this time. Furthermore, the project is consistent with the SCAG 2016 RTP/SCS, which establishes targets for passenger vehicle GHG emissions for 2020 and 2040. The project's consistency would assist in meeting the POLA's contribution to GHG emission reduction targets in California. With respect to future GHG targets under the EOs, CARB has also made clear its legal interpretation that it has the requisite authority to adopt whatever regulations are necessary, beyond the AB 32 horizon year of 2020, to meet EO S-3-05's 80% reduction target in 2050; this legal interpretation by an expert agency provides evidence that future regulations will be adopted to continue the state on its trajectory toward meeting these future GHG targets.

Finally, the project would not exceed the SCAQMD's recommended draft interim threshold of 10,000 MT CO_2E per year (SCAQMD 2008). Because the project would not exceed the threshold, this analysis provides support for the conclusion that the project would not conflict with EO S-3-05's GHG reduction goals for California. Therefore, this impact would be less than significant.

As such, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, and no mitigation is required. This impact would be less than significant.

Mitigation Measures

None required.

Level of Significance After Mitigation

Impacts would be less than significant without mitigation.

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Lindsey Powers, Publications Specialist

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APPENDIX A

Emission Calculations

Berth 240 Transportation Vessels Manufacturing Facility Project

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Manufacturing	203.45	1000sqft	10.00	203,450.00	750
Parking Lot	347.00	Space	6.00	138,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2019
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	902.18	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project is located in the Port of Los Angeles, in the SCAB. With RPS.

Land Use - Based on applicant provided data.

Construction Phase - Construction Schedule based on applicant provided data.

Off-road Equipment - CalEEMod defaults.

Off-road Equipment - CalEEMod defaults.

Off-road Equipment - CalEEMod defaults.

Off-road Equipment - CalEEMod defaults.

Off-road Equipment - CalEEMod defaults.

Off-road Equipment - CalEEMod defaults.

Trips and VMT - CalEEMod defaults.

On-road Fugitive Dust - CalEEMod defaults.

Demolition - Based on applicant provided data.

Grading - CalEEMod defaults.

Architectural Coating - The applicant has committed to using 0 VOC architectural coatings.

Vehicle Trips - Calculated outside of CalEEMod.

Vehicle Emission Factors - CalEEMod defaults.

Vehicle Emission Factors - CalEEMod defaults.

Vehicle Emission Factors - CalEEMod defaults.

Road Dust - CalEEMod defaults.

Woodstoves - No hearths.

Consumer Products - Emissions accounted for in facility wide VOC emissions.

Area Coating - Applicant has committed to using 0 VOC architectural coatings.

Landscape Equipment - CalEEMod defaults.

Energy Use - Energy use provided by project applicant.

Water And Wastewater - Based on an estimated 99,000 gallons per day.

Solid Waste - CalEEMod defaults.

Land Use Change - No land use change.

Sequestration - No sequestration.

Construction Off-road Equipment Mitigation - Tier 4 required from POLA CAAP

Mobile Land Use Mitigation - No traffic mitigation.

Mobile Commute Mitigation - No commute mitigation.

Area Mitigation - Project will use 0 VOC architectural coatings.

Energy Mitigation - No energy mitigation.

Water Mitigation - No water use mitigation.

Waste Mitigation - No solid waste mitigation.

Operational Off-Road Equipment - Calculated outside of CalEEMod.

Fleet Mix - Calculated outside of CalEEMod.

Stationary Sources - Emergency Generators and Fire Pumps - Calculated outside of CalEEMod.

Stationary Sources - Process Boilers - CalEEMod defaults.

Stationary Sources - User Defined -

Stationary Sources - Emergency Generators and Fire Pumps EF - CalEEMod defaults.

Stationary Sources - Process Boilers EF - CalEEMod defaults.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	101,725.00	83,732.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	305,175.00	251,195.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_Nonresidential_Exterior	101725	83732
tblAreaCoating	Area_Nonresidential_Interior	305175	251195
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

tblEnergyUse	LightingElect	3.10	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	NT24E	5.75	0.00
tblEnergyUse	NT24NG	4.45	0.00
tblEnergyUse	T24E	2.25	50.61
tblEnergyUse	T24NG	13.65	0.00
tblGrading	AcresOfGrading	112.50	75.00
tblLandUse	LotAcreage	4.67	10.00
tblLandUse	LotAcreage	3.12	6.00
tblLandUse	Population	0.00	750.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	312.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	6.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	312.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	312.00
tblOperationalOffRoadEquipment	OperHorsePower	231.00	170.00
tblOperationalOffRoadEquipment	OperHorsePower	231.00	170.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	2.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	2.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	2.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	902.18
tblTripsAndVMT	VendorTripNumber	56.00	50.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	144.00	130.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	29.00	26.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	28.00	0.00

tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.49	0.00
tblVehicleTrips	SU_TR	0.62	0.00
tblVehicleTrips	WD_TR	3.82	0.00
tblWater	IndoorWaterUseRate	47,047,812.50	30,888,000.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.5469	5.1920	3.4251	6.1000e-003	0.4018	0.2799	0.6817	0.1773	0.2620	0.4392	0.0000	556.4138	556.4138	0.1173	0.0000	559.3450
2018	0.4403	3.5534	2.9307	5.6400e-003	0.1161	0.2004	0.3164	0.0313	0.1896	0.2209	0.0000	507.2953	507.2953	0.0840	0.0000	509.3957
Maximum	**0.5469**	**5.1920**	**3.4251**	**6.1000e-003**	**0.4018**	**0.2799**	**0.6817**	**0.1773**	**0.2620**	**0.4392**	**0.0000**	**556.4138**	**556.4138**	**0.1173**	**0.0000**	**559.3450**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.1069	0.6434	3.2460	6.1000e-003	0.2095	0.0105	0.2200	0.0833	0.0104	0.0937	0.0000	556.4133	556.4133	0.1173	0.0000	559.3445
2018	0.1323	0.7060	2.9870	5.6400e-003	0.1161	9.3200e-003	0.1254	0.0313	9.1400e-003	0.0404	0.0000	507.2949	507.2949	0.0840	0.0000	509.3953
Maximum	**0.1323**	**0.7060**	**3.2460**	**6.1000e-003**	**0.2095**	**0.0105**	**0.2200**	**0.0833**	**0.0104**	**0.0937**	**0.0000**	**556.4133**	**556.4133**	**0.1173**	**0.0000**	**559.3445**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**75.77**	**84.57**	**1.93**	**0.00**	**37.14**	**95.87**	**65.40**	**45.03**	**95.68**	**79.68**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**6-1-2017**	**8-31-2017**	2.9847	0.1960
2	**9-1-2017**	**11-30-2017**	2.0705	0.4133
3	**12-1-2017**	**2-28-2018**	1.8996	0.3975
4	**3-1-2018**	**5-31-2018**	1.8586	0.3967
5	**6-1-2018**	**8-31-2018**	0.9096	0.1727
		Highest	2.9847	0.4133

2.2 Overall Operational

<u>Unmitigated Operational</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7467	7.0000e-005	7.0900e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0137	0.0137	4.0000e-005	0.0000	0.0146
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4,213.5742	4,213.5742	0.1354	0.0280	4,225.3111
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	51.2106	0.0000	51.2106	3.0265	0.0000	126.8720
Water						0.0000	0.0000		0.0000	0.0000	9.7993	164.5861	174.3854	1.0118	0.0249	207.0881
Total	**0.7467**	**7.0000e-005**	**7.0900e-003**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**61.0099**	**4,378.1740**	**4,439.1839**	**4.1737**	**0.0529**	**4,559.2857**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7467	7.0000e-005	7.0900e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0137	0.0137	4.0000e-005	0.0000	0.0146
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4,213.5742	4,213.5742	0.1354	0.0280	4,225.3111
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	51.2106	0.0000	51.2106	3.0265	0.0000	126.8720
Water						0.0000	0.0000		0.0000	0.0000	9.7993	164.5861	174.3854	1.0118	0.0249	207.0881
Total	**0.7467**	**7.0000e-005**	**7.0900e-003**	**0.0000**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**3.0000e-005**	**61.0099**	**4,378.1740**	**4,439.1839**	**4.1737**	**0.0529**	**4,559.2857**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2017	6/28/2017	5	20	
2	Site Preparation	Site Preparation	6/29/2017	7/12/2017	5	10	
3	Grading	Grading	7/13/2017	8/23/2017	5	30	
4	Building Construction	Building Construction	8/24/2017	6/27/2018	5	220	
5	Paving	Paving	6/28/2018	7/25/2018	5	20	
6	Architectural Coating	Architectural Coating	7/26/2018	8/22/2018	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 6

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 251,195; Non-Residential Outdoor: 83,732; Striped Parking Area: 8,328 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	12.00	81	0.73
Demolition	Excavators	3	12.00	158	0.38
Demolition	Rubber Tired Dozers	2	12.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	12.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	12.00	97	0.37
Grading	Excavators	2	12.00	158	0.38
Grading	Graders	1	12.00	187	0.41
Grading	Rubber Tired Dozers	1	12.00	247	0.40
Grading	Scrapers	2	12.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	12.00	97	0.37
Building Construction	Cranes	1	12.00	231	0.29
Building Construction	Forklifts	3	12.00	89	0.20
Building Construction	Generator Sets	2	12.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	12.00	97	0.37
Building Construction	Welders	1	12.00	46	0.45
Paving	Pavers	2	12.00	130	0.42
Paving	Paving Equipment	2	12.00	132	0.36
Paving	Rollers	2	12.00	80	0.38
Architectural Coating	Air Compressors	1	12.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	16.00	0.00	42.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	130.00	50.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	16.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	26.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.5000e-003	0.0000	4.5000e-003	6.8000e-004	0.0000	6.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0616	0.6412	0.3452	5.8000e-004		0.0329	0.0329		0.0306	0.0306	0.0000	53.4008	53.4008	0.0146	0.0000	53.7658
Total	**0.0616**	**0.6412**	**0.3452**	**5.8000e-004**	**4.5000e-003**	**0.0329**	**0.0374**	**6.8000e-004**	**0.0306**	**0.0313**	**0.0000**	**53.4008**	**53.4008**	**0.0146**	**0.0000**	**53.7658**

3.2 Demolition - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.1000e-004	7.2300e-003	1.3300e-003	2.0000e-005	3.6000e-004	4.0000e-005	4.0000e-004	1.0000e-004	4.0000e-005	1.4000e-004	0.0000	1.6333	1.6333	1.2000e-004	0.0000	1.6362
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.6000e-004	8.0000e-004	8.5200e-003	2.0000e-005	1.7600e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.7326	1.7326	7.0000e-005	0.0000	1.7342
Total	**1.1700e-003**	**8.0300e-003**	**9.8500e-003**	**4.0000e-005**	**2.1200e-003**	**5.0000e-005**	**2.1700e-003**	**5.7000e-004**	**5.0000e-005**	**6.2000e-004**	**0.0000**	**3.3659**	**3.3659**	**1.9000e-004**	**0.0000**	**3.3705**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.7600e-003	0.0000	1.7600e-003	2.7000e-004	0.0000	2.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.9300e-003	0.0301	0.3492	5.8000e-004		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	53.4007	53.4007	0.0146	0.0000	53.7657
Total	**6.9300e-003**	**0.0301**	**0.3492**	**5.8000e-004**	**1.7600e-003**	**9.2000e-004**	**2.6800e-003**	**2.7000e-004**	**9.2000e-004**	**1.1900e-003**	**0.0000**	**53.4007**	**53.4007**	**0.0146**	**0.0000**	**53.7657**

3.2 Demolition - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.1000e-004	7.2300e-003	1.3300e-003	2.0000e-005	3.6000e-004	4.0000e-005	4.0000e-004	1.0000e-004	4.0000e-005	1.4000e-004	0.0000	1.6333	1.6333	1.2000e-004	0.0000	1.6362
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.6000e-004	8.0000e-004	8.5200e-003	2.0000e-005	1.7600e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.7326	1.7326	7.0000e-005	0.0000	1.7342
Total	**1.1700e-003**	**8.0300e-003**	**9.8500e-003**	**4.0000e-005**	**2.1200e-003**	**5.0000e-005**	**2.1700e-003**	**5.7000e-004**	**5.0000e-005**	**6.2000e-004**	**0.0000**	**3.3659**	**3.3659**	**1.9000e-004**	**0.0000**	**3.3705**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1355	0.0000	0.1355	0.0745	0.0000	0.0745	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0372	0.3921	0.1759	2.9000e-004		0.0216	0.0216		0.0199	0.0199	0.0000	26.5008	26.5008	8.1200e-003	0.0000	26.7038
Total	**0.0372**	**0.3921**	**0.1759**	**2.9000e-004**	**0.1355**	**0.0216**	**0.1571**	**0.0745**	**0.0199**	**0.0943**	**0.0000**	**26.5008**	**26.5008**	**8.1200e-003**	**0.0000**	**26.7038**

3.3 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.5000e-004	4.7900e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9746	0.9746	4.0000e-005	0.0000	0.9755
Total	**5.4000e-004**	**4.5000e-004**	**4.7900e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**1.0000e-003**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.9746**	**0.9746**	**4.0000e-005**	**0.0000**	**0.9755**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0528	0.0000	0.0528	0.0291	0.0000	0.0291	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4900e-003	0.0151	0.1565	2.9000e-004		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	26.5008	26.5008	8.1200e-003	0.0000	26.7038
Total	**3.4900e-003**	**0.0151**	**0.1565**	**2.9000e-004**	**0.0528**	**4.7000e-004**	**0.0533**	**0.0291**	**4.7000e-004**	**0.0295**	**0.0000**	**26.5008**	**26.5008**	**8.1200e-003**	**0.0000**	**26.7038**

3.3 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	4.5000e-004	4.7900e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9746	0.9746	4.0000e-005	0.0000	0.9755
Total	**5.4000e-004**	**4.5000e-004**	**4.7900e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**1.0000e-003**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.9746**	**0.9746**	**4.0000e-005**	**0.0000**	**0.9755**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1753	0.0000	0.1753	0.0788	0.0000	0.0788	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1293	1.5286	0.8726	1.4000e-003		0.0691	0.0691		0.0636	0.0636	0.0000	129.5096	129.5096	0.0397	0.0000	130.5017
Total	**0.1293**	**1.5286**	**0.8726**	**1.4000e-003**	**0.1753**	**0.0691**	**0.2444**	**0.0788**	**0.0636**	**0.1424**	**0.0000**	**129.5096**	**129.5096**	**0.0397**	**0.0000**	**130.5017**

3.4 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7900e-003	1.5000e-003	0.0160	4.0000e-005	3.2900e-003	3.0000e-005	3.3200e-003	8.7000e-004	3.0000e-005	9.0000e-004	0.0000	3.2486	3.2486	1.2000e-004	0.0000	3.2517
Total	**1.7900e-003**	**1.5000e-003**	**0.0160**	**4.0000e-005**	**3.2900e-003**	**3.0000e-005**	**3.3200e-003**	**8.7000e-004**	**3.0000e-005**	**9.0000e-004**	**0.0000**	**3.2486**	**3.2486**	**1.2000e-004**	**0.0000**	**3.2517**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0684	0.0000	0.0684	0.0307	0.0000	0.0307	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.0743	0.7425	1.4000e-003		2.2800e-003	2.2800e-003		2.2800e-003	2.2800e-003	0.0000	129.5095	129.5095	0.0397	0.0000	130.5015
Total	**0.0171**	**0.0743**	**0.7425**	**1.4000e-003**	**0.0684**	**2.2800e-003**	**0.0706**	**0.0307**	**2.2800e-003**	**0.0330**	**0.0000**	**129.5095**	**129.5095**	**0.0397**	**0.0000**	**130.5015**

3.4 Grading - 2017

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7900e-003	1.5000e-003	0.0160	4.0000e-005	3.2900e-003	3.0000e-005	3.3200e-003	8.7000e-004	3.0000e-005	9.0000e-004	0.0000	3.2486	3.2486	1.2000e-004	0.0000	3.2517
Total	**1.7900e-003**	**1.5000e-003**	**0.0160**	**4.0000e-005**	**3.2900e-003**	**3.0000e-005**	**3.3200e-003**	**8.7000e-004**	**3.0000e-005**	**9.0000e-004**	**0.0000**	**3.2486**	**3.2486**	**1.2000e-004**	**0.0000**	**3.2517**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.2682	2.2869	1.6012	2.4400e-003		0.1530	0.1530		0.1448	0.1448	0.0000	217.0266	217.0266	0.0477	0.0000	218.2202
Total	**0.2682**	**2.2869**	**1.6012**	**2.4400e-003**		**0.1530**	**0.1530**		**0.1448**	**0.1448**	**0.0000**	**217.0266**	**217.0266**	**0.0477**	**0.0000**	**218.2202**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0113	0.3033	0.0813	6.0000e-004	0.0145	2.5800e-003	0.0171	4.1800e-003	2.4700e-003	6.6500e-003	0.0000	57.6310	57.6310	4.3100e-003	0.0000	57.7389
Worker	0.0358	0.0299	0.3183	7.2000e-004	0.0656	5.5000e-004	0.0662	0.0174	5.1000e-004	0.0179	0.0000	64.7559	64.7559	2.4500e-003	0.0000	64.8171
Total	**0.0471**	**0.3332**	**0.3995**	**1.3200e-003**	**0.0801**	**3.1300e-003**	**0.0832**	**0.0216**	**2.9800e-003**	**0.0246**	**0.0000**	**122.3869**	**122.3869**	**6.7600e-003**	**0.0000**	**122.5559**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0288	0.1808	1.5677	2.4400e-003		3.6300e-003	3.6300e-003		3.6300e-003	3.6300e-003	0.0000	217.0264	217.0264	0.0477	0.0000	218.2200
Total	**0.0288**	**0.1808**	**1.5677**	**2.4400e-003**		**3.6300e-003**	**3.6300e-003**		**3.6300e-003**	**3.6300e-003**	**0.0000**	**217.0264**	**217.0264**	**0.0477**	**0.0000**	**218.2200**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0113	0.3033	0.0813	6.0000e-004	0.0145	2.5800e-003	0.0171	4.1800e-003	2.4700e-003	6.6500e-003	0.0000	57.6310	57.6310	4.3100e-003	0.0000	57.7389
Worker	0.0358	0.0299	0.3183	7.2000e-004	0.0656	5.5000e-004	0.0662	0.0174	5.1000e-004	0.0179	0.0000	64.7559	64.7559	2.4500e-003	0.0000	64.8171
Total	**0.0471**	**0.3332**	**0.3995**	**1.3200e-003**	**0.0801**	**3.1300e-003**	**0.0832**	**0.0216**	**2.9800e-003**	**0.0246**	**0.0000**	**122.3869**	**122.3869**	**6.7600e-003**	**0.0000**	**122.5559**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3222	2.8169	2.1618	3.4000e-003		0.1794	0.1794		0.1699	0.1699	0.0000	299.0518	299.0518	0.0650	0.0000	300.6764
Total	**0.3222**	**2.8169**	**2.1618**	**3.4000e-003**		**0.1794**	**0.1794**		**0.1699**	**0.1699**	**0.0000**	**299.0518**	**299.0518**	**0.0650**	**0.0000**	**300.6764**

3.5 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0139	0.3956	0.1019	8.3000e-004	0.0202	2.8500e-003	0.0230	5.8200e-003	2.7300e-003	8.5500e-003	0.0000	79.9308	79.9308	5.6900e-003	0.0000	80.0730
Worker	0.0442	0.0362	0.3883	9.7000e-004	0.0913	7.4000e-004	0.0920	0.0242	6.8000e-004	0.0249	0.0000	87.5683	87.5683	2.9900e-003	0.0000	87.6430
Total	**0.0581**	**0.4318**	**0.4902**	**1.8000e-003**	**0.1115**	**3.5900e-003**	**0.1150**	**0.0301**	**3.4100e-003**	**0.0335**	**0.0000**	**167.4991**	**167.4991**	**8.6800e-003**	**0.0000**	**167.7160**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0400	0.2515	2.1811	3.4000e-003		5.0500e-003	5.0500e-003		5.0500e-003	5.0500e-003	0.0000	299.0515	299.0515	0.0650	0.0000	300.6761
Total	**0.0400**	**0.2515**	**2.1811**	**3.4000e-003**		**5.0500e-003**	**5.0500e-003**		**5.0500e-003**	**5.0500e-003**	**0.0000**	**299.0515**	**299.0515**	**0.0650**	**0.0000**	**300.6761**

3.5 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0139	0.3956	0.1019	8.3000e-004	0.0202	2.8500e-003	0.0230	5.8200e-003	2.7300e-003	8.5500e-003	0.0000	79.9308	79.9308	5.6900e-003	0.0000	80.0730
Worker	0.0442	0.0362	0.3883	9.7000e-004	0.0913	7.4000e-004	0.0920	0.0242	6.8000e-004	0.0249	0.0000	87.5683	87.5683	2.9900e-003	0.0000	87.6430
Total	**0.0581**	**0.4318**	**0.4902**	**1.8000e-003**	**0.1115**	**3.5900e-003**	**0.1150**	**0.0301**	**3.4100e-003**	**0.0335**	**0.0000**	**167.4991**	**167.4991**	**8.6800e-003**	**0.0000**	**167.7160**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0247	0.2628	0.2220	3.4000e-004		0.0143	0.0143		0.0132	0.0132	0.0000	31.2174	31.2174	9.7200e-003	0.0000	31.4604
Paving	7.8600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0325**	**0.2628**	**0.2220**	**3.4000e-004**		**0.0143**	**0.0143**		**0.0132**	**0.0132**	**0.0000**	**31.2174**	**31.2174**	**9.7200e-003**	**0.0000**	**31.4604**

3.6 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5000e-004	7.0000e-004	7.4700e-003	2.0000e-005	1.7600e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.6840	1.6840	6.0000e-005	0.0000	1.6854
Total	**8.5000e-004**	**7.0000e-004**	**7.4700e-003**	**2.0000e-005**	**1.7600e-003**	**1.0000e-005**	**1.7700e-003**	**4.7000e-004**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**1.6840**	**1.6840**	**6.0000e-005**	**0.0000**	**1.6854**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.2100e-003	0.0182	0.2594	3.4000e-004		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0000	31.2174	31.2174	9.7200e-003	0.0000	31.4604
Paving	7.8600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0121**	**0.0182**	**0.2594**	**3.4000e-004**		**5.6000e-004**	**5.6000e-004**		**5.6000e-004**	**5.6000e-004**	**0.0000**	**31.2174**	**31.2174**	**9.7200e-003**	**0.0000**	**31.4604**

3.6 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.5000e-004	7.0000e-004	7.4700e-003	2.0000e-005	1.7600e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.6840	1.6840	6.0000e-005	0.0000	1.6854
Total	**8.5000e-004**	**7.0000e-004**	**7.4700e-003**	**2.0000e-005**	**1.7600e-003**	**1.0000e-005**	**1.7700e-003**	**4.7000e-004**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**1.6840**	**1.6840**	**6.0000e-005**	**0.0000**	**1.6854**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0193					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.9700e-003	0.0401	0.0371	6.0000e-005		3.0100e-003	3.0100e-003		3.0100e-003	3.0100e-003	0.0000	5.1065	5.1065	4.9000e-004	0.0000	5.1187
Total	**0.0253**	**0.0401**	**0.0371**	**6.0000e-005**		**3.0100e-003**	**3.0100e-003**		**3.0100e-003**	**3.0100e-003**	**0.0000**	**5.1065**	**5.1065**	**4.9000e-004**	**0.0000**	**5.1187**

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3800e-003	1.1300e-003	0.0121	3.0000e-005	2.8500e-003	2.0000e-005	2.8800e-003	7.6000e-004	2.0000e-005	7.8000e-004	0.0000	2.7365	2.7365	9.0000e-005	0.0000	2.7388
Total	**1.3800e-003**	**1.1300e-003**	**0.0121**	**3.0000e-005**	**2.8500e-003**	**2.0000e-005**	**2.8800e-003**	**7.6000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.7365**	**2.7365**	**9.0000e-005**	**0.0000**	**2.7388**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0193					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.9000e-004	2.5800e-003	0.0367	6.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	5.1065	5.1065	4.9000e-004	0.0000	5.1186
Total	**0.0199**	**2.5800e-003**	**0.0367**	**6.0000e-005**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**5.1065**	**5.1065**	**4.9000e-004**	**0.0000**	**5.1186**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3800e-003	1.1300e-003	0.0121	3.0000e-005	2.8500e-003	2.0000e-005	2.8800e-003	7.6000e-004	2.0000e-005	7.8000e-004	0.0000	2.7365	2.7365	9.0000e-005	0.0000	2.7388
Total	**1.3800e-003**	**1.1300e-003**	**0.0121**	**3.0000e-005**	**2.8500e-003**	**2.0000e-005**	**2.8800e-003**	**7.6000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.7365**	**2.7365**	**9.0000e-005**	**0.0000**	**2.7388**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Manufacturing	16.60	0.00	0.00	100.00	0.00	0.00	100	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Manufacturing	0.546418	0.044132	0.199182	0.124467	0.017484	0.005870	0.020172	0.031831	0.001999	0.002027	0.004724	0.000704	0.000991
Parking Lot	0.546418	0.044132	0.199182	0.124467	0.017484	0.005870	0.020172	0.031831	0.001999	0.002027	0.004724	0.000704	0.000991

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4,213.574 2	4,213.574 2	0.1354	0.0280	4,225.3111
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4,213.574 2	4,213.574 2	0.1354	0.0280	4,225.3111
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Manufacturing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Manufacturing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Manufacturing	1.02965e +007	4,213.574 2	0.1354	0.0280	4,225.3111
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**4,213.574 2**	**0.1354**	**0.0280**	**4,225.311 1**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Manufacturing	1.02965e +007	4,213.574 2	0.1354	0.0280	4,225.3111
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**4,213.574 2**	**0.1354**	**0.0280**	**4,225.311 1**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7467	7.0000e-005	7.0900e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0137	0.0137	4.0000e-005	0.0000	0.0146
Unmitigated	0.7467	7.0000e-005	7.0900e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0137	0.0137	4.0000e-005	0.0000	0.0146

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.9300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7441					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.7000e-004	7.0000e-005	7.0900e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0137	0.0137	4.0000e-005	0.0000	0.0146
Total	**0.7467**	**7.0000e-005**	**7.0900e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0137**	**0.0137**	**4.0000e-005**	**0.0000**	**0.0146**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.9300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7441					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.7000e-004	7.0000e-005	7.0900e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0137	0.0137	4.0000e-005	0.0000	0.0146
Total	**0.7467**	**7.0000e-005**	**7.0900e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0137**	**0.0137**	**4.0000e-005**	**0.0000**	**0.0146**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	174.3854	1.0118	0.0249	207.0881
Unmitigated	174.3854	1.0118	0.0249	207.0881

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Manufacturing	30.888 / 0	174.3854	1.0118	0.0249	207.0881
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**174.3854**	**1.0118**	**0.0249**	**207.0881**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Manufacturing	30.888 / 0	174.3854	1.0118	0.0249	207.0881
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**174.3854**	**1.0118**	**0.0249**	**207.0881**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	51.2106	3.0265	0.0000	126.8720
Unmitigated	51.2106	3.0265	0.0000	126.8720

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Manufacturing	252.28	51.2106	3.0265	0.0000	126.8720
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**51.2106**	**3.0265**	**0.0000**	**126.8720**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Manufacturing	252.28	51.2106	3.0265	0.0000	126.8720
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**51.2106**	**3.0265**	**0.0000**	**126.8720**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Aerial Lifts	0	2.00	312	63	0.31	Diesel
Cranes	0	8.00	6	170	0.29	Diesel
Cranes	0	2.00	312	170	0.29	Diesel
Forklifts	0	2.00	312	89	0.20	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Aerial Lifts	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cranes	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Forklifts	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	0	1.5	250	500	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (300 - 600 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

11.0 Vegetation

Berth 240 Transportation Vessels Manufacturing Facility Project

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Manufacturing	203.45	1000sqft	10.00	203,450.00	750
Parking Lot	347.00	Space	6.00	138,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2019
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	902.18	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project is located in the Port of Los Angeles, in the SCAB. With RPS.

Land Use - Based on applicant provided data.

Construction Phase - Construction Schedule based on applicant provided data.

Off-road Equipment - CalEEMod defaults.

Off-road Equipment - CalEEMod defaults.

Off-road Equipment - CalEEMod defaults.

Off-road Equipment - CalEEMod defaults.

Off-road Equipment - CalEEMod defaults.

Off-road Equipment - CalEEMod defaults.

Trips and VMT - CalEEMod defaults.

On-road Fugitive Dust - CalEEMod defaults.

Demolition - Based on applicant provided data.

Grading - CalEEMod defaults.

Architectural Coating - The applicant has committed to using 0 VOC architectural coatings.

Vehicle Trips - Calculated outside of CalEEMod.

Vehicle Emission Factors - CalEEMod defaults.

Vehicle Emission Factors - CalEEMod defaults.

Vehicle Emission Factors - CalEEMod defaults.

Road Dust - CalEEMod defaults.

Woodstoves - No hearths.

Consumer Products - Emissions accounted for in facility wide VOC emissions.

Area Coating - Applicant has committed to using 0 VOC architectural coatings.

Landscape Equipment - CalEEMod defaults.

Energy Use - Energy use provided by project applicant.

Water And Wastewater - Based on an estimated 99,000 gallons per day.

Solid Waste - CalEEMod defaults.

Land Use Change - No land use change.

Sequestration - No sequestration.

Construction Off-road Equipment Mitigation - Tier 4 required from POLA CAAP

Mobile Land Use Mitigation - No traffic mitigation.

Mobile Commute Mitigation - No commute mitigation.

Area Mitigation - Project will use 0 VOC architectural coatings.

Energy Mitigation - No energy mitigation.

Water Mitigation - No water use mitigation.

Waste Mitigation - No solid waste mitigation.

Operational Off-Road Equipment - Calculated outside of CalEEMod.

Fleet Mix - Calculated outside of CalEEMod.

Stationary Sources - Emergency Generators and Fire Pumps - Calculated outside of CalEEMod.

Stationary Sources - Process Boilers - CalEEMod defaults.

Stationary Sources - User Defined -

Stationary Sources - Emergency Generators and Fire Pumps EF - CalEEMod defaults.

Stationary Sources - Process Boilers EF - CalEEMod defaults.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	101,725.00	83,732.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	305,175.00	251,195.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_Nonresidential_Exterior	101725	83732
tblAreaCoating	Area_Nonresidential_Interior	305175	251195
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

tblEnergyUse	LightingElect	3.10	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	NT24E	5.75	0.00
tblEnergyUse	NT24NG	4.45	0.00
tblEnergyUse	T24E	2.25	50.61
tblEnergyUse	T24NG	13.65	0.00
tblGrading	AcresOfGrading	112.50	75.00
tblLandUse	LotAcreage	4.67	10.00
tblLandUse	LotAcreage	3.12	6.00
tblLandUse	Population	0.00	750.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	312.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	6.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	312.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	312.00
tblOperationalOffRoadEquipment	OperHorsePower	231.00	170.00
tblOperationalOffRoadEquipment	OperHorsePower	231.00	170.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	2.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	2.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	2.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	902.18
tblTripsAndVMT	VendorTripNumber	56.00	50.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	144.00	130.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	29.00	26.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	28.00	0.00

tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.49	0.00
tblVehicleTrips	SU_TR	0.62	0.00
tblVehicleTrips	WD_TR	3.82	0.00
tblWater	IndoorWaterUseRate	47,047,812.50	30,888,000.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	8.7436	101.9981	59.3137	0.0956	27.3006	4.6109	31.6201	14.9494	4.2420	18.9233	0.0000	9,768.1997	9,768.1997	2.9255	0.0000	9,841.3383
2018	5.9473	50.5746	41.8105	0.0821	1.7731	2.8588	4.6320	0.4775	2.7083	3.1858	0.0000	8,129.2005	8,129.2005	1.2682	0.0000	8,160.9042
Maximum	**8.7436**	**101.9981**	**59.3137**	**0.0956**	**27.3006**	**4.6109**	**31.6201**	**14.9494**	**4.2420**	**18.9233**	**0.0000**	**9,768.1997**	**9,768.1997**	**2.9255**	**0.0000**	**9,841.3383**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	1.6541	10.9600	50.6386	0.0956	10.7700	0.1542	10.8647	5.8628	0.1540	5.9575	0.0000	9,768.1997	9,768.1997	2.9255	0.0000	9,841.3383
2018	2.1295	10.4912	42.1115	0.0821	1.7731	0.1348	1.9079	0.4775	0.1320	0.6095	0.0000	8,129.2004	8,129.2004	1.2682	0.0000	8,160.9042
Maximum	**2.1295**	**10.9600**	**50.6386**	**0.0956**	**10.7700**	**0.1542**	**10.8647**	**5.8628**	**0.1540**	**5.9575**	**0.0000**	**9,768.1997**	**9,768.1997**	**2.9255**	**0.0000**	**9,841.3383**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**74.25**	**85.94**	**8.28**	**0.00**	**56.86**	**96.13**	**64.77**	**58.90**	**95.89**	**70.30**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.0934	5.3000e-004	0.0568	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1205	0.1205	3.3000e-004		0.1286
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Offroad	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**4.0934**	**5.3000e-004**	**0.0568**	**0.0000**	**0.0000**	**2.0000e-004**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**2.0000e-004**		**0.1205**	**0.1205**	**3.3000e-004**	**0.0000**	**0.1286**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.0934	5.3000e-004	0.0568	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1205	0.1205	3.3000e-004		0.1286
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Offroad	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**4.0934**	**5.3000e-004**	**0.0568**	**0.0000**	**0.0000**	**2.0000e-004**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**2.0000e-004**		**0.1205**	**0.1205**	**3.3000e-004**	**0.0000**	**0.1286**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2017	6/28/2017	5	20	
2	Site Preparation	Site Preparation	6/29/2017	7/12/2017	5	10	
3	Grading	Grading	7/13/2017	8/23/2017	5	30	
4	Building Construction	Building Construction	8/24/2017	6/27/2018	5	220	
5	Paving	Paving	6/28/2018	7/25/2018	5	20	
6	Architectural Coating	Architectural Coating	7/26/2018	8/22/2018	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 6

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 251,195; Non-Residential Outdoor: 83,732; Striped Parking Area: 8,328 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	12.00	81	0.73
Demolition	Excavators	3	12.00	158	0.38
Demolition	Rubber Tired Dozers	2	12.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	12.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	12.00	97	0.37
Grading	Excavators	2	12.00	158	0.38
Grading	Graders	1	12.00	187	0.41
Grading	Rubber Tired Dozers	1	12.00	247	0.40
Grading	Scrapers	2	12.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	12.00	97	0.37
Building Construction	Cranes	1	12.00	231	0.29
Building Construction	Forklifts	3	12.00	89	0.20
Building Construction	Generator Sets	2	12.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	12.00	97	0.37
Building Construction	Welders	1	12.00	46	0.45
Paving	Pavers	2	12.00	130	0.42
Paving	Paving Equipment	2	12.00	132	0.36
Paving	Rollers	2	12.00	80	0.38
Architectural Coating	Air Compressors	1	12.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	16.00	0.00	42.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	130.00	50.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	16.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	26.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4503	0.0000	0.4503	0.0682	0.0000	0.0682			0.0000			0.0000
Off-Road	6.1547	64.1212	34.5183	0.0582		3.2902	3.2902		3.0638	3.0638		5,886.4250	5,886.4250	1.6094		5,926.6604
Total	**6.1547**	**64.1212**	**34.5183**	**0.0582**	**0.4503**	**3.2902**	**3.7405**	**0.0682**	**3.0638**	**3.1320**		**5,886.4250**	**5,886.4250**	**1.6094**		**5,926.6604**

3.2 Demolition - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0209	0.6992	0.1285	1.6800e-003	0.0367	3.7700e-003	0.0405	0.0101	3.6100e-003	0.0137		181.3646	181.3646	0.0126		181.6806
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0969	0.0709	0.9119	2.0200e-003	0.1788	1.4800e-003	0.1803	0.0474	1.3600e-003	0.0488		200.6962	200.6962	7.5600e-003		200.8852
Total	**0.1178**	**0.7702**	**1.0404**	**3.7000e-003**	**0.2155**	**5.2500e-003**	**0.2208**	**0.0575**	**4.9700e-003**	**0.0625**		**382.0608**	**382.0608**	**0.0202**		**382.5659**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1756	0.0000	0.1756	0.0266	0.0000	0.0266			0.0000			0.0000
Off-Road	0.6934	3.0048	34.9198	0.0582		0.0925	0.0925		0.0925	0.0925	0.0000	5,886.4250	5,886.4250	1.6094		5,926.6604
Total	**0.6934**	**3.0048**	**34.9198**	**0.0582**	**0.1756**	**0.0925**	**0.2681**	**0.0266**	**0.0925**	**0.1191**	**0.0000**	**5,886.4250**	**5,886.4250**	**1.6094**		**5,926.6604**

3.2 Demolition - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0209	0.6992	0.1285	1.6800e-003	0.0367	3.7700e-003	0.0405	0.0101	3.6100e-003	0.0137		181.3646	181.3646	0.0126		181.6806
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0969	0.0709	0.9119	2.0200e-003	0.1788	1.4800e-003	0.1803	0.0474	1.3600e-003	0.0488		200.6962	200.6962	7.5600e-003		200.8852
Total	**0.1178**	**0.7702**	**1.0404**	**3.7000e-003**	**0.2155**	**5.2500e-003**	**0.2208**	**0.0575**	**4.9700e-003**	**0.0625**		**382.0608**	**382.0608**	**0.0202**		**382.5659**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					27.0994	0.0000	27.0994	14.8960	0.0000	14.8960			0.0000			0.0000
Off-Road	7.4412	78.4131	35.1831	0.0571		4.3178	4.3178		3.9724	3.9724		5,842.4250	5,842.4250	1.7901		5,887.1778
Total	**7.4412**	**78.4131**	**35.1831**	**0.0571**	**27.0994**	**4.3178**	**31.4172**	**14.8960**	**3.9724**	**18.8684**		**5,842.4250**	**5,842.4250**	**1.7901**		**5,887.1778**

3.3 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1090	0.0798	1.0259	2.2700e-003	0.2012	1.6600e-003	0.2029	0.0534	1.5300e-003	0.0549		225.7832	225.7832	8.5100e-003		225.9959
Total	**0.1090**	**0.0798**	**1.0259**	**2.2700e-003**	**0.2012**	**1.6600e-003**	**0.2029**	**0.0534**	**1.5300e-003**	**0.0549**		**225.7832**	**225.7832**	**8.5100e-003**		**225.9959**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					10.5688	0.0000	10.5688	5.8095	0.0000	5.8095			0.0000			0.0000
Off-Road	0.6984	3.0262	31.3035	0.0571		0.0931	0.0931		0.0931	0.0931	0.0000	5,842.4250	5,842.4250	1.7901		5,887.1777
Total	**0.6984**	**3.0262**	**31.3035**	**0.0571**	**10.5688**	**0.0931**	**10.6619**	**5.8095**	**0.0931**	**5.9026**	**0.0000**	**5,842.4250**	**5,842.4250**	**1.7901**		**5,887.1777**

3.3 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1090	0.0798	1.0259	2.2700e-003	0.2012	1.6600e-003	0.2029	0.0534	1.5300e-003	0.0549		225.7832	225.7832	8.5100e-003		225.9959
Total	**0.1090**	**0.0798**	**1.0259**	**2.2700e-003**	**0.2012**	**1.6600e-003**	**0.2029**	**0.0534**	**1.5300e-003**	**0.0549**		**225.7832**	**225.7832**	**8.5100e-003**		**225.9959**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					11.6844	0.0000	11.6844	5.2516	0.0000	5.2516			0.0000			0.0000
Off-Road	8.6225	101.9094	58.1738	0.0930		4.6091	4.6091		4.2403	4.2403		9,517.3295	9,517.3295	2.9161		9,590.2318
Total	**8.6225**	**101.9094**	**58.1738**	**0.0930**	**11.6844**	**4.6091**	**16.2934**	**5.2516**	**4.2403**	**9.4919**		**9,517.3295**	**9,517.3295**	**2.9161**		**9,590.2318**

3.4 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1211	0.0887	1.1399	2.5200e-003	0.2236	1.8400e-003	0.2254	0.0593	1.7000e-003	0.0610		250.8703	250.8703	9.4500e-003		251.1065
Total	**0.1211**	**0.0887**	**1.1399**	**2.5200e-003**	**0.2236**	**1.8400e-003**	**0.2254**	**0.0593**	**1.7000e-003**	**0.0610**		**250.8703**	**250.8703**	**9.4500e-003**		**251.1065**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5569	0.0000	4.5569	2.0481	0.0000	2.0481			0.0000			0.0000
Off-Road	1.1423	4.9501	49.4987	0.0930		0.1523	0.1523		0.1523	0.1523	0.0000	9,517.3295	9,517.3295	2.9161		9,590.2318
Total	**1.1423**	**4.9501**	**49.4987**	**0.0930**	**4.5569**	**0.1523**	**4.7092**	**2.0481**	**0.1523**	**2.2004**	**0.0000**	**9,517.3295**	**9,517.3295**	**2.9161**		**9,590.2318**

3.4 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1211	0.0887	1.1399	2.5200e-003	0.2236	1.8400e-003	0.2254	0.0593	1.7000e-003	0.0610		250.8703	250.8703	9.4500e-003		251.1065
Total	**0.1211**	**0.0887**	**1.1399**	**2.5200e-003**	**0.2236**	**1.8400e-003**	**0.2254**	**0.0593**	**1.7000e-003**	**0.0610**		**250.8703**	**250.8703**	**9.4500e-003**		**251.1065**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.8299	49.7147	34.8088	0.0531		3.3269	3.3269		3.1481	3.1481		5,200.6721	5,200.6721	1.1441		5,229.2741
Total	**5.8299**	**49.7147**	**34.8088**	**0.0531**		**3.3269**	**3.3269**		**3.1481**	**3.1481**		**5,200.6721**	**5,200.6721**	**1.1441**		**5,229.2741**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2420	6.4538	1.6777	0.0131	0.3200	0.0558	0.3758	0.0921	0.0534	0.1455		1,397.229 5	1,397.229 5	0.1001		1,399.731 7
Worker	0.7870	0.5764	7.4091	0.0164	1.4531	0.0120	1.4651	0.3854	0.0111	0.3964		1,630.656 7	1,630.656 7	0.0614		1,632.192 4
Total	**1.0290**	**7.0302**	**9.0868**	**0.0295**	**1.7731**	**0.0678**	**1.8409**	**0.4775**	**0.0645**	**0.5420**		**3,027.886 2**	**3,027.886 2**	**0.1615**		**3,031.924 0**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6251	3.9298	34.0797	0.0531		0.0790	0.0790		0.0790	0.0790	0.0000	5,200.672 1	5,200.672 1	1.1441		5,229.274 1
Total	**0.6251**	**3.9298**	**34.0797**	**0.0531**		**0.0790**	**0.0790**		**0.0790**	**0.0790**	**0.0000**	**5,200.672 1**	**5,200.672 1**	**1.1441**		**5,229.274 1**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2420	6.4538	1.6777	0.0131	0.3200	0.0558	0.3758	0.0921	0.0534	0.1455		1,397.229 5	1,397.229 5	0.1001		1,399.731 7
Worker	0.7870	0.5764	7.4091	0.0164	1.4531	0.0120	1.4651	0.3854	0.0111	0.3964		1,630.656 7	1,630.656 7	0.0614		1,632.192 4
Total	**1.0290**	**7.0302**	**9.0868**	**0.0295**	**1.7731**	**0.0678**	**1.8409**	**0.4775**	**0.0645**	**0.5420**		**3,027.886 2**	**3,027.886 2**	**0.1615**		**3,031.924 0**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.0340	44.0132	33.7787	0.0531		2.8030	2.8030		2.6553	2.6553		5,150.753 1	5,150.753 1	1.1193		5,178.735 0
Total	**5.0340**	**44.0132**	**33.7787**	**0.0531**		**2.8030**	**2.8030**		**2.6553**	**2.6553**		**5,150.753 1**	**5,150.753 1**	**1.1193**		**5,178.735 0**

3.5 Building Construction - 2018

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2128	6.0592	1.5090	0.0131	0.3200	0.0443	0.3643	0.0921	0.0424	0.1345		1,393.290 2	1,393.290 2	0.0948		1,395.660 8
Worker	0.7005	0.5022	6.5228	0.0159	1.4531	0.0116	1.4647	0.3854	0.0107	0.3960		1,585.157 2	1,585.157 2	0.0541		1,586.508 4
Total	**0.9132**	**6.5614**	**8.0318**	**0.0290**	**1.7731**	**0.0559**	**1.8290**	**0.4775**	**0.0530**	**0.5305**		**2,978.447 3**	**2,978.447 3**	**0.1489**		**2,982.169 3**

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Off-Road	0.6251	3.9298	34.0797	0.0531		0.0790	0.0790		0.0790	0.0790	0.0000	5,150.753 1	5,150.753 1	1.1193		5,178.735 0
Total	**0.6251**	**3.9298**	**34.0797**	**0.0531**		**0.0790**	**0.0790**		**0.0790**	**0.0790**	**0.0000**	**5,150.753 1**	**5,150.753 1**	**1.1193**		**5,178.735 0**

3.5 Building Construction - 2018

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2128	6.0592	1.5090	0.0131	0.3200	0.0443	0.3643	0.0921	0.0424	0.1345		1,393.290 2	1,393.290 2	0.0948		1,395.660 8
Worker	0.7005	0.5022	6.5228	0.0159	1.4531	0.0116	1.4647	0.3854	0.0107	0.3960		1,585.157 2	1,585.157 2	0.0541		1,586.508 4
Total	**0.9132**	**6.5614**	**8.0318**	**0.0290**	**1.7731**	**0.0559**	**1.8290**	**0.4775**	**0.0530**	**0.5305**		**2,978.447 3**	**2,978.447 3**	**0.1489**		**2,982.169 3**

3.6 Paving - 2018

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Off-Road	2.4656	26.2814	22.1946	0.0342		1.4342	1.4342		1.3195	1.3195		3,441.133 1	3,441.133 1	1.0713		3,467.914 9
Paving	0.7860					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**3.2516**	**26.2814**	**22.1946**	**0.0342**		**1.4342**	**1.4342**		**1.3195**	**1.3195**		**3,441.133 1**	**3,441.133 1**	**1.0713**		**3,467.914 9**

3.6 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0862	0.0618	0.8028	1.9600e-003	0.1788	1.4300e-003	0.1803	0.0474	1.3100e-003	0.0487		195.0963	195.0963	6.6500e-003		195.2626
Total	**0.0862**	**0.0618**	**0.8028**	**1.9600e-003**	**0.1788**	**1.4300e-003**	**0.1803**	**0.0474**	**1.3100e-003**	**0.0487**		**195.0963**	**195.0963**	**6.6500e-003**		**195.2626**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4207	1.8231	25.9435	0.0342		0.0561	0.0561		0.0561	0.0561	0.0000	3,441.1331	3,441.1331	1.0713		3,467.9149
Paving	0.7860					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2067**	**1.8231**	**25.9435**	**0.0342**		**0.0561**	**0.0561**		**0.0561**	**0.0561**	**0.0000**	**3,441.1331**	**3,441.1331**	**1.0713**		**3,467.9149**

3.6 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0862	0.0618	0.8028	1.9600e-003	0.1788	1.4300e-003	0.1803	0.0474	1.3100e-003	0.0487		195.0963	195.0963	6.6500e-003		195.2626
Total	**0.0862**	**0.0618**	**0.8028**	**1.9600e-003**	**0.1788**	**1.4300e-003**	**0.1803**	**0.0474**	**1.3100e-003**	**0.0487**		**195.0963**	**195.0963**	**6.6500e-003**		**195.2626**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.9300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5973	4.0115	3.7084	5.9400e-003		0.3011	0.3011		0.3011	0.3011		562.8971	562.8971	0.0535		564.2343
Total	**2.5273**	**4.0115**	**3.7084**	**5.9400e-003**		**0.3011**	**0.3011**		**0.3011**	**0.3011**		**562.8971**	**562.8971**	**0.0535**		**564.2343**

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1401	0.1004	1.3046	3.1900e-003	0.2906	2.3200e-003	0.2929	0.0771	2.1400e-003	0.0792		317.0314	317.0314	0.0108		317.3017
Total	**0.1401**	**0.1004**	**1.3046**	**3.1900e-003**	**0.2906**	**2.3200e-003**	**0.2929**	**0.0771**	**2.1400e-003**	**0.0792**		**317.0314**	**317.0314**	**0.0108**		**317.3017**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.9300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	0.2575	3.6648	5.9400e-003		7.9200e-003	7.9200e-003		7.9200e-003	7.9200e-003	0.0000	562.8971	562.8971	0.0535		564.2343
Total	**1.9894**	**0.2575**	**3.6648**	**5.9400e-003**		**7.9200e-003**	**7.9200e-003**		**7.9200e-003**	**7.9200e-003**	**0.0000**	**562.8971**	**562.8971**	**0.0535**		**564.2343**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1401	0.1004	1.3046	3.1900e-003	0.2906	2.3200e-003	0.2929	0.0771	2.1400e-003	0.0792		317.0314	317.0314	0.0108		317.3017
Total	**0.1401**	**0.1004**	**1.3046**	**3.1900e-003**	**0.2906**	**2.3200e-003**	**0.2929**	**0.0771**	**2.1400e-003**	**0.0792**		**317.0314**	**317.0314**	**0.0108**		**317.3017**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Manufacturing	16.60	0.00	0.00	100.00	0.00	0.00	100	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Manufacturing	0.546418	0.044132	0.199182	0.124467	0.017484	0.005870	0.020172	0.031831	0.001999	0.002027	0.004724	0.000704	0.000991
Parking Lot	0.546418	0.044132	0.199182	0.124467	0.017484	0.005870	0.020172	0.031831	0.001999	0.002027	0.004724	0.000704	0.000991

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Manufacturing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Manufacturing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Mitigated	4.0934	5.3000e-004	0.0568	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1205	0.1205	3.3000e-004		0.1286
Unmitigated	4.0934	5.3000e-004	0.0568	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1205	0.1205	3.3000e-004		0.1286

6.2 Area by SubCategory

Unmitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Architectural Coating	0.0106					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.0775					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.3800e-003	5.3000e-004	0.0568	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1205	0.1205	3.3000e-004		0.1286
Total	**4.0934**	**5.3000e-004**	**0.0568**	**0.0000**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**		**0.1205**	**0.1205**	**3.3000e-004**		**0.1286**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0106					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.0775					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.3800e-003	5.3000e-004	0.0568	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1205	0.1205	3.3000e-004		0.1286
Total	**4.0934**	**5.3000e-004**	**0.0568**	**0.0000**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**		**0.1205**	**0.1205**	**3.3000e-004**		**0.1286**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Aerial Lifts	0	2.00	312	63	0.31	Diesel
Cranes	0	8.00	6	170	0.29	Diesel
Cranes	0	2.00	312	170	0.29	Diesel
Forklifts	0	2.00	312	89	0.20	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Aerial Lifts	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Cranes	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Forklifts	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	0	1.5	250	500	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (300 - 600 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

11.0 Vegetation

Berth 240 Transportation Vessels Manufacturing Facility Project

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Manufacturing	203.45	1000sqft	10.00	203,450.00	750
Parking Lot	347.00	Space	6.00	138,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2019
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	902.18	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project is located in the Port of Los Angeles, in the SCAB. With RPS.

Land Use - Based on applicant provided data.

Construction Phase - Construction Schedule based on applicant provided data.

Off-road Equipment - CalEEMod defaults.

Off-road Equipment - CalEEMod defaults.

Off-road Equipment - CalEEMod defaults.

Off-road Equipment - CalEEMod defaults.

Off-road Equipment - CalEEMod defaults.

Off-road Equipment - CalEEMod defaults.

Trips and VMT - CalEEMod defaults.

On-road Fugitive Dust - CalEEMod defaults.

Demolition - Based on applicant provided data.

Grading - CalEEMod defaults.

Architectural Coating - The applicant has committed to using 0 VOC architectural coatings.

Vehicle Trips - Calculated outside of CalEEMod.

Vehicle Emission Factors - CalEEMod defaults.

Vehicle Emission Factors - CalEEMod defaults.

Vehicle Emission Factors - CalEEMod defaults.

Road Dust - CalEEMod defaults.

Woodstoves - No hearths.

Consumer Products - Emissions accounted for in facility wide VOC emissions.

Area Coating - Applicant has committed to using 0 VOC architectural coatings.

Landscape Equipment - CalEEMod defaults.

Energy Use - Energy use provided by project applicant.

Water And Wastewater - Based on an estimated 99,000 gallons per day.

Solid Waste - CalEEMod defaults.

Land Use Change - No land use change.

Sequestration - No sequestration.

Construction Off-road Equipment Mitigation - Tier 4 required from POLA CAAP

Mobile Land Use Mitigation - No traffic mitigation.

Mobile Commute Mitigation - No commute mitigation.

Area Mitigation - Project will use 0 VOC architectural coatings.

Energy Mitigation - No energy mitigation.

Water Mitigation - No water use mitigation.

Waste Mitigation - No solid waste mitigation.

Operational Off-Road Equipment - Calculated outside of CalEEMod.

Fleet Mix - Calculated outside of CalEEMod.

Stationary Sources - Emergency Generators and Fire Pumps - Calculated outside of CalEEMod.

Stationary Sources - Process Boilers - CalEEMod defaults.

Stationary Sources - User Defined -

Stationary Sources - Emergency Generators and Fire Pumps EF - CalEEMod defaults.

Stationary Sources - Process Boilers EF - CalEEMod defaults.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	101,725.00	83,732.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	305,175.00	251,195.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_Nonresidential_Exterior	101725	83732
tblAreaCoating	Area_Nonresidential_Interior	305175	251195
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

tblEnergyUse	LightingElect	3.10	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	NT24E	5.75	0.00
tblEnergyUse	NT24NG	4.45	0.00
tblEnergyUse	T24E	2.25	50.61
tblEnergyUse	T24NG	13.65	0.00
tblGrading	AcresOfGrading	112.50	75.00
tblLandUse	LotAcreage	4.67	10.00
tblLandUse	LotAcreage	3.12	6.00
tblLandUse	Population	0.00	750.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	312.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	6.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	312.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	312.00
tblOperationalOffRoadEquipment	OperHorsePower	231.00	170.00
tblOperationalOffRoadEquipment	OperHorsePower	231.00	170.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	2.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	2.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	2.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	902.18
tblTripsAndVMT	VendorTripNumber	56.00	50.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	144.00	130.00
tblTripsAndVMT	WorkerTripNumber	15.00	16.00
tblTripsAndVMT	WorkerTripNumber	29.00	26.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	28.00	0.00

tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.49	0.00
tblVehicleTrips	SU_TR	0.62	0.00
tblVehicleTrips	WD_TR	3.82	0.00
tblWater	IndoorWaterUseRate	47,047,812.50	30,888,000.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	8.7540	102.0066	59.2105	0.0954	27.3006	4.6109	31.6201	14.9494	4.2420	18.9233	0.0000	9,752.0590	9,752.0590	2.9250	0.0000	9,825.1832
2018	6.0177	50.6327	41.3570	0.0807	1.7731	2.8595	4.6326	0.4775	2.7089	3.1864	0.0000	7,987.4183	7,987.4183	1.2717	0.0000	8,019.2120
Maximum	**8.7540**	**102.0066**	**59.2105**	**0.0954**	**27.3006**	**4.6109**	**31.6201**	**14.9494**	**4.2420**	**18.9233**	**0.0000**	**9,752.0590**	**9,752.0590**	**2.9250**	**0.0000**	**9,825.1832**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	1.7323	11.0351	50.5354	0.0954	10.7700	0.1542	10.8647	5.8628	0.1540	5.9575	0.0000	9,752.0590	9,752.0590	2.9250	0.0000	9,825.1832
2018	2.1418	10.5493	41.6580	0.0807	1.7731	0.1355	1.9086	0.4775	0.1326	0.6101	0.0000	7,987.4183	7,987.4183	1.2717	0.0000	8,019.2120
Maximum	**2.1418**	**11.0351**	**50.5354**	**0.0954**	**10.7700**	**0.1542**	**10.8647**	**5.8628**	**0.1540**	**5.9575**	**0.0000**	**9,752.0590**	**9,752.0590**	**2.9250**	**0.0000**	**9,825.1832**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**73.77**	**85.86**	**8.33**	**0.00**	**56.86**	**96.12**	**64.77**	**58.90**	**95.88**	**70.30**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.0934	5.3000e-004	0.0568	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1205	0.1205	3.3000e-004		0.1286
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Offroad	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**4.0934**	**5.3000e-004**	**0.0568**	**0.0000**	**0.0000**	**2.0000e-004**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**2.0000e-004**		**0.1205**	**0.1205**	**3.3000e-004**	**0.0000**	**0.1286**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.0934	5.3000e-004	0.0568	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1205	0.1205	3.3000e-004		0.1286
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Offroad	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**4.0934**	**5.3000e-004**	**0.0568**	**0.0000**	**0.0000**	**2.0000e-004**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**2.0000e-004**		**0.1205**	**0.1205**	**3.3000e-004**	**0.0000**	**0.1286**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2017	6/28/2017	5	20	
2	Site Preparation	Site Preparation	6/29/2017	7/12/2017	5	10	
3	Grading	Grading	7/13/2017	8/23/2017	5	30	
4	Building Construction	Building Construction	8/24/2017	6/27/2018	5	220	
5	Paving	Paving	6/28/2018	7/25/2018	5	20	
6	Architectural Coating	Architectural Coating	7/26/2018	8/22/2018	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 6

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 251,195; Non-Residential Outdoor: 83,732; Striped Parking Area: 8,328 (Architectural Coating – sqft)

OffRoad Equipment

Berth 240 Transportation Vessels Manufacturing Facility Project - South Coast AQMD Air District, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	12.00	81	0.73
Demolition	Excavators	3	12.00	158	0.38
Demolition	Rubber Tired Dozers	2	12.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	12.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	12.00	97	0.37
Grading	Excavators	2	12.00	158	0.38
Grading	Graders	1	12.00	187	0.41
Grading	Rubber Tired Dozers	1	12.00	247	0.40
Grading	Scrapers	2	12.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	12.00	97	0.37
Building Construction	Cranes	1	12.00	231	0.29
Building Construction	Forklifts	3	12.00	89	0.20
Building Construction	Generator Sets	2	12.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	12.00	97	0.37
Building Construction	Welders	1	12.00	46	0.45
Paving	Pavers	2	12.00	130	0.42
Paving	Paving Equipment	2	12.00	132	0.36
Paving	Rollers	2	12.00	80	0.38
Architectural Coating	Air Compressors	1	12.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	16.00	0.00	42.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	130.00	50.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	16.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	26.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4503	0.0000	0.4503	0.0682	0.0000	0.0682			0.0000			0.0000
Off-Road	6.1547	64.1212	34.5183	0.0582		3.2902	3.2902		3.0638	3.0638		5,886.4250	5,886.4250	1.6094		5,926.6604
Total	**6.1547**	**64.1212**	**34.5183**	**0.0582**	**0.4503**	**3.2902**	**3.7405**	**0.0682**	**3.0638**	**3.1320**		**5,886.4250**	**5,886.4250**	**1.6094**		**5,926.6604**

3.2 Demolition - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0215	0.7099	0.1393	1.6600e-003	0.0367	3.8300e-003	0.0405	0.0101	3.6700e-003	0.0137		178.2142	178.2142	0.0132		178.5450
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1053	0.0777	0.8293	1.8900e-003	0.1788	1.4800e-003	0.1803	0.0474	1.3600e-003	0.0488		187.7836	187.7836	7.1000e-003		187.9612
Total	**0.1268**	**0.7876**	**0.9686**	**3.5500e-003**	**0.2155**	**5.3100e-003**	**0.2209**	**0.0575**	**5.0300e-003**	**0.0625**		**365.9978**	**365.9978**	**0.0203**		**366.5061**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1756	0.0000	0.1756	0.0266	0.0000	0.0266			0.0000			0.0000
Off-Road	0.6934	3.0048	34.9198	0.0582		0.0925	0.0925		0.0925	0.0925	0.0000	5,886.4250	5,886.4250	1.6094		5,926.6604
Total	**0.6934**	**3.0048**	**34.9198**	**0.0582**	**0.1756**	**0.0925**	**0.2681**	**0.0266**	**0.0925**	**0.1191**	**0.0000**	**5,886.4250**	**5,886.4250**	**1.6094**		**5,926.6604**

3.2 Demolition - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0215	0.7099	0.1393	1.6600e-003	0.0367	3.8300e-003	0.0405	0.0101	3.6700e-003	0.0137		178.2142	178.2142	0.0132		178.5450
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1053	0.0777	0.8293	1.8900e-003	0.1788	1.4800e-003	0.1803	0.0474	1.3600e-003	0.0488		187.7836	187.7836	7.1000e-003		187.9612
Total	**0.1268**	**0.7876**	**0.9686**	**3.5500e-003**	**0.2155**	**5.3100e-003**	**0.2209**	**0.0575**	**5.0300e-003**	**0.0625**		**365.9978**	**365.9978**	**0.0203**		**366.5061**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					27.0994	0.0000	27.0994	14.8960	0.0000	14.8960			0.0000			0.0000
Off-Road	7.4412	78.4131	35.1831	0.0571		4.3178	4.3178		3.9724	3.9724		5,842.4250	5,842.4250	1.7901		5,887.1778
Total	**7.4412**	**78.4131**	**35.1831**	**0.0571**	**27.0994**	**4.3178**	**31.4172**	**14.8960**	**3.9724**	**18.8684**		**5,842.4250**	**5,842.4250**	**1.7901**		**5,887.1778**

3.3 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1184	0.0875	0.9330	2.1200e-003	0.2012	1.6600e-003	0.2029	0.0534	1.5300e-003	0.0549		211.2566	211.2566	7.9900e-003		211.4563
Total	**0.1184**	**0.0875**	**0.9330**	**2.1200e-003**	**0.2012**	**1.6600e-003**	**0.2029**	**0.0534**	**1.5300e-003**	**0.0549**		**211.2566**	**211.2566**	**7.9900e-003**		**211.4563**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					10.5688	0.0000	10.5688	5.8095	0.0000	5.8095			0.0000			0.0000
Off-Road	0.6984	3.0262	31.3035	0.0571		0.0931	0.0931		0.0931	0.0931	0.0000	5,842.4250	5,842.4250	1.7901		5,887.1777
Total	**0.6984**	**3.0262**	**31.3035**	**0.0571**	**10.5688**	**0.0931**	**10.6619**	**5.8095**	**0.0931**	**5.9026**	**0.0000**	**5,842.4250**	**5,842.4250**	**1.7901**		**5,887.1777**

3.3 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1184	0.0875	0.9330	2.1200e-003	0.2012	1.6600e-003	0.2029	0.0534	1.5300e-003	0.0549		211.2566	211.2566	7.9900e-003		211.4563
Total	**0.1184**	**0.0875**	**0.9330**	**2.1200e-003**	**0.2012**	**1.6600e-003**	**0.2029**	**0.0534**	**1.5300e-003**	**0.0549**		**211.2566**	**211.2566**	**7.9900e-003**		**211.4563**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					11.6844	0.0000	11.6844	5.2516	0.0000	5.2516			0.0000			0.0000
Off-Road	8.6225	101.9094	58.1738	0.0930		4.6091	4.6091		4.2403	4.2403		9,517.3295	9,517.3295	2.9161		9,590.2318
Total	**8.6225**	**101.9094**	**58.1738**	**0.0930**	**11.6844**	**4.6091**	**16.2934**	**5.2516**	**4.2403**	**9.4919**		**9,517.3295**	**9,517.3295**	**2.9161**		**9,590.2318**

3.4 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1316	0.0972	1.0367	2.3600e-003	0.2236	1.8400e-003	0.2254	0.0593	1.7000e-003	0.0610		234.7296	234.7296	8.8800e-003		234.9514
Total	**0.1316**	**0.0972**	**1.0367**	**2.3600e-003**	**0.2236**	**1.8400e-003**	**0.2254**	**0.0593**	**1.7000e-003**	**0.0610**		**234.7296**	**234.7296**	**8.8800e-003**		**234.9514**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5569	0.0000	4.5569	2.0481	0.0000	2.0481			0.0000			0.0000
Off-Road	1.1423	4.9501	49.4987	0.0930		0.1523	0.1523		0.1523	0.1523	0.0000	9,517.3295	9,517.3295	2.9161		9,590.2318
Total	**1.1423**	**4.9501**	**49.4987**	**0.0930**	**4.5569**	**0.1523**	**4.7092**	**2.0481**	**0.1523**	**2.2004**	**0.0000**	**9,517.3295**	**9,517.3295**	**2.9161**		**9,590.2318**

3.4 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1316	0.0972	1.0367	2.3600e-003	0.2236	1.8400e-003	0.2254	0.0593	1.7000e-003	0.0610		234.7296	234.7296	8.8800e-003		234.9514
Total	**0.1316**	**0.0972**	**1.0367**	**2.3600e-003**	**0.2236**	**1.8400e-003**	**0.2254**	**0.0593**	**1.7000e-003**	**0.0610**		**234.7296**	**234.7296**	**8.8800e-003**		**234.9514**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.8299	49.7147	34.8088	0.0531		3.3269	3.3269		3.1481	3.1481		5,200.6721	5,200.6721	1.1441		5,229.2741
Total	**5.8299**	**49.7147**	**34.8088**	**0.0531**		**3.3269**	**3.3269**		**3.1481**	**3.1481**		**5,200.6721**	**5,200.6721**	**1.1441**		**5,229.2741**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2522	6.4737	1.8544	0.0128	0.3200	0.0566	0.3767	0.0921	0.0542	0.1463		1,358.6538	1,358.6538	0.1074		1,361.3389
Worker	0.8551	0.6316	6.7382	0.0153	1.4531	0.0120	1.4651	0.3854	0.0111	0.3964		1,525.7420	1,525.7420	0.0577		1,527.1843
Total	**1.1073**	**7.1053**	**8.5926**	**0.0281**	**1.7731**	**0.0686**	**1.8417**	**0.4775**	**0.0652**	**0.5427**		**2,884.3959**	**2,884.3959**	**0.1651**		**2,888.5233**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6251	3.9298	34.0797	0.0531		0.0790	0.0790		0.0790	0.0790	0.0000	5,200.6721	5,200.6721	1.1441		5,229.2741
Total	**0.6251**	**3.9298**	**34.0797**	**0.0531**		**0.0790**	**0.0790**		**0.0790**	**0.0790**	**0.0000**	**5,200.6721**	**5,200.6721**	**1.1441**		**5,229.2741**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2522	6.4737	1.8544	0.0128	0.3200	0.0566	0.3767	0.0921	0.0542	0.1463		1,358.6538	1,358.6538	0.1074		1,361.3389
Worker	0.8551	0.6316	6.7382	0.0153	1.4531	0.0120	1.4651	0.3854	0.0111	0.3964		1,525.7420	1,525.7420	0.0577		1,527.1843
Total	**1.1073**	**7.1053**	**8.5926**	**0.0281**	**1.7731**	**0.0686**	**1.8417**	**0.4775**	**0.0652**	**0.5427**		**2,884.3959**	**2,884.3959**	**0.1651**		**2,888.5233**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.0340	44.0132	33.7787	0.0531		2.8030	2.8030		2.6553	2.6553		5,150.7531	5,150.7531	1.1193		5,178.7350
Total	**5.0340**	**44.0132**	**33.7787**	**0.0531**		**2.8030**	**2.8030**		**2.6553**	**2.6553**		**5,150.7531**	**5,150.7531**	**1.1193**		**5,178.7350**

3.5 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2221	6.0693	1.6751	0.0127	0.3200	0.0450	0.3650	0.0921	0.0430	0.1351		1,353.782 2	1,353.782 2	0.1019		1,356.329 0
Worker	0.7616	0.5502	5.9032	0.0149	1.4531	0.0116	1.4647	0.3854	0.0107	0.3960		1,482.883 0	1,482.883 0	0.0506		1,484.148 0
Total	**0.9837**	**6.6195**	**7.5783**	**0.0276**	**1.7731**	**0.0565**	**1.8297**	**0.4775**	**0.0537**	**0.5312**		**2,836.665 2**	**2,836.665 2**	**0.1525**		**2,840.477 0**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6251	3.9298	34.0797	0.0531		0.0790	0.0790		0.0790	0.0790	0.0000	5,150.753 1	5,150.753 1	1.1193		5,178.735 0
Total	**0.6251**	**3.9298**	**34.0797**	**0.0531**		**0.0790**	**0.0790**		**0.0790**	**0.0790**	**0.0000**	**5,150.753 1**	**5,150.753 1**	**1.1193**		**5,178.735 0**

3.5 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2221	6.0693	1.6751	0.0127	0.3200	0.0450	0.3650	0.0921	0.0430	0.1351		1,353.782 2	1,353.782 2	0.1019		1,356.329 0
Worker	0.7616	0.5502	5.9032	0.0149	1.4531	0.0116	1.4647	0.3854	0.0107	0.3960		1,482.883 0	1,482.883 0	0.0506		1,484.148 0
Total	**0.9837**	**6.6195**	**7.5783**	**0.0276**	**1.7731**	**0.0565**	**1.8297**	**0.4775**	**0.0537**	**0.5312**		**2,836.665 2**	**2,836.665 2**	**0.1525**		**2,840.477 0**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.4656	26.2814	22.1946	0.0342		1.4342	1.4342		1.3195	1.3195		3,441.133 1	3,441.133 1	1.0713		3,467.914 9
Paving	0.7860					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**3.2516**	**26.2814**	**22.1946**	**0.0342**		**1.4342**	**1.4342**		**1.3195**	**1.3195**		**3,441.133 1**	**3,441.133 1**	**1.0713**		**3,467.914 9**

3.6 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0937	0.0677	0.7266	1.8300e-003	0.1788	1.4300e-003	0.1803	0.0474	1.3100e-003	0.0487		182.5087	182.5087	6.2300e-003		182.6644
Total	**0.0937**	**0.0677**	**0.7266**	**1.8300e-003**	**0.1788**	**1.4300e-003**	**0.1803**	**0.0474**	**1.3100e-003**	**0.0487**		**182.5087**	**182.5087**	**6.2300e-003**		**182.6644**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4207	1.8231	25.9435	0.0342		0.0561	0.0561		0.0561	0.0561	0.0000	3,441.1331	3,441.1331	1.0713		3,467.9149
Paving	0.7860					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2067**	**1.8231**	**25.9435**	**0.0342**		**0.0561**	**0.0561**		**0.0561**	**0.0561**	**0.0000**	**3,441.1331**	**3,441.1331**	**1.0713**		**3,467.9149**

3.6 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0937	0.0677	0.7266	1.8300e-003	0.1788	1.4300e-003	0.1803	0.0474	1.3100e-003	0.0487		182.5087	182.5087	6.2300e-003		182.6644
Total	**0.0937**	**0.0677**	**0.7266**	**1.8300e-003**	**0.1788**	**1.4300e-003**	**0.1803**	**0.0474**	**1.3100e-003**	**0.0487**		**182.5087**	**182.5087**	**6.2300e-003**		**182.6644**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.9300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.5973	4.0115	3.7084	5.9400e-003		0.3011	0.3011		0.3011	0.3011		562.8971	562.8971	0.0535		564.2343
Total	**2.5273**	**4.0115**	**3.7084**	**5.9400e-003**		**0.3011**	**0.3011**		**0.3011**	**0.3011**		**562.8971**	**562.8971**	**0.0535**		**564.2343**

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1523	0.1100	1.1807	2.9800e-003	0.2906	2.3200e-003	0.2929	0.0771	2.1400e-003	0.0792		296.5766	296.5766	0.0101		296.8296
Total	**0.1523**	**0.1100**	**1.1807**	**2.9800e-003**	**0.2906**	**2.3200e-003**	**0.2929**	**0.0771**	**2.1400e-003**	**0.0792**		**296.5766**	**296.5766**	**0.0101**		**296.8296**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	1.9300					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	0.2575	3.6648	5.9400e-003		7.9200e-003	7.9200e-003		7.9200e-003	7.9200e-003	0.0000	562.8971	562.8971	0.0535		564.2343
Total	**1.9894**	**0.2575**	**3.6648**	**5.9400e-003**		**7.9200e-003**	**7.9200e-003**		**7.9200e-003**	**7.9200e-003**	**0.0000**	**562.8971**	**562.8971**	**0.0535**		**564.2343**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1523	0.1100	1.1807	2.9800e-003	0.2906	2.3200e-003	0.2929	0.0771	2.1400e-003	0.0792		296.5766	296.5766	0.0101		296.8296
Total	**0.1523**	**0.1100**	**1.1807**	**2.9800e-003**	**0.2906**	**2.3200e-003**	**0.2929**	**0.0771**	**2.1400e-003**	**0.0792**		**296.5766**	**296.5766**	**0.0101**		**296.8296**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Manufacturing	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Manufacturing	16.60	0.00	0.00	100.00	0.00	0.00	100	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Manufacturing	0.546418	0.044132	0.199182	0.124467	0.017484	0.005870	0.020172	0.031831	0.001999	0.002027	0.004724	0.000704	0.000991
Parking Lot	0.546418	0.044132	0.199182	0.124467	0.017484	0.005870	0.020172	0.031831	0.001999	0.002027	0.004724	0.000704	0.000991

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Manufacturing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Manufacturing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.0934	5.3000e-004	0.0568	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1205	0.1205	3.3000e-004		0.1286
Unmitigated	4.0934	5.3000e-004	0.0568	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1205	0.1205	3.3000e-004		0.1286

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0106					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.0775					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.3800e-003	5.3000e-004	0.0568	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1205	0.1205	3.3000e-004		0.1286
Total	**4.0934**	**5.3000e-004**	**0.0568**	**0.0000**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**		**0.1205**	**0.1205**	**3.3000e-004**		**0.1286**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0106					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.0775					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.3800e-003	5.3000e-004	0.0568	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1205	0.1205	3.3000e-004		0.1286
Total	**4.0934**	**5.3000e-004**	**0.0568**	**0.0000**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**		**0.1205**	**0.1205**	**3.3000e-004**		**0.1286**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Aerial Lifts	0	2.00	312	63	0.31	Diesel
Cranes	0	8.00	6	170	0.29	Diesel
Cranes	0	2.00	312	170	0.29	Diesel
Forklifts	0	2.00	312	89	0.20	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Aerial Lifts	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Cranes	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Forklifts	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	0	1.5	250	500	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (300 - 600 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

11.0 Vegetation

Operational Emissions

Source Category	VOC	NOX	CO	SOX	PM10	PM2.5	CO2E
	(lb/day)						MT/yr
Off-Road Operational[1]	1.95	17.59	21.83	0.03	1.55	0.31	327.18
Stationary Operational[1]	0.57	3.94	32.87	0.06	0.79	0.16	1,813.98
Marine Emissions[1]	4.63	22.79	9.69	0.06	2.33	0.47	177.47
Mobile Source Emissions	0.88	6.88	34.16	0.14	1.97	0.85	2,042.86
Chemical Usage	43.00	-	-	-	-	-	-
Abrasive Blasting	-	-	-	-	1.47	0.29	-
Landscaping[2]	0.02	0.00	0.06	0.00	0.00	0.00	0.01
Energy[2]	-	-	-	-	-	-	4,225.31
Waste[2]	-	-	-	-	-	-	126.87
Water[2]	-	-	-	-	-	-	207.09
Amortized Construction Emissions[2]	-	-	-	-	-	-	35.66
Daily Total	**51.05**	**51.21**	**98.61**	**0.29**	**8.12**	**2.07**	**8,956.43**
Significance Threshold	55	55	550	150	100	100	10,000
Significant?	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Notes: [1] PM2.5 assumed to be 20% of PM10 emissions.

[2] Emissions quantified in CalEEMod 2016.3.2.

LADWP Carbon Intensity

Year	CO_2 Intensity (lb/MWh)
2015[1]	1,132
2016	1,074.55
2017	1,017.09
2018	959.64
2019	902.18
2020	844.73
2021	787.27
2022	729.82
2023	672.36
2024	614.91
2025	557.45
2026[2]	500

Notes: The CO2 intensity for 2016 through 2025 was calculated using a linear regression between 2015 and 2026.

[1] From Table C-1 of the 2016 LADWP Power Integrated Resources Plan

[2] From Figure 4-7 of the 2016 LADWP Power Integrated Resources Plan

Stationary Source Emissions

Source	Fuel	Rating MMBtu/hr	Rating MMscf/hr	Hr/Day	Load	VOC	NOx	CO	SOx	PM10	CO2	CH4	N2O	VOC	Nox	CO	SOx	PM10	CO2	CH4	N2O	CO2E	
								(lb/mmscf)				(g/MMBtu)					(lb/day)					MT/YR	
Autoclave	Nat Gas	18.26	0.0174	12	50%	5.5	37.8	315	0.6	7.6	53060	1.00	0.1	0.57	3.94	32.87	0.06	0.79	12,805	0.24	0.02		**lb/day**
														0.09	0.62	5.13	0.01	0.12	1,997.51	0.04	0.00		**tpy**
																			1,812.11	0.85	1.02	1,813.98	**MT/yr**
Emission Subtotals																							

Notes:
Autoclave emissions based on SCAQMD defaults except NOx based on Rule 1147. EPA emission factors for GHG.

Off-Road Emissions

Operational Equipment	Engine Tier	Quantity	Engine Rating (hp)	Engine Rating (kW)	Load Factor	Operation (hr/day)	Operation (day/yr)	Emission Factors VOC (g/kW-hr)	NOx (g/kW-hr)	CO (g/kW-hr)	SOx (g/kW-hr)	PM10 (g/kW-hr)	CO2 (g/kW-hr)	CH4 (g/kW-hr)	N20 (g/kW-hr)	Emissions VOC (lb/day)	NOx (lb/day)	CO (lb/day)	SOx (lb/day)	PM10 (lb/day)	CO2 (lb/day)	CH4 (lb/day)	N20 (lb/day)	CO2 (MT/yr)	CH4 (MT/yr)	N20 (MT/yr)	CO2E
Aerial Lifts	3	8	63	47	0.31	5.0	312	0.47	4.23	5.0	0.007	0.40	685	0.027	0.005	0.60	5.43	6.42	0.01	0.51	879	0.04	0.01	124.42	0.00	0.00	124.84
Forklifts	3	8	89	66	0.2	5.0	312	0.47	4.23	5.0	0.007	0.40	685	0.027	0.005	0.55	4.95	5.85	0.01	0.47	801	0.03	0.01	113.40	0.00	0.00	113.78
Emergency Generator	3	1	500	373	0.73	0.5	500	0.4	3.60	3.5	0.007	0.20	685	0.027	0.005	0.12	1.08	1.05	0.00	0.06	205	0.01	0.00	46.58	0.00	0.00	46.74
Gantry Cranes	3	2	170	127	0.29	8.0	6	0.4	3.60	5.0	0.007	0.30	685	0.027	0.005	0.52	4.67	6.48	0.01	0.39	888	0.04	0.01	2.42	0.00	0.00	2.42
Gantry Cranes	3	1	170	127	0.29	5.0	312	0.4	3.60	5.0	0.007	0.30	685	0.027	0.005	0.16	1.46	2.03	0.00	0.12	277	0.01	0.00	39.26	0.00	0.00	39.39
Emission Subtotals																**1.95**	**17.59**	**21.83**	**0.03**	**1.55**	**3,051.07**	**0.12**	**0.02**	**326.09**	**0.01**	**0.00**	**327.18**

Emission Factors

Engine Rating (kw)	Engine Tier	VOC (g/kW-hr)	NOx (g/kW-hr)	CO (g/kW-hr)	SOx (g/kW-hr)	PM10 (g/kW-hr)	CO2 (g/kW-hr)	CH4 (g/kW-hr)	N2O (g/kW-hr)
37 - 74	3	0.47	4.23	5.0	0.007	0.40	685	0.027	0.005
75 - 129	3	0.40	3.60	5.0	0.007	0.30	685	0.027	0.005
130 - 559	3	0.47	4.23	3.5	0.007	0.20	685	0.027	0.005
37 - 55	4	0.47	4.23	5.0	0.007	0.03	685	0.027	0.005
56 - 559	4	0.19	0.40	5.0	0.007	0.02	685	0.027	0.005

Notes:

PM10, NOx, VOC based on EPA Tier 3 standard. For NMHC+NOx standards NOx/NMHC ratio assumed 90%.
GHG based on EPA emission factors for diesel.
SOx based on 15 ppm diesel.
Fuel consumption assumed 0.35 lb/hp-hr.
Emergency generator use updated to reflect maximum maintenance and testing time of 0.5 hour per day. Per Rule 1470, 50 hours of testing and maintenance and 200 hours of emergency use are assumed for annual.
Comments:
Aerial lifts and forklifts engines are small enough they could be electric or propane. Per CARB's LSI rule (applicable to propane or gasoline fueled forklifts) the NOx + VOC is only 0.8 g/kw-hr for 2010+ model year forklifts.
There is a trade-off in that propane will reduce NOx and VOC, but will increase GHG.
See CalEEMod User's Guide, Appendix D Default Data Tables, Table 3.6 for adjustments to emission factors for use of propane (CO +6.4%, PM -90%, SO2 negligible, CO2 +32%)

Marine Emissions

Phase	Tugboat Classification	Engine	Engine Tier	Fuel	# Engines	Engine Rating (hp)	Engine Rating (kW)	Load Factor	Operation (hr/day)	Operation (days/yr)	Emission Factors VOC	NOx	CO	SOx (g/kW-hr)	PM10	CO2	CH4	N20	Emissions VOC	NOx	CO	SOx (lb/day)	PM10	CO2	CH4	N20	CO2	CH4 (MT/yr)	N20	CO2E
Transit	Ocean Tug	Propulsion	3	15 ppm S	2	1,500	1,119	0.41	4.00	67	0.5265	2.60	1.1	0.01	0.26	649	0.029	0.010	4.22	20.85	8.82	0.05	2.08	5,204	0.23	0.08	157.71	0.01	0.00	158.61
Transit	Ocean Tug	Auxiliary	3	15 ppm S	2	133	99	0.43	4.00	67	0.4212	2	0.9	0.0069	0.26	656	0.029	0.008	0.32	1.50	0.68	0.01	0.20	493	0.02	0.01	14.95	0.00	0.00	15.02
Maneuvering	Ocean Tug	Propulsion	3	15 ppm S	2	1,500	1,119	0.05	0.25	67	0.5265	2.60	1.1	0.01	0.26	649	0.029	0.010	0.03	0.16	0.07	0.00	0.02	41	0.00	0.00	1.23	0.00	0.00	1.24
Maneuvering	Ocean Tug	Auxiliary	3	15 ppm S	2	133	99	0.43	0.25	67	0.4212	2	0.9	0.0069	0.26	656	0.029	0.008	0.02	0.09	0.04	0.00	0.01	31	0.00	0.00	0.93	0.00	0.00	0.94
Hotelling	Ocean Tug	Auxiliary	3	15 ppm S	2	133	99	0.43	0.25	67	0.4212	2	0.9	0.0069	0.26	656	0.029	0.008	0.02	0.09	0.04	0.00	0.01	31	0.00	0.00	0.93	0.00	0.00	0.94
Maneuvering	Tugboat	Propulsion	3	15 ppm S	2	500	373	0.05	0.25	67	0.5265	2.60	1.1	0.01	0.26	649	0.029	0.010	0.01	0.05	0.02	0.00	0.01	13	0.00	0.00	0.40	0.00	0.00	0.41
Maneuvering	Tugboat	Auxiliary	3	15 ppm S	2	44	33	0.43	0.25	67	0.4212	2	0.9	0.0069	0.26	656	0.029	0.008	0.01	0.03	0.01	0.00	0.00	10	0.00	0.00	0.31	0.00	0.00	0.31
Emission Subtotals																			**4.63**	**22.79**	**9.69**	**0.06**	**2.33**	**5,823.11**	**0.26**	**0.09**	**176.48**	**0.01**	**0.00**	**177.47**

Emission Factors

Marine Propulsion

Engine Type	Model	Tier	Fuel	PM10	NOx	SOx	CO (g/kW-hr)	VOC	CO2	N2O	CH4
Slow Speed Diesel	<=1999	Tier 0	0.1%S	0.26	17.00	0.39	1.4	0.632	589	0.029	0.012
Medium Speed Diesel	<=1999	Tier 0	0.1%S	0.26	13.20	0.43	1.1	0.527	649	0.029	0.010
Slow Speed Diesel	2000-2010	Tier 1	0.1%S	0.26	16.00	0.39	1.4	0.632	589	0.029	0.012
Medium Speed Diesel	2000-2010	Tier 1	0.1%S	0.26	12.20	0.43	1.1	0.527	649	0.029	0.010
Medium Speed Diesel	2000-2010	Tier 1	15 ppm S	0.26	12.20	0.006	1.1	0.527	649	0.029	0.010
Slow Speed Diesel	2011-2015	Tier 2	0.1%S	0.26	14.40	0.39	1.4	0.632	589	0.029	0.012
Medium Speed Diesel	2011-2015	Tier 2	0.1%S	0.26	10.50	0.43	1.1	0.527	649	0.029	0.010
Medium Speed Diesel	2011-2015	Tier 2	15 ppm S	0.26	10.50	0.006	1.1	0.527	649	0.029	0.010
Slow Speed Diesel	2016+	Tier 3	0.1%S	0.26	3.40	0.39	1.4	0.632	589	0.029	0.012
Medium Speed Diesel	2016+	Tier 3	0.1%S	0.26	2.60	0.43	1.1	0.527	649	0.029	0.010
Medium Speed Diesel	2016+	Tier 3	15 ppm S	0.26	2.60	0.006	1.1	0.527	649	0.029	0.010
Medium Speed Diesel	2020+	Tier 4	15 ppm S	0.04	1.8	0.006	5	0.200	652	0.031	0.004

Note: 2014 Inventory, Starcrest, Table 3.7 (Tier 0 - Tier 3, 0.1%S)
VOC = 1.053 x HC per Conversion Factors for Hydrocarbon Emission Components, EPA-420-R-10-015, July 2010.
EPA Emission Standards for Harbor Craft Emissions (Tier 4) www.epa.gov/otaq/marine.htm

Marine Auxiliary

Engine Type	Model	Tier	Fuel	PM10 (g/kW-hr)	NOx (g/kW-hr)	SOx (g/kW-hr)	CO (g/kW-hr)	VOC (g/kW-hr)	CO2 (g/kW-hr)	N2O (g/kW-hr)	CH4 (g/kW-hr)
Aux High Speed Diesel	<=1999	Tier 0	0.1%S	0.26	10.9	0.46	0.9	0.421	656	0.029	0.008
Aux Med Speed Diesel	<=1999	Tier 0	0.1%S	0.26	13.8	0.46	1.1	0.421	686	0.029	0.008
Aux High Speed Diesel	<=1999	Tier 0	15 ppm S	0.26	10.9	0.007	0.9	0.421	656	0.029	0.008
Aux High Speed Diesel	2000-2010	Tier 1	0.1%S	0.26	9.8	0.46	0.9	0.421	656	0.029	0.008
Aux Med Speed Diesel	2000-2010	Tier 1	0.1%S	0.26	12.2	0.46	1.1	0.421	686	0.029	0.008
Aux High Speed Diesel	2000-2010	Tier 1	15 ppm S	0.26	9.8	0.007	0.9	0.421	656	0.029	0.008
Aux High Speed Diesel	2011-2015	Tier 2	0.1%S	0.26	7.7	0.46	0.9	0.421	656	0.029	0.008
Aux Med Speed Diesel	2011-2015	Tier 2	0.1%S	0.26	10.5	0.46	1.1	0.421	686	0.029	0.008
Aux High Speed Diesel	2011-2015	Tier 2	15 ppm S	0.26	7.7	0.007	0.9	0.421	656	0.029	0.008
Aux High Speed Diesel	2011-2015	Tier 3	0.1%S	0.26	2	0.46	0.9	0.421	656	0.029	0.008
Aux Med Speed Diesel	2011-2015	Tier 3	0.1%S	0.26	2.6	0.46	1.1	0.421	686	0.029	0.008
Aux High Speed Diesel	2011-2015	Tier 3	15 ppm S	0.26	2	0.007	0.9	0.421	656	0.029	0.008
Boiler	all	na	0.1%S	0.14	2	0.61	0.2	0.098	922	0.075	0.002
Boiler	all	na	15 ppm S	0.14	2	0.009	0.2	0.098	922	0.075	0.002

Note: 2014 Inventory, Starcrest, Table 3.8 (Tier 0 - Tier 3, 0.1%S)
2014 Inventory, Starcrest, Table 3.7 (Boilers, 0.1%S)
VOC = 1.053 x HC per Conversion Factors for Hydrocarbon Emission Components, EPA-420-R-10-015, July 2010. For boilers VOC assumed as HC - CH4.

Mobile Source Emissions

Equipment/Activity	*Hp Rating*	*Load Factor*	*Number Active*	*Equip-Hrs Day*	*Miles/ Day*	*Idling Min. Day*	*Daily VMT*	Equipment Type
Delivery Trucks	-	-	10		23	-	460	On-Road Diesel
Worker commute vehicle [LDT1-ALL]	-	-	675	-	13	-	17,550	On-Road Gasoline

	VOC	NOx	CO	SOx	PM10	PM2.5	CO2	CH4	N2O	CO2	CH4	N2O	CO2E
	lb/day									MT/yr			
Delivery Trucks	0.14	3.76	0.90	0.01	0.16	0.09	1,473.22	0.02	0.01	208.49	0.00	0.00	208.95
Worker commute vehicle [LDT1-ALL]	0.74	3.13	33.26	0.12	1.82	0.76	12,470.08	3.44	1.35	1,764.78	0.49	0.19	1,833.91
	0.88	6.88	34.16	0.14	1.97	0.85	13,943.30	3.46	1.36	1,973.27	0.49	0.19	2,042.86

Notes:

Worker commutes assume 10% commute consistent with Berth 240 Traffic Analysis.

Miles per day based on Berth 240 Traffic Analysis. Daily VMT assumes 2 trips per day.

Emission Factors based on EMFAC 2014 aggregate emissions. Worker vehicles assumed to be aggregate of LDA, LDT1, and LDT2.

Delivery Trucks assumed to be an aggregate of MHDT and HHDT.

CH4 and N2O emission factors from the Climate Registry 2017 Default Emission Factors, Table 13.4.

EMFAC2014 (v1.0.7) Emission Rates
Region Type: Air District
Region: South Coast AQMD
Calendar Year: 2019
Season: Winter
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Trips		ROG_RUNEX
South Coast AQMD	2019	LDA	Aggregatec	Aggregate	GAS	6160893.3	214587152		38858552.16	0.016221652
South Coast AQMD	2019	LDA	Aggregatec	Aggregate	DSL	54277.958	2045537.76		336973.4464	0.030895502
South Coast AQMD	2019	LDA	Aggregatec	Aggregate	ELEC	97028.267	4578661.48		632265.5667	0
South Coast AQMD	2019	LDT1	Aggregatec	Aggregate	GAS	527662.11	17835228		3203354.815	0.046089602
South Coast AQMD	2019	LDT1	Aggregatec	Aggregate	DSL	682.69165	18241.14		3525.751013	0.171421167
South Coast AQMD	2019	LDT1	Aggregatec	Aggregate	ELEC	412.78121	12924.965		2496.638876	0
South Coast AQMD	2019	LDT2	Aggregatec	Aggregate	GAS	2151192.1	80495452.3		13600347.35	0.021325093
South Coast AQMD	2019	LDT2	Aggregatec	Aggregate	DSL	3377.1215	141019.912		21796.22616	0.020106679
										0.019044226
South Coast AQMD	2019	MHDT	Aggregatec	Aggregate	GAS	19706.707	982423.718		394291.7996	0.099806261
South Coast AQMD	2019	MHDT	Aggregatec	Aggregate	DSL	130893.73	7183962.65		0	0.136904362
South Coast AQMD	2019	HHDT	Aggregatec	Aggregate	GAS	786.20355	101372.063		15730.36055	0.473597513
South Coast AQMD	2019	HHDT	Aggregatec	Aggregate	DSL	91454.704	12784867.4		0	0.139691511
										0.138486994
								LD lb/mile		4.19846E-05
								HD lb/mile		0.000305306

Region	NOx_RUNEX	CO_RUNEX	SOx_RUNE	PM10_RUI	PM10_P	PM10_PMB\	PM2_5_RUNEX	PM2_5_PN	PM2_5_PN	CO2_RUNE	CH4	N2O
South Coast AQMD	0.06506591	0.755379	0.002988	0.002028	0.008	0.03675	0.001864794	0.002	0.01575	298.0738	0.086914	0.030857
South Coast AQMD	0.12559618	0.308367	0.002665	0.017813	0.008	0.03675	0.01704196	0.002	0.01575	279.1961	0.000533	0.001067
South Coast AQMD	0	0	0	0	0.008	0.03675	0	0.002	0.01575	0	0	0
South Coast AQMD	0.18463203	1.930362	0.003545	0.003544	0.008	0.03675	0.003259395	0.002	0.01575	351.9494	0.099814	0.0461
South Coast AQMD	0.95006383	0.985787	0.003696	0.127737	0.008	0.03675	0.122211159	0.002	0.01575	387.1923	0.001	0.001533
South Coast AQMD	0	0	0	0	0.008	0.03675	0	0.002	0.01575	0	0	0
South Coast AQMD	0.10299617	0.964904	0.004006	0.001988	0.008	0.03675	0.001828607	0.002	0.01575	399.7205	0.099814	0.0461
South Coast AQMD	0.05228466	0.170121	0.003471	0.00585	0.008	0.03675	0.005596541	0.002	0.01575	363.5489	0.001	0.001533
	0.0807834	0.859725	0.003231	0.002183	0.008	0.03675	0.002012316	0.002	0.01575	322.3035	0.089038	0.034897
South Coast AQMD	0.65275853	2.650636	0.011522	0.00104	0.012	0.13034	0.000956864	0.003	0.05586	1149.673	0.215171	0.094657
South Coast AQMD	2.72328063	0.463905	0.010921	0.080305	0.012	0.13034	0.076831316	0.003	0.05586	1144.703	0.0051	0.0048
South Coast AQMD	3.15722963	30.60404	0.017931	0.000822	0.02	0.06174	0.000757381	0.005	0.02646	1746.288	0.215171	0.094657
South Coast AQMD	4.49511719	0.751836	0.015227	0.023249	0.0354	0.0607035	0.02224306	0.008849	0.026016	1646.762	0.0051	0.0048
	3.7047523	0.885934	0.013598	0.041574	0.0262	0.0877208	0.039773884	0.006562	0.037595	1452.723	0.015915	0.009426
LD lb/mile	0.00017809	0.001895	7.12E-06	4.81E-06	2E-05	8.102E-05	4.43632E-06	4.41E-06	3.47E-05	0.710546	0.000196	7.69E-05
HD lb/mile	0.00816744	0.001953	3E-05	9.17E-05	6E-05	0.0001934	8.76849E-05	1.45E-05	8.29E-05	3.202652	3.51E-05	2.08E-05

	VOC (lb/day)
Chemical Usage	43.0

Note: Chemical usage estimate is scaled on the actual usage at an existing permitted facility. Chemicals used include architectural coatings, prepreg, solvents, epoxies, adhesives, and lubricants. Usage is not expected to exceed 260 gallons of chemicals or 1,400,000 ft2 of prepreg per year.

Abrasive Blasting

PM10	PM2.5
lb/day	
1.47	0.29

Note: Abrasive blasting estimated based on 50% of the actual usage at an existing permitted facility.

APPENDIX B

CO Hotspots Analysis

APPENDIX B
CO Hotspots Screening Evaluation

To verify that the project would not cause or contribute to a violation of the CO standards, a screening evaluation of the potential for CO hotspots was conducted. The California Department of Transportation (Caltrans) and the U.C. Davis Institute of Transportation Studies *Transportation Project-Level Carbon Monoxide Protocol* (CO Protocol) (Caltrans 1997), and the SCAQMD *CEQA Air Quality Handbook* (SCAQMD 1993) were followed. The City of San Diego recommends that a quantitative analysis of CO hotspots be performed if a proposed development causes a six- or four-lane roadway to deteriorate to a LOS E or worse, causes a six-lane roadway to drop to LOS F, or if a proposed development is within 400 feet of a sensitive receptor and the LOS is D or worse.

For each scenario (existing plus cumulative projects plus total project and horizon year plus total project), the screening evaluation presents LOS with project improvements (mitigation), whether the recommended improvements (mitigation measures) are feasible, and whether a quantitative CO hotspots analysis may be required. According to the CO Protocol, there is a cap on the number of intersections that need to be analyzed for any one project. For a single project with multiple intersections, only the three intersections representing the worst LOS ratings of the project, and, to the extent they are different intersections, the three intersections representing the highest traffic volumes, need be analyzed. For each intersection failing a screening test as described in this protocol, an additional intersection should be analyzed (Caltrans 1997).

Tables 1 through 3 show a summary of the Project's LOS and volume to capacity ratios for all five intersections evaluated for opening year 2019 and horizon years 2027 and 2037.

Table 1
Opening Year 2019

Analysis Intersection	Future Year 2027				Future Year 2027 Plus Project			
	A.M.		P.M.		A.M.		P.M.	
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C
Navy Way at SR-47	D	0.851	B	0.690	D	0.851	B	0.690
Ferry Street at SR-47 Ramps	F	1.028	C	0.767	F	1.138	D	0.870
Ferry Street at Terminal Way	A	0.504	A	0.206	B	0.654	A	0.281
Earle Street at Terminal Way	A	0.573	A	0.342	B	0.652	A	0.416
Earle Street at Cannery Street	A	0.127	A	0.132	A	0.127	A	0.132

Notes: LOS – Level of service; V/C – volume to capacity ratio.

Table 2
Future Year 2027

Analysis Intersection	Future Year 2027				Future Year 2027 Plus Project			
	A.M.		P.M.		A.M.		P.M.	
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C
Navy Way at SR-47	D	0.851	B	0.690	D	0.851	B	0.690
Ferry Street at SR-47 Ramps	F	1.028	C	0.767	F	1.138	D	0.870
Ferry Street at Terminal Way	A	0.504	A	0.206	B	0.654	A	0.281
Earle Street at Terminal Way	A	0.573	A	0.342	B	0.652	A	0.416
Earle Street at Cannery Street	A	0.127	A	0.132	A	0.127	A	0.132

Notes: LOS – Level of service; V/C – volume to capacity ratio.

Table 3
Future Year 2037

Analysis Intersection	Future Year 2027				Future Year 2037 Plus Project			
	A.M.		P.M.		A.M.		P.M.	
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C
Ferry Street at SR-47 Ramps	F	1.218	E	0.958	F	1.328	F	1.059
Ferry Street at Terminal Way	A	0.545	A	0.141	B	0.695	A	0.216
Earle Street at Terminal Way	A	0.566	A	0.353	B	0.645	A	0.424
Earle Street at Cannery Street	A	0.136	A	0.147	A	0.136	A	0.147

Notes: LOS – Level of service; V/C – volume to capacity ratio.

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: SR47&Ferry2037
RUN: STANDARD RUN (WORST CASE ANGLE)
POLLUTANT: CO

I. SITE VARIABLES

U= 1.0 M/S Z0= 400. CM ALT= 4.0 (M)
BRG= WORST CASE VD= 0.0 CM/S
CLAS= 7 (G) VS= 0.0 CM/S
MIXH= 1000. M AMB= 5.1 PPM
SIGTH= 10. DEGREES TEMP= 8.4 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)
A. Ferry WBLA	500	-12	-18	-12	AG	383	1.9	0.0	33.0
B. Ferry WBD	-30	18	-500	18	AG	0	1.9	0.0	33.0
C. SR47 NBTA	30	-500	30	-12	AG	967	1.9	0.0	33.0
D. SR47 NBRA	42	-500	42	-36	AG	480	1.9	0.0	33.0
E. SR47 NBD	30	-12	30	500	AG	967	1.9	0.0	33.0
F. SR47 SBLA	0	500	0	-36	AG	7	1.9	0.0	33.0
G. SR47 SBTA	-18	500	-18	-12	AG	608	1.9	0.0	33.0
H. SR47 SBD	-18	-12	-18	-500	AG	991	1.9	0.0	33.0

LINK COORDINATES (FT): X1, Y1, X2, Y2

III. RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z
1. SR1	-30	30	5.9
2. SR2	50	5	5.9
3. SR3	-40	-10	5.9
4. SR4	70	-40	5.9

COORDINATES (FT)

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: SR47&Ferry2037
RUN: STANDARD RUN (WORST CASE ANGLE)
POLLUTANT: CO

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SR1	170.	5.3	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1
2. SR2	190.	5.4	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
3. SR3	164.	5.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
4. SR4	198.	5.3	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0

APPENDIX B
Historical Resources Technical Report

HISTORICAL RESOURCES TECHNICAL REPORT FOR THE TRANSPORTATION VESSELS MANUFACTURING FACILITY PROJECT

Port of Los Angeles Berth 240

PREPARED FOR:

LOS ANGELES HARBOR DEPARTMENT

Environmental Management Division

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TABLE OF CONTENTS

SECTION PAGE

APPENDICES

FIGURES

TABLES

ACRONYMS AND ABBREVIATIONS

CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CRHR	California Register of Historical Resources
DPR	Department of Parks and Recreation
HCM	Historic-Cultural Monument
I	Interstate
LAHD	Los Angeles Harbor Department
NAHC	Native American Heritage Commission
NRHP	National Register of Historic Places
PRC	California Public Resources Code
project	Transportation Vessels Manufacturing Facility Project
RPA	Registered Professional Archaeologist
SCCIC	South Central Coastal Information Center
SLF	Sacred Lands File

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1. EXECUTIVE SUMMARY

Dudek was retained by the Los Angeles Harbor Department (LAHD) to conduct a cultural resources study for the proposed Transportation Vessels Manufacturing Facility Project (project). The proposed project would consist of constructing a facility to manufacture transportation vessels at Berth 240 off South Seaside Avenue on Terminal Island. This facility is intended to be a state-of-the-art research and development center serving to prototype new ideas and technologies needed to advance specialized transportation vessels. The site would be used to develop and manufacture prototypes and first generation vessels, and develop the manufacturing processes prior to implementing them on a larger, production scale.

The cultural resources study involved completion of a records search, Native American tribal coordination, a pedestrian survey of the project site, additional background research, an updated evaluation of the Bethlehem Shipyard Historic District, and a project-level impacts assessment.

The project site falls within the Bethlehem Shipyard Historic District, which was previously found eligible for the National Register of Historic Places. Because the district evaluation occurred more than 5 years ago, in accordance with LAHD historic built-environment policy, the evaluation was updated to account for changes in condition/integrity. After conducting background research and a pedestrian survey of the proposed project site, the Bethlehem Shipyard Historic District appears to remain eligible for the National Register of Historic Places (Criterion A), California Register of Historical Resources (Criterion 1), and as a City of Los Angeles Historic-Cultural Monument (Criterion 1) for its important associations with the emergency shipbuilding program during World War II. The Compressor House building remains a non-contributor to the historic district due to its extensive alterations that occurred outside the district's period of significance. The Administration Building also continues to be a non-contributor due to its alteration of setting that visually removed it from the rest of the district. Altogether, the Bethlehem Shipyard Historic District comprises 20 buildings, including 18 contributors and two non-contributors.

The project-level impacts assessment found that the proposed project would have a less-than-significant impact on historical resources under the California Environmental Quality Act. However, recommendations are provided for final design schematic review (to ensure conformance with the Secretary of the Interior's Standards for Rehabilitation) and for development of a detailed protection plan for the historic district during project construction activities and long-term maintenance of the district buildings.

Although no archaeological resources or archaeological sensitivity was identified within the project site, standard protection measures for unanticipated discoveries are provided herein.

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2. INTRODUCTION

2.1 Overview of Study

Dudek was retained by the Los Angeles Harbor Department (LAHD) to conduct a cultural resources study for the proposed Transportation Vessels Manufacturing Facility Project (project). The cultural resources study includes the following components: (1) a California Historical Resources Information System records search at the South Central Coastal Information Center covering the proposed project site plus a 0.25-mile-radius; (2) a review of the California Native American Heritage Commission's (NAHC) Sacred Lands File; (3) outreach with local Native American tribes/groups identified by the NAHC to collect any information they may have concerning cultural resources; (4) a pedestrian survey of the project site for cultural resources; (5) archival and building development research for buildings located within the project site; (6) updated evaluation of the Bethlehem Shipyard Historic District in consideration of federal, state, and local designation criteria and integrity requirements; and (7) consideration of impacts to historical resources in compliance with the California Environmental Quality Act (CEQA). The CEQA lead agency for this project is the LAHD.

2.2 Project Personnel

This report was prepared by Dudek Senior Architectural Historian and Archaeologist Samantha Murray, MA, Registered Professional Archaeologist (RPA), who meets the Secretary of the Interior's Professional Qualification Standards for both architectural history and archaeology. The records search results and Native American coordination were completed by Dudek Archaeologist Adriane Dorrler, BA.

2.3 Project Description

The proposed project would consist of constructing a facility to manufacture transportation vessels at Berth 240 off South Seaside Avenue on Terminal Island. The site is adjacent to the former Southwest Marine shipyard that is currently vacant. This facility is intended to be a state-of-the-art research and development center serving to prototype new ideas and technologies needed to advance specialized transportation vessels. This site would be used to develop and manufacture prototypes and first-generation vessels, and develop manufacturing processes prior to implementing them on a larger, production scale.

Operations would likely include general manufacturing procedures such as welding, composite curing, cleaning, painting, and assembly operations. The majority of operations would take place inside the facility, with exterior operations limited to transit vehicles, forklift traffic, and mobilization of manufactured products onto barges at the dockside so that they could be transported for testing or delivery. Finished products would be transported by water due to their size, thus the need for locating the facility within the port complex. A barge would depart for transportation of products for testing or delivery up to three times per month. The facility would likely have up to 750 employees (maximum per shift would be 500 employees), with up to 50 customers or visitors daily and approximately 10 deliveries daily. There are 438 parking spaces within the proposed lease area, including portions adjacent to vacant areas around the former Southwest Marine shipyard buildings.

In addition, the lease would accommodate recovery operations undertaken by SpaceX to bring to shore rockets returning from space that are retrieved by barge from offshore. The rockets will land on a barge that then returns to the port and transfers the rocket to shore after which it is transported via road to the company's facility in Hawthorne for reuse.

The proposed project construction is anticipated to include repair of the existing dock at the facility. The proposed Project would include the demolition of one structure that is approximately 9,150 square feet and 45 feet tall. The proposed Project would construct an approximately 203,450 square feet prefabricated building that would be approximately 105 feet tall. The proposed Project would also include up to 4 tanks (approximately 12,000 gallons each, or equivalent) as part of an ancillary tank farm to store materials needed for the manufacturing process, as well as paving and landscaping improvements.

The proposed project objectives are as follows:

- Develop and manufacture specialized transportation vessels
- Be situated such that direct transportation of products via water can be achieved
- Construct a single structure sufficient to house all phases of research, development, and manufacture of prototype and first-generation vessels

Construction

The proposed project site is approximately 10 acres. It is already disturbed with approximately 4 acres of paved area, an existing abandoned industrial building, and a large compacted dirt area (approximately 6 acres). Construction activities would consist of demolition of the existing 9,150-square-foot industrial building (identified as the Compressor House); site preparation; access improvements, foundations for the building and ancillary tank farm, utility hooks ups, and prefabricated building construction; paving for parking and access driveways; landscaping; and wharf surface improvements. There is no anticipated work to be performed on or over the water, beyond necessary repair to the existing dock at the facility. The proposed project would involve construction of an approximately 203,450-square-foot prefabricated building that would be approximately 105 feet tall. Approximately 10,000 cubic yards of soil would be stockpiled and/or exported.

Operation

The proposed project operations would involve the research, development, design, and manufacture of prototypes and first generation of specialized transportation vessels. The facility is intended to be a state-of-the art research and development center serving to prototype new ideas and technologies for specialized transportation vessels. The proposed facility would be on an approximately 10-acre site. The facility would also establish the development processes prior to implementing production on a larger scale, which would not be accommodated at the proposed facility.

In addition, existing recovery of SpaceX rockets operations currently taking place within the port would be relocated to this location. The recovery operations involve a barge setting out from the port to provide a remote landing platform in the Pacific Ocean for rockets returning from space. The barge would then return to port with the rocket for transfer to land and ultimately return to the SpaceX manufacturing facility in Hawthorne for reuse. These operations are included within the projected barge transportation of three times per month.

A single large building would house the research and development and manufacturing processes, and make sure that the correct conditions for each step of the processes are maintained. The structure would be approximately 203,450 square feet and up to 105 feet tall. The production would likely include general manufacturing procedures such as welding, composite curing, cleaning, sand blasting, painting, and assembly operations. The majority of operations would take place inside the facility, with exterior operations limited to transit vehicles, forklift traffic, and mobilization of manufactured products onto a barge at the dockside. The proposed project would also include approximately four tanks (approximately 12,000 gallons each, or equivalent) as part of an ancillary tank farm to store materials needed for the manufacturing process that will be used and maintained in accordance with applicable regulations (e.g., National Fire Protection Association).

The LAHD would issue a Harbor Development Permit and 10-year lease, with up to two 10-year lease extension/renewal options for operation of the proposed project.

2.4 Project Location

The proposed project site is located at Berth 240, off South Seaside Avenue on Terminal Island in Master Plan Area 4 within the Port of Los Angeles (Figures 1 and 2). The proposed project site is bounded to the north and east by South Seaside Avenue and the Al Larson boatyard, to the south by the former Southwest Marine Shipyard, and to the west by the Port of Los Angeles main channel. Access to the proposed project site is provided via South Seaside Avenue, State Route 47, the Harbor Freeway (Interstate (I) 110), the Long Beach Freeway (I-710), and the San Diego Freeway (I-405). The project site falls within Township 5 South; Range 13 West; Section 20 of the U.S. Geological Survey 7.5-Minute San Pedro Quadrangle.

2.5 Project Setting

The proposed project site is currently a disturbed site with an abandoned industrial building, unused compacted dirt area, unused wharf, and paved areas used for miscellaneous storage and parking. Approximately one-third (4 acres) is paved; the remainder consists of dirt with minimal ruderal vegetation. South Seaside Avenue is located immediately north and east of the proposed project site, across which is the Al Larson boatyard and Al Larson Marina. Fish Harbor is located farther east of the proposed project site. South of the proposed project site lies the former Southwest Marine shipyard, and beyond that a U.S. Coast Guard facility. The Port of Los Angeles Main Channel is located west of the proposed project site, across which is Ports o' Call.

2.6 Regulatory Setting

This section includes a discussion of the applicable state and local laws, ordinances, regulations, and standards governing cultural resources, which must be adhered to before and during construction of the proposed project.

Federal

Although there is no federal nexus for this project, the project site is partially located within a National Register of Historic Places (NRHP)-eligible historic district.

The NRHP is the United States' official list of districts, sites, buildings, structures, and objects worthy of preservation. Overseen by the National Park Service under the U.S. Department of the Interior, the NRHP was authorized under the National Historic Preservation Act, as amended. Its listings encompass all National Historic Landmarks and historic areas administered by the National Park Service.

NRHP guidelines for the evaluation of historic significance were developed to be flexible and to recognize the accomplishments of all who have made significant contributions to the nation's history and heritage. Its criteria are designed to guide state and local governments, federal agencies, and others in evaluating potential entries in the NRHP. For a property to be listed in or determined eligible for listing, it must be demonstrated to possess integrity and to meet at least one of the following criteria:

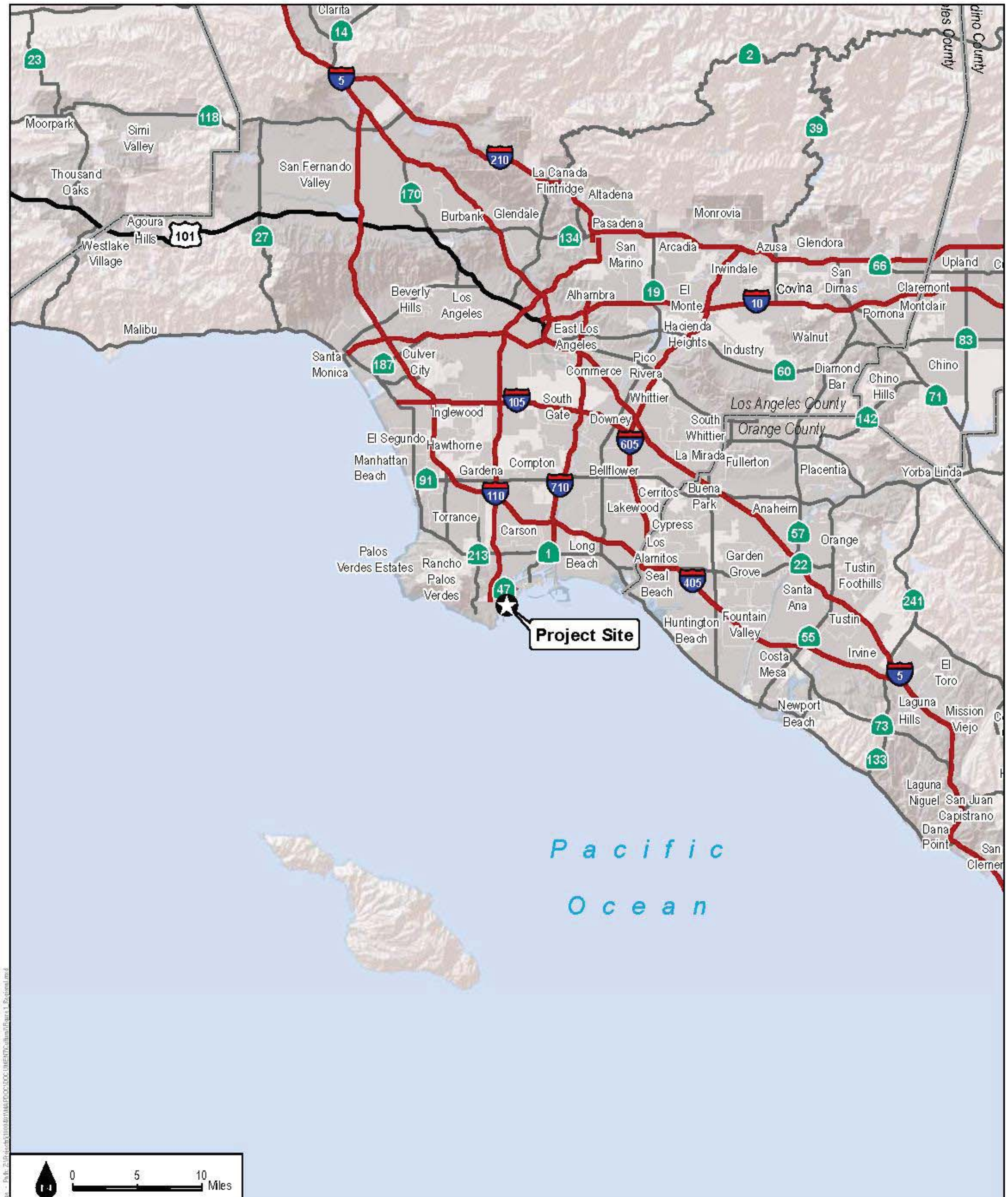
The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or

B. That are associated with the lives of persons significant in our past; or

C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. That have yielded, or may be likely to yield, information important in prehistory or history.



SOURCE: ESRI Basemaps

FIGURE 1
Regional Map

Transportation Vessels Manufacturing Facility Project, Port of Los Angeles, Berth 240

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SOURCE: USGS 7.5-Minute Series San Pedro Quadrangle
Township 5S, Range 13W, Section 20

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FIGURE 2
Vicinity Map

Transportation Vessels Manufacturing Facility Project, Port of Los Angeles, Berth 240

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Integrity is defined in NRHP guidance, How to Apply the National Register Criteria, as "the ability of a property to convey its significance. To be listed in the NRHP, a property must not only be shown to be significant under the NRHP criteria, but it also must have integrity" (NPS 1990). NRHP guidance further asserts that properties be completed at least 50 years ago to be considered for eligibility. Properties completed fewer than 50 years before evaluation must be proven to be "exceptionally important" (criteria consideration G) to be considered for listing.

A historic property is defined as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the NRHP criteria" (36 Code of Federal Regulations (CFR) Sections 800.16(i)(1)).

Effects on historic properties under Section 106 of the National Historic Preservation Act are defined in the assessment of adverse effects in 36 CFR Sections 800.5(a)(1).

State

The California Register of Historical Resources (California Public Resources Code Section 5020 et seq.)

In California, the term "historical resource" includes "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (California Public Resources Code (PRC), Section 5020.1(j)). In 1992, the California legislature established the California Register of Historical Resources (CRHR) "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1(a)). The criteria for listing resources in the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP, enumerated below. According to PRC Section 5024.1(c)(1–4), a resource is considered historically significant if it (i) retains "substantial integrity," and (ii) meets at least one of the following criteria:

(1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

(2) Is associated with the lives of persons important in our past.

(3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

(4) Has yielded, or may be likely to yield, information important in prehistory or history.

To understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than 50 years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (see 14 California Code of Regulations (CCR) Section 4852(d)(2)).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed in or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

California Environmental Quality Act

As described further, the following CEQA statutes and CEQA Guidelines are of relevance to the analysis of archaeological, historic, and tribal cultural resources:

- PRC Section 21083.2(g) defines "unique archaeological resource."
- PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) defines "historical resources." In addition, CEQA Guidelines Section 15064.5(b) defines the phrase "substantial adverse change in the significance of an historical resource"; it also defines the circumstances when a project would materially impair the significance of an historical resource.
- PRC Section 21074(a) defines "tribal cultural resources."
- PRC Section 5097.98 and CEQA Guidelines Section 15064.5(e) set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.
- PRC Sections 21083.2(b) and 21083.2(c) and CEQA Guidelines Section 15126.4 provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures. Preservation-in-place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context, and may also help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

More specifically, under CEQA, a project may have a significant impact on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (PRC Section 21084.1; CEQA Guidelines Section 15064.5(b)). If a site is either listed in or eligible for listing in the CRHR, or included in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of PRC Section 5024.1(q)), it is a "historical resource" and is presumed to be historically or culturally significant for the purposes of CEQA (PRC Section 21084.1; CEQA Guidelines Section

15064.5(a)). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (PRC Section 21084.1; CEQA Guidelines Section 15064.5(a)).

A "substantial adverse change in the significance of an historical resource" reflecting a significant effect under CEQA means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (CEQA Guidelines Section 15064.5(b)(1); PRC Section 5020.1(q)). In turn, the significance of a historical resource is materially impaired when a project does any of the following (CEQA Guidelines Section 15064.5(b)(2)):

(1) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or

(2) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

(3) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.

Pursuant to these sections, the CEQA inquiry begins with evaluating whether a project site contains any "historical resources," then evaluates whether that project would cause a substantial adverse change in the significance of an historical resource such that the resource's historical significance would be materially impaired.

If it can be demonstrated that a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (PRC Sections 21083.2(a), (b), and (c)).

PRC Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

(1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

(2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Impacts to non-unique archaeological resources are generally not considered a significant environmental impact (PRC Section 21083.2(a); CEQA Guidelines Section 15064.5(c)(4)). However, if a non-unique archaeological resource qualifies as a tribal cultural resource (PRC Section 21074(c); 21083.2(h)), further consideration of significant impacts is required.

CEQA Guidelines Section 15064.5 assigns special importance to human remains, and specifies procedures to be used when Native American remains are discovered. As described below, these procedures are detailed in PRC Section 5097.98.

Secretary of the Interior's Standards

Where a project has been determined to conform with the Secretary of the Interior's Standards for the Treatment of Historic Properties, the project's impact on historical resources would be considered mitigated to below a level of significance and, thus, not significant (14 CCR 15126.4(b)(1)). In most cases, a project that demonstrates conformance with the Secretary of the Interior's Standards is categorically exempt from CEQA (14 CCR 15331), as described in the CEQA Guidelines:

> Where maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation or reconstruction of the historical resource will be conducted in a manner consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings (Weeks and Grimmer 1995), the project's impact on the historical resource shall generally be considered mitigated below a level of significance and thus is not significant (14 CCR 15126.4(b)(1)).

The Secretary of the Interior's Standards are a series of concepts focused on maintaining, repairing, and replacing historic materials, as well as designing new additions or making alterations. They function as common-sense historic preservation principles that promote historic preservation best practices. There are four distinct approaches that may be applied to the treatment of historical resources:

- Preservation focuses on the maintenance and repair of existing historic materials and retention of a property's form as it has evolved over time.
- Rehabilitation acknowledges the need to alter or add to a historic property to meet continuing or changing uses while retaining the property's historic character.
- Restoration depicts a property at a particular period of time in its history, while removing evidence of other periods.
- Reconstruction recreates vanished or non-surviving portions of a property for interpretive purposes.

The choice of treatment depends on a variety of factors, including the property's historical significance, physical condition, proposed use, and intended interpretation. Rehabilitation was determined to be the most appropriate treatment option for the proposed project because it allows for a compatible use for the property through repair, alterations, and additions while preserving those portions or features that conveys its historical and architectural values.

The CEQA Guidelines provide general design and technical recommendations to assist in applying the Secretary of the Interior's Standards to a specific property. Together, the Secretary of the Interior's Standards and the CEQA Guidelines provide a framework that guides important decisions concerning proposed changes to a historic property.

Standards for Rehabilitation

The Standards for Rehabilitation (below), taken together with the CEQA Guidelines, provide the framework in which project conceptual design plans were developed and associated recommendations were made.

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

California Health and Safety Code Section 7050.5

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. California Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains can occur until the County Coroner has examined the remains (Health and Safety Code Section 7050.5(b)). PRC Section 5097.98 also outlines the process to be followed in the event that remains are discovered. If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the NAHC within 24 hours (Health and Safety Code Section 7050.5(c)). The NAHC will notify the "most likely descendant." With the permission of the landowner, the most likely descendant may inspect the site of discovery. The inspection must be completed within 48 hours of notification of the most likely descendant by the NAHC. The most likely descendant may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

Local

Los Angeles Harbor Department

Built Environment Historic, Architectural, and Cultural Resource Policy

This historical resources technical report was prepared in accordance with the LAHD's guide for the identification, evaluation, and appropriate treatment of historic buildings and structures owned by, or located on property under the possession, management, or control of, the LAHD. The introductory portions of the policy are provided below (see LAHD 2013 for the full policy).

I. GOAL: Encourage the preservation of the built historic, architectural and cultural resources within the Port of Los Angeles in a manner consistent with the City of Los Angeles Harbor Department's (Harbor Department) mission and obligations under the Tideland Trust Doctrine, Tideland Trust Grant, California Coastal Act, City of Los Angeles Charter, and the Port Master Plan.

II. INTRODUCTION

A. The purpose of this Built Environment Historic, Architectural and Cultural Resource Policy is to encourage and establish priorities for preservation and reuse of the historic, architectural and cultural heritage represented by the built environment, defined as buildings, structures, objects, districts and sites in the Port of Los Angeles.

B. The Port has been integral to the development of the City of Los Angeles, California and the United States. This important historical role can be seen in the evolution of the Port's built environment as it has adapted over time to major events, technologies, social change and the changing patterns and processes of maritime business, commerce and trade. The built environment of the Port and its association with significant events, activities, developments, architectural history, and engineering achievements of the past provides an opportunity to appreciate and honor the historic role played by the Port.

C. The City of Los Angeles Board of Harbor Commissioners (Board) recognizes historic, architectural and cultural resources of the built environment as an important part of our heritage and recognizes the value of historic preservation within the context of a modern-day industrial and commercial port operation.

D. This policy provides a guide to Harbor Department staff and the public for the identification, evaluation and the appropriate treatment of historic buildings and structures owned by, or located on property under the possession, management or control of the Harbor Department.

E. The Board directs the Executive Director, designee, to carry out this policy.

Los Angeles Historic-Cultural Monuments

Local landmarks in the City of Los Angeles are known as Historic-Cultural Monument (HCMs) and are under the aegis of the Planning Department, Office of Historic Resources. They are defined in the Cultural Heritage Ordinance as follows (Los Angeles Municipal Code Section 22.171.7, added by Ordinance No. 178,402, effective April 2, 2007):

> Historic-Cultural Monument (Monument) is any site (including significant trees or other plant life located on the site), building or structure of particular historic or cultural significance to the City of Los Angeles, including historic structures or sites in which the broad cultural, economic or social history of the nation, State or community is reflected or exemplified; or which is identified with historic personages or with important events in the main currents of national, State or local history; or which embodies the distinguishing characteristics of an architectural type specimen, inherently valuable for a study of a period, style or method of construction; or a notable work of a master builder, designer, or architect whose individual genius influenced his or her age.

For the purposes of SurveyLA, this definition has been broken down into four HCM designation criteria that closely parallel the existing NRHP and CRHR criteria:

1. Is identified with important events in the main currents of national, State or local history, or exemplifies significant contributions to the broad cultural, political, economic or social history of the nation, state, city, or community; or
2. Is associated with the lives of Historic Personages important to national, state, city, or local history; or
3. Embodies the distinctive characteristics of a style, type, period, or method of construction; or represents a notable work of a master designer, builder or architect whose genius influenced his or her age; or possesses high artistic values; or
4. Has yielded, or has the potential to yield, information important to the pre-history or history of the nation, state, city or community.

Historic Preservation Overlay Zones

As described by the City of Los Angeles Office of Historic Resources, the Historic Preservation Overlay Zone (HPOZ) Ordinance was adopted in 1979 and amended in 2004 to identify and protect neighborhoods with distinct architectural and cultural resources. HPOZs, commonly known as historic districts, provide for review of proposed exterior alterations and additions to historic properties within designated districts.

Regarding HPOZ eligibility, City of Los Angeles Ordinance Number 175891 states (Los Angeles Municipal Code, Section 12.20.3):

Features designated as contributing shall meet one or more of the following criteria:

(1) adds to the Historic architectural qualities or Historic associations for which a property is significant because it was present during the period of significance, and possesses Historic integrity reflecting its character at that time; or

(2) owing to its unique location or singular physical characteristics, represents an established feature of the neighborhood, community or city; or

(3) retaining the building, structure, Landscaping, or Natural Feature, would contribute to the preservation and protection of an Historic place or area of Historic interest in the City.

Regarding effects on federal and locally significant properties, Los Angeles Municipal Code states the following (Section 91.106.4.5, Permits for Historical and Cultural Buildings):

> The department shall not issue a permit to demolish, alter or remove a building or structure of historical, archaeological or architectural consequence if such building or structure has been officially designated, or has been determined by state or federal action to be eligible for

designation, on the National Register of Historic Places, or has been included on the City of Los Angeles list of historic cultural monuments, without the department having first determined whether the demolition, alteration or removal may result in the loss of or serious damage to a significant historical or cultural asset. If the department determines that such loss or damage may occur, the applicant shall file an application and pay all fees for the California Environmental Quality Act Initial Study and Check List, as specified in Section 19.05 of the Los Angeles Municipal Code. If the Initial Study and Check List identifies the historical or cultural asset as significant, the permit shall not be issued without the department first finding that specific economic, social or other considerations make infeasible the preservation of the building or structure.

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3. HISTORIC CONTEXT

3.1 Terminal Island

The following historic context is taken from a 2011 built environment study for properties on Terminal Island (Murray et al. 2011) that included an updated evaluation of the Bethlehem Shipyard Historic District.

Early Harbor Development –1897

Today among the world's largest and busiest deep-water ports, the Port of Los Angeles began as a quiet natural harbor ringed with Gabrieleno villages. The establishment of the Mission San Gabriel Arcángel in 1771 brought the first European development to the area (named San Pedro), with Spanish missionaries using the harbor as a trading post for receiving and shipping goods with Spain. In the years that followed, members of the Portola Expedition were granted a series of land concessions in Southern California, including Rancho San Pedro, Rancho Los Cerritos, and the Rancho Palos Verdes land grants. The combined total acreage for the three historic ranchos was nearly 84,000 acres and included the area of the present-day Port of Los Angeles (Beck and Haase 1974).

Within the Rancho San Pedro land grant was a sandy strip known in the mid- to late 19th century as Rattlesnake Island. Said to be full of snakes that had washed down the Los Angeles River into the harbor, the island served as a natural breakwater protecting the mainland shore from errant waves, and was a key component of the harbor. Owned by the Dominguez estate, it remained a largely undeveloped piece of land until the early 1890s (Sapphos Environmental 2009:32).

After gaining independence from Spain, Mexico lifted Spain's trade restrictions in 1822, leading to rapid growth of settlement and commercial operations in the San Pedro area. In 1834, the Mexican government amended the Rancho San Pedro land grant to give a portion to the Sepulveda family, who subsequently built a dock and landing at the harbor. By the time California joined the United States in 1848, San Pedro was well established as a port of trade and a transportation hub. Because of the bay's shallow water and tidal mudflats, ships had to anchor off shore and use small boats to ferry goods and passengers into the harbor. The region's new American status meant an even higher influx of settlers and entrepreneurs, and it soon became clear that the harbor required expansion and development to accommodate the influx of goods headed to Los Angeles.

Delaware native Phineas Banning arrived in San Pedro in 1851 and proceeded to spearhead much of the port's development. After founding the town of New San Pedro (later renamed Wilmington) in 1857, Banning organized the Los Angeles and San Pedro Railroad, the first line to transport goods from the harbor to the City of Los Angeles (Jones & Stokes 2008). In 1871, Banning's political efforts resulted in Congressional approval of funds for major harbor improvements, including dredging of the main channel to a depth of 10 feet and construction of a breakwater between Deadman's Island (no longer present) and

Rattlesnake Island. Business at the improved port accelerated, and by 1885 it was handling 500,000 tons of cargo annually (City of Los Angeles Board of Harbor Commissioners 2010).

In the late 1880s to early 1890s, the Los Angeles Terminal Railway purchased Rattlesnake Island from the Dominguez estate and constructed a new line along the Los Angeles River from Los Angeles to the south end of the island. The line crossed the water on trestles and terminated in a newly constructed terminal, providing the most direct access to deep water of any other operation at the harbor. From this point on, the island was known as Terminal Island. In creating the first connection with the mainland, the Los Angeles Terminal Railway opened the sandy landmass up to the public. The southern beach of Terminal Island eventually became a popular summer resort known as Brighton Beach, and offered hotels, apartment houses, bathhouses, saloons, a boardwalk, and as many as 200 homes, none of which are extant (Sanborn 1902, 1908). This area was also the birthplace of the South Coast Yacht Club in 1901, whose members would later start the Los Angeles Yacht Club.

Development and Occupation of the Harbor and Terminal Island, 1897–1918

By the latter part of the 19th century, the need for a deep-water port in the Los Angeles region had become increasingly urgent, and the federal government agreed to assist the City of Los Angeles with a $3 million appropriation for its development. Although city leaders wished to place the port in San Pedro, Collis Huntington—owner of the Southern Pacific Railroad—began an aggressive push to locate the facility in Santa Monica. In 1897 after a long, convoluted, and highly public political battle (later named the free-harbor fight), the Board of Army Engineers finally decided that the harbor would be built at San Pedro.

Industrial development of the harbor proceeded apace in the early 1900s, in anticipation of the 1914 completion of the Panama Canal and the fundamental changes in shipping patterns it would bring. The City of Los Angeles extended its boundaries to coastal tidewaters, annexing San Pedro in 1906 and Wilmington in 1909. In 1907, the city officially created the Los Angeles Harbor Commission and the Port of Los Angeles. Numerous harbor improvements occurred during this time, including the completion of a large breakwater, wharf construction, placement of the Los Angeles Harbor Light (Angels Gate Lighthouse), the establishment of a municipal pier and wholesale fish market, and extensive dredging. The Port of Los Angeles added a significant amount of the dredged fill to the south side of Terminal Island, leading to a major change in the physical landscape: Brighton Beach's houses were no longer beachfront property.

In 1914, the Port of Los Angeles began dredging what would become Fish Harbor, a specialized area for fish processing and canning at Terminal Island. It was operational by 1915, and most of the Port of Los Angeles canneries moved to the new harbor, making tuna fishing and processing the most visible activity in that part of the island. By the 1920s, 11 canneries operated from the Port of Los Angeles, served by a large fleet of fishing vessels and employing 1,800 cannery workers and 4,800 fishermen (Jones & Stokes 2004a:10).

The workforce was ethnically diverse and included Japanese, Italians, Mexicans, and Yugoslavians. Many workers lived on the island, either in the old Brighton Beach area (generally called Terminal) or in largely cannery-owned housing north of Fish Harbor (generally called East San Pedro or Fish Harbor). The latter residential area was predominantly occupied by first (Issei) and second (Nisei) generation Japanese and Japanese–Americans, who formed a distinctive island community. The Japanese inhabitants of the island developed a distinctive hybrid dialect and culture unique to the Port of Los Angeles, and many of them lived in near isolation from the rest of Los Angeles and Long Beach. Some second-generation residents never left Terminal Island until they reached high school age and began taking the ferry to attend San Pedro High. The commercial heart of the East San Pedro/Fish Harbor community was a small but vigorous commercial core on Tuna and Cannery Streets. The block of Tuna Street between Cannery and Fish Harbor was lined with restaurants, barber shops, pool halls, markets, clothing stores, hardware stores, and grocery and dry goods stores, including Nanka Company and Nakamura Company (Shelton 2006:100).

The rapidly growing oil industry played a major part in Port of Los Angeles activity during this period. By the early 20th century, the potential profitability of Los Angeles' oil fields had become apparent, and the Port of Los Angeles offered oil companies an enticing location for refineries, storage, and oil transport. As early as 1902, the Union Oil Company (the first company to use a pipeline to move petroleum products from the Brea/Olinda region to the harbor) had a crude oil storage facility on the west bank of Terminal Island (Marquez and de Turenne 2007:156). By 1908, additional dredged fill provided Union Oil with enough surrounding land to construct five new storage tanks (Sanborn 1908). Other smaller oil companies developing facilities at the Port of Los Angeles during this time, including the General Petroleum Corporation, which in 1913 constructed a pipeline and loading facility in the outer harbor that was capable of loading three vessels simultaneously (City of Los Angeles Board of Harbor Commissioners 1924–1925:14).

The growth of industrial facilities on Terminal Island was in large part due to the constantly expanding rail networks within the Port of Los Angeles. In 1900, the Los Angeles and San Pedro Railroad purchased the Los Angeles Terminal Railway, reincorporating as the San Pedro, Los Angeles, and Salt Lake Railroad and integrating Terminal Island's rail facilities with the harbor's larger network. This development, combined with the new land created by ongoing dredged fill, enabled an active lumber industry to emerge on the island, slowly pushing out the recreational facilities of Brighton Beach. Its growth was further strengthened when the Union Pacific Railroad acquired the Los Angeles and Salt Lake Railroad in 1921, allowing for more extensive transportation to the surrounding areas.

Simultaneous to growth in the Port of Los Angeles, Long Beach began industrial development of its harbor in 1906 when the Los Angeles Dock and Terminal Company purchased 800 acres of marshland (Sapphos Environmental 2009:41). The City of Long Beach annexed the east half of Terminal Island in 1907, an early salvo in the inter-port competition that continues to this day (Sapphos Environmental 2009:142). In 1910, Southern California Edison constructed the region's first high-pressure steam turbine-operated electric generating station on the east end of Terminal Island (Sapphos Environmental 2009:75). The City of Long

Beach used money from a harbor improvement bond issue to construct a municipal wharf in 1911, and the Port of Long Beach was officially founded in that same year.

World War I – World War II

Only a few days before the official opening of the Panama Canal, World War I began in 1914, and the canal remained closed for the duration and several years afterward. The primary focus of the Port of Los Angeles quickly changed, and every effort was devoted to winning the war (City of Los Angeles Board of Harbor Commissioners 1918–1920:7). Wishing to establish a presence on the Pacific Coast, the U.S. Navy developed a base and training station in San Pedro, the first of several prominent military operations in the harbor (Historic American Buildings Survey 1995:3). In addition, the Ports of Los Angeles and Long Beach turned to shipbuilding in response to the nationwide push to build up the maritime fleet. Included in this effort was the Southwestern Shipbuilding and Dry Dock Company (later renamed the Bethlehem Shipbuilding Corporation), located on the west side of present-day Seaside Avenue, which built dozens of vessels by the war's end (Jones & Stokes 2000:10).

With the end of World War I, development of the Port of Los Angeles increased rapidly. The Bethlehem Steel Corporation acquired the Southwest Shipbuilding facility in 1922, and, along with renaming the site the Bethlehem Shipbuilding Corporation, also reorganized it into a ship repair plant. The Board of Harbor Commissioners began a number of improvement projects in the following decade, aided in large part by a $15 million bond issue passed in 1923. This resulted in major changes to the landscape, including new and improved wharves, roads, bridges, and cargo and passenger terminal facilities, and the widening and dredging of the Main Channel to accommodate more and larger cargo ships. Mormon Island was greatly expanded and attached to the mainland, and Terminal Island nearly doubled in size (Furgo West 1996:2–13). The Henry Ford Bridge (also known as the Badger Avenue Bridge) was completed in 1924 and provided Terminal Island with efficient vehicle transportation for the first time (City of Los Angeles Board of Harbor Commissioners 2001). Deadman's Island, which had long been a shipping hazard at the mouth of the Main Channel, was dynamited. Its debris was combined with dredged fill to create the rectangular parcel now known as Reservation Point at the southwest corner of Terminal Island.

New landfill on the east side of the Los Angeles portion of Terminal Island resulted in additional transportation options for the Port of Los Angeles. Allen Field opened on June 20, 1928, as California's first combined land and sea airport, which included an oil-surfaced runway, a pier, and seaplane runway (Los Angeles Times 1928). Although the airfield initially functioned as both a military and commercial facility, the Harbor Commission built the airport with the intention that it would be used primarily by the U.S. Navy (City of Los Angeles Board of Harbor Commissioners 1928:39–40). In 1935, the U.S. Navy signed a 30-year lease with the Port of Los Angeles and renamed the facility Reeves Field in honor of Admiral Joseph M. Reeves, then commander-in-chief of the United States Fleet and an early proponent of U.S. Naval Aviation (Los Angeles Times 1936). Using Works Progress Administration funding, the U.S. Navy and the Port of

Los Angeles made a number of improvements to the field, including the construction of new runways, hangars, a seaplane lagoon and ramp, and a rip-rap shoreline with piers and docks within the seaplane lagoon, as well as a prominent breakwater jetty for the mooring of seaplanes (City of Los Angeles Board of Harbor Commissioners 1935:32).

The discovery of oilfields around the local basin in 1923 led to oil production becoming one of the largest contributors to Port of Los Angeles commerce, with the shipment of oil increasing by nearly 250% from 1923–1924 (City of Los Angeles Board of Harbor Commissioners 1924–1925:46). Large regional companies like Standard Oil of California and Union Oil Company dominated Port of Los Angeles production, with new facilities constructed in Wilmington and Mormon Island during the 1920s. On Terminal Island, the General Petroleum Corporation established a new storage facility at Berths 238–239, which contained three pipelines and 14 storage tanks and the ability to load three to four tankers simultaneously (ESA 2010:32). General Petroleum, along with a number of the other large oil companies, also established dock-side petroleum loading terminals in and around Terminal Island. General Petroleum's oil distribution center was strategically situated along the east side of Seaside Avenue in Fish Harbor. This allowed for the efficient servicing of local fishing boats and shore trade (City of Los Angeles Board of Harbor Commissioners 1930:24).

Collectively, the improvements of the 1920s enabled Port of Los Angeles commerce to expand into new import and export areas and to strengthened the already robust business of oil, lumber, fish, and citrus. The varied products gave rise to direct trade with Asian markets (which had previously gone only through San Francisco and Seattle), and signaled a major shift to truck transportation of goods in addition to rail transportation. This shift also led to an increase in passenger traffic, with ships carrying people everywhere from Catalina Island to the other side of the world. In the 1920s, Los Angeles surpassed San Francisco as the busiest port on the west coast, handling 26.5 million tons of cargo in its peak year of 1928 (City of Los Angeles Board of Harbor Commissioners 2001).

With the crash of the stock market in 1929, commerce at the Port of Los Angeles slowed greatly. Although harbor improvements were scaled back during the Great Depression, they continued nonetheless, assisted in part by the federal government's Works Progress Administration (Queenan 1986). Maintenance increased temporarily in 1933 as workers repaired damage from the Long Beach earthquake; the temblor caused widespread but minor damage to harbor facilities, mostly due to the settling of imported fill, resulting in breaks in concrete floors, roadways, and waterlines (City of Los Angeles Board of Harbor Commissioners 1933:81–83).

On Terminal Island, a number of important development projects continued through the Great Depression, including completion of the Terminal Island Treatment Plant in 1935 and improvements at Reeves Field in 1936. Additional projects at Fish Harbor were completed during this time, such as further dredging of the harbor and the completion of a second breakwater on its eastern edge. The Los Angeles Yacht Club, after splitting from the South Coast Yacht Club in 1936, constructed its own clubhouse and boating facility on the new breakwater a year later. This marked a return of social and recreational activities to Terminal Island.

The fishing industry, meanwhile, continued to grow steadily throughout the decade, and attracted a number of support businesses such as oil and lumber industries, stevedore (dockworker) firms, and marine hardware merchants (Jones & Stokes 2004b:10). By this time, the Japanese community in and around Terminal Island had increased to more than 2,000, with most of the men employed as fishermen and the women working in the canneries.

Wartime Changes, 1941–1945

World War II dramatically changed the face of the harbor, with military activity redefining most of Terminal Island both physically and socially. Naval Station Long Beach was established at the east end of the island, adjacent to the older Reeves Field/Naval Air Base, but within the limits of the City of Long Beach. The naval complex spanning the Los Angeles–Long Beach boundary included a large dry dock shipbuilding facility, Roosevelt base, and Reeves Field. During this time, Reeves Field, which was used for aircraft testing and navigation training, flew more Navy planes fresh from the production line than any other air station in the nation (Hillinger 1965).

Every shipyard within the Port of Los Angeles shifted to the construction and maintenance of ships for the war effort, on a larger scale than for World War I. Existing shipyards such as the Bethlehem Shipbuilding Corporation and nearby Craig Shipyard expanded, and new temporary operations such as the California Shipbuilding Corporation (Calship) began producing military vessels at a rapid rate. Even smaller shipyards located in Fish Harbor, including the Al Larson Boat Shop, contributed to the war effort by producing minesweepers for the Navy (Carmack et al. 2010:12). The Ports of Los Angeles and Long Beach also became major transportation points for shipping military personnel to the Pacific Theatre and to other bases around the world.

The shipyards were enormous wartime employers, and people came from all over the country seeking jobs. Between 1941 and 1945, the harbor's shipyards employed more than 90,000 workers who built vessels for the Navy and Merchant Marines (Carmack et al. 2010:12). The largest yard, Calship at the north end of Terminal Island, employed 40,000 people and produced 467 ships in 4 years (Marshall 1985). Facilities built or expanded to accommodate the increased workforce included the municipal ferry service between San Pedro and Terminal Island, Pacific Electric's Terminal Island line, and the Schuyler F. Heim vertical lift bridge. Restaurants, bars, and recreational businesses sprang up in the San Pedro and Long Beach areas to serve the thousands of workers on their way to and from their shifts, and federal housing projects on the mainland sheltered the new workers.

On Terminal Island, the Japanese community was adversely affected by America's involvement in the war. At its height in 1940, the Japanese population here had grown to 3,000, just prior to the bombing of Pearl Harbor. Beginning in early 1942, Japanese–Americans working at the Port of Los Angeles were forcibly removed from their homes on Terminal Island. The residents there were the first Japanese–Americans on the West Coast to be taken to internment camps. Most were sent to Manzanar in California's Owens Valley.

The Navy bulldozed their homes and most of their businesses near the Port of Los Angeles, leaving nothing to return to at the war's end. The racially motivated uprooting of Terminal Island's Japanese community led not only to the dissemination of the population, but to the destruction of nearly all of its built environment. Those buildings that were not demolished were altered into new uses.

Containerization and Other Postwar Developments

Following the end of World War II, the Port of Los Angeles shifted gears once again as the military presence on Terminal Island scaled down. Unable to accommodate larger, modern aircrafts or extend the landing strip, Reeves Field was decommissioned in 1947. The Navy occupied the site until the expiration of its lease in 1965, but it used the buildings and hangars for little more than storage (Hillinger 1965). The shipbuilding industry was affected as well, with a number of shipyards scrapped or deserted by the 1950s. Many of the shipyards refocused on repair rather than building shipping vessels. Over time, the small shipyards in the Port of Los Angeles ceased operation completely. Commercial operations like metal scrapyards and marine hardware businesses occupied newly cleared areas of Terminal Island, including parts of the enormous Calship yard (City of Los Angeles Board of Harbor Commissioners 1955–1956:41).

Development at the Port of Los Angeles moved forward, however, and the Board of Commissioners launched a broad restoration program that included improving and constructing a number of facilities. One such improvement project was the Cannery Street Project, which, in the early 1950s, widened Cannery Street and repaved additional streets surrounding Fish Harbor. Fish canneries expanded their operations throughout Fish Harbor, particularly the French Sardine Company, which constructed new facilities on Tuna Street and the east side of Fish Harbor. Across Terminal Island, the Port of Los Angeles expanded into the now-vacant land that had once contained hundreds of Japanese and Japanese–American residences, significantly changing the function and character of the area. The once-bustling commercial district along Tuna Street now primarily housed canneries and other fishing-related businesses (City of Los Angeles Board of Harbor Commissioners 1951:18).

Long Beach Harbor made a series of improvements to the east side of Terminal Island during this period. Years of offshore oil drilling had cause major land subsidence; an engineering survey in 1945 confirmed that the east end of the island had dropped more than 4 feet since 1931 (Queenan 1986). This problem was eventually solved in the mid-1950s by pumping seawater into depleted oil pockets. By 1947, Long Beach constructed a large breakwater along its portion of the southern shore of Terminal Island. The breakwater provided Long Beach Harbor with additional protected wharf space.

Oil continued to be a major source of revenue for the Port of Los Angeles, and a number of projects were undertaken to increase the harbor's storage capabilities of the product. In 1959, the Board of Commissioners completed the world's first completely protected supertanker terminal, capable of unloading 35,000 barrels an hour from vessels in the 100,000-ton class (City of Los Angeles Board of Harbor Commissioners 1958–1959:14). Development of the terminal included extensive dredging and construction of a 960- by 60–foot reinforced concrete wharf. Although it had been awarded to the Union Oil Company, the terminal was open to any supertanker that wished to use it, and other oil companies began constructing new facilities to accommodate the next generation of oil transport. These included the Mobil Oil Company (formerly General Petroleum Corporation), which between 1961 and 1962 constructed the world's largest pipeline across the Main Channel to its new tank farm on Terminal Island along Pilchard Street (City of Los Angeles Board of Harbor Commissioners 1961–1962:16).

The surge in business during this period led to the 1959 approval of a measure authorizing the Los Angeles Harbor Department to finance harbor improvements with revenue bonds. This lead to a large-scale replacement or renovation of older terminals, construction of approximately 1,200 feet of wharves, and demolition of unsafe or obsolete wharf structures (City of Los Angeles Board of Harbor Commissioners 1958–1959:11). These improvements were carried out just in time for the advent of containerization, an innovation that allows cargo to be stored and moved from place to place in large standardized containers. Containerization resulted in a significant change to operations at the Port of Los Angeles, including changes to port infrastructure. Enormous cranes were built to move cargo, and wharves had to be substantially modified, enlarged, and strengthened to support the heavy, stacked cargo containers now being used. To continue progress and meet demand, the Los Angeles Board of Harbor Commissioners approved a development plan to modernize existing facilities and construct new ones in 1960 (City of Los Angeles Board of Harbor Commissioners 1960–1961:10).

Some of the port's most visible resources were constructed during the 1960s. The Vincent Thomas Bridge was built in 1963, connecting Terminal Island to the mainland (San Pedro) and replacing municipal ferry service. In 1965, the Indies Terminal was completed on the Terminal Island side of the Main Channel, providing an enormous wharf where six cargo ships at a time could dock (Queenan 1983:106). A new United States Customs House opened on Terminal Island in 1967, replacing the older facility in downtown Los Angeles with one much closer to the import/export trade centered at the Port of Los Angeles. In 1968, completion of the Gerald Desmond Bridge connected Terminal Island to Long Beach. By the late 1960s, the Ports of Los Angeles and Long Beach had converted their shipping infrastructure to adapt to containerization, and were solidly established as modern industrial hubs. This conversion resulted in significant and widespread changes to Terminal Island's built environment, as existing facilities were extensively modified or demolished to make way for new construction on an unprecedented scale.

The 1960s also marked the beginning of the Fish Harbor cannery decline, as the larger canning operations (i.e., Van Camp and StarKist) began establishing other, more cost-effective, canneries overseas. By 1975, most of the canneries at the Port of Los Angeles had been bought out by multinational corporations, and by the mid-1980s, many of their operations had moved out of Los Angeles. The last plant, Chicken of the Sea, closed in 2001. Since that time, many of the buildings associated with the once-vibrant fishing industry have been demolished or abandoned.

Although Terminal Island became heavily industrialized following World War II, a number of recreational facilities remained on the island into the following decades. The Los Angeles Yacht Club occupied its clubhouse at Fish Harbor for more than 65 years before moving to San Pedro in 1993. In addition to the Los Angeles Yacht Club, the 1950s saw the arrival of Henry's Yacht Anchorage, which would remain in its location on the north side of Terminal Island at Berth 209 until 1969. Beginning in the 1970s, Reeves Field (which by this time was being used as a training ground for the Los Angeles Police Department) found a new use as home to the Brotherhood of Street Racers. Founded by "Big Willie" Robinson, the Brotherhood used the landing strips for drag racing intermittently for the next 20 years, until leaving in 1995.

Development at the Port of Los Angeles continued over the years, dominated by dredging the Main Channel to accommodate ever-larger cargo ship and by constructing new container terminals. Multiple dredging and filling events led to significant physical changes at Terminal Island. Its southeast side was added to several times from the 1960s to the 1980s, and in the mid-1990s, the massive Piers 300 and 400 were built atop dredged fill to provide more container terminal space. With development of Pier 400, the former seaplane lagoon at Reeves Field was further enclosed to the east with the construction of Navy Way. Improvements in transportation and technology have been key in the modern development of the island. The need for a railhead closer to the harbor was met in the mid-1980s by construction of the Intermodal Container Transfer Facility approximately 4 miles away; this was funded by both the Port of Los Angeles and Port of Long Beach, and operated by Southern Pacific (now Union Pacific). Completion of the Terminal Island Container Transfer Facility in 1997 and the Alameda Corridor in 2002 also greatly facilitated rail shipping.

Today, the Port of Los Angeles constitutes a massive shipping center with multiple types of industrial and commercial occupants. Largely as a result of the conversion to containerization in the 1960s, much of the harbor's older historic character has been lost, and pre-1960s resources are increasingly scarce. However, one of this area's primary character-defining elements is its tendency to change and develop within an industrial context. The Port of Los Angeles presents a different landscape than any other part of Southern California, characterized by industrial adaptation and change. It represents more than 150 years of physical and social evolution, paralleling the growth of greater Los Angeles itself and exemplifying the influence of national and international socioeconomic forces on regional development. As a crucial hub of harbor operations located in a discrete geographical area, Terminal Island is a good case study for the examination of development in San Pedro Bay.

3.2 Berth 240

History of Occupants

In 1917, Southwestern Shipbuilding and Dry Dock Company began construction of a shipyard on Terminal Island at Berth 240. Southwestern Shipbuilding was established by Western Pipe & Steel to build cargo ships for the U.S. Shipping Board, and had secured a large contract to construct twenty-three 8,800-ton ships in support of the war effort (Jones & Stokes 2000; Shipbuildinghistory.com 2014). After World War I, the site was leased to Bethlehem Steel Corporation as a repair yard and was eventually sold to Bethlehem in 1925. Shipbuilding was revived as major industry at the dawn of World War II, with employment soaring and eventually peaking at approximately 6,000 workers. Following the war, Bethlehem Steel Corporation reverted back to a ship repair yard and was sold to Southwest Marine in 1983. In 1997, Southwest Marine was acquired by the Carlyle Group and renamed U.S. Marine Repair. In 2002, that company was acquired by an aerospace company called BAE Systems, which did not use the old shipyard site. The site then reverted to the Port of Los Angeles, which has owned the property ever since. The site has been idle for the last two decades (Shipbuildinghistory.com 2014).

Shipbuilding for World War I and II

Built in 1917, the shipyard at Berth 240 is one of the oldest shipbuilding and repair facilities at the Port of Los Angeles. Southwestern Shipbuilding established a shipyard on the channel side of Terminal Island (Berth 240) at the Port of Los Angeles. The company was looking to quickly expand its operations after securing a large contract from the Emergency Fleet Corporation to construct twenty-three 8,800-ton ships. By November 11, 1918, the end of World War I, the company had built 18 vessels (Shipbuildinghistory.com 2014) (Table 1). After World War I, Southwestern Shipbuilding continued to construct and repair ships at a much smaller scale. The shipyard's acreage was reduced to approximately 38 acres in 1920 when the Port of Los Angeles extended Seaside Avenue, and was reduced again in 1926 when the main channel was widened (City of Los Angeles Board of Harbor Commissioners 2001).

In 1922, Bethlehem Steel Corporation acquired the shipyard from Southwestern Shipbuilding and converted it to a repair facility (although it did build some ships). The company moved four sections of a 15,000-ton floating dock from the Bethlehem Union Iron Works plant in San Francisco to its Port of Los Angeles location at Berth 240. The dry dock was built by the Ames Construction Company in Seattle in 1919 and was installed at the San Francisco plant. A fifth section of dry dock was added to Berth 240 in 1924. The sectional design of the dry dock allowed it to be customized for both large and small vessels. At the time of its installation, the dry dock was said to be the largest of its kind on the West Coast.

In between the wars, Bethlehem Steel Corporation constructed a variety of new facilities in its shipyard, including a boilermaker shop, a carpenter shop, an electrical shop, joiner department, machine shop, marine-machine shop, pipe shop, rigger shop, plate shop, pattern shop, and blacksmith shop. Rails throughout the yard allowed the plant to be serviced by the Union Pacific and Southern Pacific Railroads, and the development of new roads enabled truck and automobile access to the docks and piers. The shipyard was capable of building and repairing a variety of vessel types and sizes, including tugs, yachts, and barges (City of Los Angeles Board of Harbor Commissioners 2001).

At the end of 1940, Bethlehem Steel Corporation, with the assistance of the Maritime Administration, embarked on a $4.25 million program to convert its yard at Berth 240 into a combined ship repair/building plant. With U.S. entry into World War I on the horizon, Bethlehem Steel Corporation received large contracts associated with an expanded destroyer shipbuilding program in 1941 for Fletcher-class destroyers. New facilities were added to the shipyard, including new shops, warehouses, and an outfitting berth; ways (launch tracks) with Colby cranes; and a mold loft. Some of the earlier building improvements made to the north end of the yard were demolished to make way for the ramp-up to World War II (City of Los Angeles Board of Harbor Commissioners 2001; Jones & Stokes 2000).

During the national wartime mobilization effort, the Bethlehem Steel Corporation shipyard quickly transformed itself to meet the demands of wartime production. The shipyard now had approximately 3,000 feet of berthing space on the Main Channel and a large sectional dry dock. These critical improvements allowed the company to take on an extraordinary amount of wartime production projects. Bethlehem Steel Corporation constructed and outfitted 26 destroyers during World War II that saw action all over the world (Table 1). One of these destroyers was the U.S.S. Cassin Young, delivered in 1943 and converted to a memorial at the Charleston Naval Yard, Boston National Historical Park in 1981. The ship is now a national historical landmark (Shipbuilding.com 2014).

At the end of World War II, the shipyard ramped down operations as defense contracts were canceled and thousands of workers were laid off. At its peak, Bethlehem Steel Corporation employed 6,000 workers in ship repair and construction. The shipyard went on to provide ship repair services, and took on the task of mothballing U.S. Navy oil tankers (Jones & Stokes 2000).

A Cold War improvement program was initiated in 1959 that involved demolition of some wartime infrastructure, including the shipbuilding ways, replacement of wooden piers with high-water platforms to accommodate tower cranes, and relocation of Dry Dock No. 2 to the northwest portion of the shipyard (Jones & Stokes 2000).

By the 1970s and 1980s, Bethlehem Steel Corporation experienced economic struggles with steel manufacturing, and divested itself of the shipyard at Berth 240 in 1981 (Jones & Stokes 2000). By 1983, Southwest Marine purchased the shipyard and continued to operate the facility until it was acquired by the Carlyle Group in 1997 and renamed U.S. Marine Repair. That company was then acquired by BAE Systems, which did not see a future for the old shipbuilding site. The property is now under the ownership of the Port of Los Angeles and has been idle for the last two decades (Shipbuildinghistory.com 2014).

Table 1. Ships Built at Berth 240

Hull #	O.N.	Name	Owner	Type	Govt. Type	Ship No.	Tons	Delivery	Disposition
Built by Southwestern Shipbuilding									
1	217373	West Carnifax	USSB	Cargo	EFC	1371	6,150	Jan-19	Later Exford 1928, Pan Royal 1930, in collision and lost 1943
2	217547	West Caruth	USSB	Cargo	EFC	1372	6,150	Feb-19	Later Exmoor 1923, Antonio Tripcovich 1924, Seisho Maru 1928, torpedoed and lost 1944
3	217709	West Catanace	USSB	Cargo	EFC	1373	6,150	Mar-19	Later Atlantic 1923, Theodore 1947, Archon 1951, scrapped 1952
4	217932	West Sequana	USSB	Cargo	EFC	1374	6,150	Apr-19	Later Golden Cloud 1928, Waimea 1938, Marcar 1950, Carmar 1952, Madelaine 1955, scrapped 1958
5	218027	West Cavanal	USSB	Cargo	EFC	1375	6,150	Jun-19	Later Edgar Bowling 1923, Texmar 1927, Irkutsk 1945, scrapped 1966
6	218322	West Cawthon	USSB	Cargo	EFC	1376	6,150	Jul-19	Later Empire Bison 1940, torpedoed and lost 1940
7	218614	West Cayote	USSB	Cargo	EFC	1377	6,150	Aug-19	Later Washington 1928, bombed and lost 1942
8	218323	West Chetac	USSB	Cargo	EFC	1378	6,150	Jul-19	Torpedoed and lost 1942
9	218732	West Inskip	USSB	Cargo	EFC	1379	6,000	Sep-19	Later Charcas 1926, Carreta 1940, Parita Sun 1947, scrapped 1953
10	218817	West Chicopee	USSB	Cargo	EFC	1380	6,000	Dec-19	Renamed Bakersfield, later Chagres 1941, Mirafjord 1947, San Salvatore 1950, scrapped 1953
11	219434	West Neris	USSB	Cargo	EFC	2206	6,000	Dec-19	Later Irish Oak 1941, torpedoed and lost 1943
12	219522	West Niger	USSB	Cargo	EFC	2207	6,000	Jan-20	Later Nevada 1938, wrecked 1932

Table 1. Ships Built at Berth 240

Hull #	O.N.	Name	Owner	Type	Govt. Type	Ship No.	Tons	Delivery	Disposition
13	219658	West Nilus	USSB	Cargo	EFC	2208	5,650	Mar-20	Sunk as breakwater at Normandy 1944
14	219937	West Niveria	USSB	Cargo	EFC	2209	5,650	Apr-20	Later Golden Coast 1928, Delawarean 1937, Empire Hawksbill 1940, torpedoed and lost 1942
15	220024	West Nomentum	USSB	Cargo	EFC	2210	5,650	May-20	Later Pennsylvania 1928, Pan 1947, Tanar 1949, in collision and sank 1959
16	220199	West Norranus	USSB	Cargo	EFC	2211	5,650	Jun-20	Later Pacific Pine 1926, Maine 1937, Lvov 1945, Istra 1951, scrapped 1958
17	220315	West Notus	USSB	Cargo	EFC	2212	5,650	Jul-20	Shelled and scuttled 1942
18	220527	West Numidia	USSB	Tanker	EFC	2213	5,650	Aug-20	Renamed Hollywood, wrecked and lost 1945
19			USSB	Cargo	EFC	2214			Cancelled
20			USSB	Cargo	EFC	2215			Cancelled
21			USSB	Cargo	EFC	2216			Cancelled
22			USSB	Cargo	EFC	2217			Cancelled
23			USSB	Cargo	EFC	2218			Cancelled
19	220900	Mary Luckenbach	USSB	Cargo	EFC	2214	8,600	Dec-20	Later C. B. Watson 1936, Indiana 1947, Al Horreya 1954, Mansoura 1957, scrapped 1963
20	167850		Union Oil	Barge			165	Apr-20	
21	221100	Montebello	Union Oil	Tanker			8,272	Mar-21	Torpedoed and lost 1941
22	221103	La Placentia	Union Oil	Tanker			8,272	Apr-21	Scrapped 1948
23	221691	La Purisima	Union Oil	Tanker			8,272	Oct-21	Later Taganrog 1943, Octorara 1944, La Purisima 1946, scrapped 1947
24	Dutch	Scopas	N.I.T.M.	Tanker			5,900	Jul-21	Scrapped 1939

Table 1. Ships Built at Berth 240

Hull #	O.N.	Name	Owner	Type	Govt. Type	Ship No.	Tons	Delivery	Disposition
25	Dutch	Silvanus	N.I.T.M.	Tanker			5,900	Aug-21	Later Papoose 1926 (ON 226583), torpedoed and lost 1942
26	Dutch	Semiramis	N.I.T.M.	Tanker			5,900	Sep-21	Later Kyoko Maru 1943, torpedoed and lost 1943
Built by Bethlehem Steel									
9001		Boyd	US Navy	Destroyer	DD	544	2,050	8-May-43	To Turkey as Iskenderun (D 343) 1969, struck 1981
9002		Bradford	US Navy	Destroyer	DD	545	2,050	12-Jun-43	To Greece as Thyella (D 28) 1962, struck 1981
9003		Brown	US Navy	Destroyer	DD	546	2,050	10-Jul-43	To Greece as Navarinon (D 63) 1962, struck 1981
9004		Cowell	US Navy	Destroyer	DD	547	2,050	23-Aug-43	To Argentina as Almirante Storni (D 24) 1971, struck 1982
9005			US Navy	Destroyer	DD	548	2,050		Cancelled 1940
9006			US Navy	Destroyer	DD	549	2,050		Cancelled 1940
9007		Kendrick	US Navy	Destroyer	DD	612	1,620	12-Sep-42	Sunk as target 1968
9008		Laub	US Navy	Destroyer	DD	613	1,620	24-Oct-42	Scrapped 1975
9009		MacKenzie	US Navy	Destroyer	DD	614	1,620	21-Nov-42	Sunk as target 1974
9010		McLanahan	US Navy	Destroyer	DD	615	1,620	19-Dec-42	Scrapped 1974
9011			US Navy	Destroyer	DD	616	1,620		Cancelled 1940
9012			US Navy	Destroyer	DD	617	1,620		Cancelled 1940
9013		Hopewell	US Navy	Destroyer	DD	681	2,050	30-Sep-43	Sunk as target 1972
9014		Porterfield	US Navy	Destroyer	DD	682	2,050	30-Oct-43	Target hulk 1976
9015		Callaghan	US Navy	Destroyer	DD	792	2,050	27-Nov-43	Sunk by Japanese aircraft off Okinawa 1945

Table 1. Ships Built at Berth 240

Hull #	O.N.	Name	Owner	Type	Govt. Type	Ship No.	Tons	Delivery	Disposition
9016		Cassin Young	US Navy	Destroyer	DD	793	2,050	31-Dec-43	Memorial in Charlestown MA 1981
9017		Irwin	US Navy	Destroyer	DD	794	2,050	14-Feb-44	To Brazil as Santa Caterina (D 32) 1968, struck 1978
9018		Preston	US Navy	Destroyer	DD	795	2,050	20-Mar-44	To Turkey as Icel (D 344) 1969, struck 1981
9019		Lowry	US Navy	Destroyer	DD	770	2,200	23-Jul-44	To Brazil as Espirito Santo (D 38) 1973, struck 1995
9020		Lindsey	US Navy	Destroyer	DD	771	2,200	20-Aug-44	DM 32, sunk as target 1972
9021		Gwin	US Navy	Destroyer	DD	772	2,200	30-Sep-44	DM 33, to Turkey as Muavenet (DM 357) 1971, struck 1993
9022		Aaron Ward	US Navy	Destroyer	DD	773	2,200	28-Oct-44	DM 34, scrapped 1946
9023		Hugh W. Hadley	US Navy	Destroyer	DD	774	2,200	25-Nov-44	Scrapped 1947
9024		Willard Keith	US Navy	Destroyer	DD	775	2,200	27-Dec-44	To Colombia as Caldas (D 02) 1972, struck 1977
9025		James C. Owens	US Navy	Destroyer	DD	776	2,200	17-Feb-45	To Brazil as Sergipe (D 35) 1973, struck 1995
9026		Bristol	US Navy	Destroyer	DD	857	2,200	17-Mar-45	To Taiwan as Hua Yang (D 988) 1969, struck 1993
9027		Fred T. Berry	US Navy	Destroyer	DD	858	2,425	12-May-45	Scuttled 1972
9028		Norris	US Navy	Destroyer	DD	859	2,425	9-Jun-45	To Turkey as Kocatepe (D 354) 1974, struck 1993
9029		McCaffery	US Navy	Destroyer	DD	860	2,425	26-Jul-45	Scrapped 1974
9030		Harwood	US Navy	Destroyer	DD	861	2,425	8-Sep-45	To Turkey as Kocatepe (D 354) 1971, sunk 1974
9031		Acoma	US Navy	Yard Tug	YT	701	260	12-Mar-46	Struck 1985

Table 1. Ships Built at Berth 240

Hull #	O.N.	Name	Owner	Type	Govt. Type	Ship No.	Tons	Delivery	Disposition
9032		Arawak	US Navy	Yard Tug	YT	702	260	12-Mar-46	Struck 1985
9033		Canarsee	US Navy	Yard Tug	YT	703	260	16-Apr-46	Sold 1975
9034		Moratok	US Navy	Yard Tug	YT	704	260	16-Apr-46	Sold 1985
9035		Pequawtek	US Navy	Yard Tug	YT	705	260		Cancelled
9036		Wailaki	US Navy	Yard Tug	YT	706	260		Cancelled
9037		Sanpoil	US Navy	Yard Tug	YT	707	260		Cancelled
9038		Setauket	US Navy	Yard Tug	YT	708	260		Cancelled
9039		Tocobaga	US Navy	Yard Tug	YT	709	260		Cancelled
9040		Tonkawa	US Navy	Yard Tug	YT	710	260		Cancelled

Source: Shipbuildinghistory.com 2014.
EFC = Emergency Fleet Corporation

4. METHODS AND RESULTS

4.1 California Historical Resources Information System Records Search

As part of the cultural resources study prepared for the proposed project, Dudek conducted a California Historical Resources Information System records search at the South Central Coastal Information Center (SCCIC) on December 8, 2016, for the proposed project site and surrounding 0.25 miles. This search included its collection of mapped prehistoric, historic, and built-environment resources; Department of Parks and Recreation (DPR) Site Records; technical reports; and ethnographic references. Additional consulted sources included historical maps of the project area; the NRHP and CRHR; the California Historic Property Data File; and the lists of California State Historical Landmarks, California Points of Historical Interest, and Archaeological Determinations of Eligibility. Confidential Appendix A provides the confidential results of the records search and a bibliography of prior cultural resources studies.

Previous Technical Studies

The SCCIC records indicate that 13 cultural resource investigations have been conducted within the 0.25-mile search radius of the proposed project site (see Table 2). Four of these studies are mapped as overlapping the project site (LA-02399, LA-04130, LA-10016, and LA-10527). However, none of these prior studies are considered recent (conducted within the last 5 years). Moreover, three of these reports (LA-02399, LA-04130, and LA-10527) are broad studies of the Los Angeles–Long Beach Harbor area and do not specifically address the proposed project site. The proposed project site comprises the majority of the LA-10016 study area. A brief summary of the study follows Table 2.

Table 2. Previous Cultural Resource Investigations within 0.25 Miles of the Project Site

SCCIC Report Number	Title	Author	Year	Proximity to Project Site
LA-02399	Los Angeles–Long Beach Harbor Areas Cultural Resource Survey	Winman, Lois J., and E.G. Stickel	1978	General Overview
LA-04130	Los Angeles–Long Beach Harbors Landfill Development and Channel Improvement Studied Cultural Resources Appendix	Anonymous	1984	General Overview
LA-04455	A Cultural Resource Study for the Los Angeles Harbor Deepening Project	Pierson, L.	1980	Outside
LA-04456	The Harbor Defense of Los Angeles: A Reference Manual	Berhow, Mark A.	1992	Outside
LA-07842	Phase I Archaeological Investigation of Limited Areas within the Torrance Refinery and Atwood, Southwestern Marine and Vernon Terminals, Los Angeles and Orange Counties, California	Maki, Mary K.	2000	Outside

Table 2. Previous Cultural Resource Investigations within 0.25 Miles of the Project Site

SCCIC Report Number	Title	Author	Year	Proximity to Project Site
LA-07860	ISC San Pedro Cultural Resource Survey, San Pedro, California	Maley, Bridget	1998	Outside
LA-10016	Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the Port of Los Angeles	Lassell, Susan E.	2000	Within
LA-10527	Los Angeles–Long Beach Harbor Areas Regional Cultural History, Los Angeles County, California	Weinman, Lois J.	1978	General Overview
LA-11124	Historical Determination of Effect, Physical Plant and Infrastructure: Long Range Master Planning of Bureau of Prisons' Institutions, FCI Terminal Island, California	McDonald, Valerie	2004	Outside
LA-11232	San Pedro Waterfront Redevelopment Project, Cultural Resources Technical Report, Historical Built Environment (Architectural Resources)	Lee, Portia.	2008	Outside
LA-11410	Cultural Resources Survey Report for the San Pedro Waterfront Project located in the City of Los Angeles, Los Angeles County, California	ICF Jones & Stokes	2008	Outside
LA-11411	San Pedro Waterfront Project Final EIS/EIR	U.S. Army Corps of Engineers	2009	Outside
OR-03268	Phase I Archaeological Investigation of Limited Areas Within the Torrance Refinery and Atwood, Southwestern Marine and Vernon Terminals, Los Angeles and Orange Counties, California	Maki, Mary K.	2000	Outside

LA-10016

In 2000, the Los Angeles Harbor Department contracted with Jones & Stokes to conduct an architectural survey and evaluation of the Southwest Marine Terminal (Berth 240), Port of Los Angeles. The site comprised two separate areas: a mostly vacant region to the north and a paved area to the south, which was occupied by World War II-era shipyard buildings (Lassell 2000). As a result of the study, the Southwest Marine Terminal (Berth 240) was found eligible for listing in the NRHP as a historic district (P-19-187658), known as the Bethlehem Shipyard Historic District, with 22 contributing resources and five non-contributing elements. One of these non-contributing elements, the Compressor House (P-19-189484), is within the current project site and is proposed for demolition.

Although not identified by the records search, the 2000 evaluation of the Bethlehem Shipyard Historic District was updated in 2011 by Murray et al. The updated evaluation found that, of the 27 buildings and structures identified by Jones & Stokes, 20 are still extant. The district is now composed of 18 contributing resources and two non-contributing resources (Murray et al. 2011).

Previously Recorded Cultural Resources

According to the SCCIC records, there are two previously recorded cultural resources located within the project site: the Southwest Marine Terminal (Berth 240) Historic District (P-19-187658) and the Compressor House building (P-19-189484), a non-contributing element to the historic district. A discussion of these resources is provided above under the Previous Technical Studies section, sub-heading LA-10016.

There are an additional 11 previously recorded resources within 0.25 miles of the project site (Table 3). These resources consist of various buildings, structures, and objects constructed in and around Terminal Island dating from the early 1900s to the mid-20th century. Among these resources is the location of a Japanese fishing community from the early 1900s (P-13-167314); the steam propulsion system of the Sierra Nevada ferryboat (P-19-173042); six industrial buildings constructed between the 1930s and 1950s; and three structures: a wharf (P-19-187894), a dock (P-19-189486), and a crane (P-19-189487).

Table 3. Previously Recorded Cultural Resources within 0.25 Miles of the Project Site

Primary Number	Trinomial	Resource Description	Recorded By/Year	NRHP/CRHR Eligibility Status	Proximity to Project Site
19-167314	—	Historic: Japanese Fishing Community of Terminal Island (early 1900s)	Fujita, K.M. 1979	Unknown	Adjacent
19-173042	—	Historic: Steam Propulsion System of the Wrecked Ferryboat Sierra Nevada	Schwartz, S.J. n.d.	2 (Determined eligible for the NRHP or CRHR)	Adjacent
19-187658	—	Historic: Southwest Marine Terminal (Berth 240/Bethlehem Shipyard Historic District)	Lanz, M.R. 2000	3S (appears eligible for NRHP)	Within
19-187831	—	Historic: Building 10 – Engineering Offices (built 1933)	Architectural Resources Group 1998	2 (Determined eligible for the NRHP or CRHR)	Outside
19-187832	—	Historic: Building 12 – Carpenter/Paint Shop (built 1951)	Architectural Resources Group 1998	6Y (not eligible for NRHP; not evaluated for CRHR or local)	Outside
19-187833	—	Historic: Building 14 – Welding/Machine Shop (built 1933)	Architectural Resources Group 1998	6Y (not eligible for NRHP; not evaluated for CRHR or local)	Outside
19-187886	—	Historic: Building 15 – Locker Room/ANT Shop (built 1938)	Architectural Resources Group 1998	6Y (not eligible for NRHP; not evaluated for CRHR or local)	Outside
19-187894	—	Historic: Industrial Wharf (built 1933)	Architectural Resources Group 1998	6Y (not eligible for NRHP; not evaluated for CRHR or local)	Outside

Table 3. Previously Recorded Cultural Resources within 0.25 Miles of the Project Site

Primary Number	Trinomial	Resource Description	Recorded By/Year	NRHP/CRHR Eligibility Status	Proximity to Project Site
19-189483	—	Historic: Guardhouse (built 1950s)	Lanz, M.R. 2000	6 (not eligible)	Outside
19-189484	—	Historic: Compressor House (built 1918)	Lanz, M.R. 2000	6 (not eligible)	Within
19-189485	—	Historic: Dry Dock Control house (built 1940s)	Lanz, M.R. 2000	6 (not eligible)	Outside
19-189486	—	Historic: Dry Dock #1 (built 1913)	Lanz, M.R. 2000	6 (not eligible)	Outside
19-189487	—	Historic: Clyde Crane	Lanz, M.R. 2000	6 (not eligible)	Outside

4.2 Native American Coordination

Native American Heritage Commission Sacred Lands File Search

As part of the process of identifying cultural resources within or near the project site, Dudek contacted the NAHC on November 18, 2016, to request a review of its Sacred Lands File (SLF) . The NAHC emailed a response on November 21, 2016, which stated that the SLF search was completed with negative results. Because the SLF search does not include an exhaustive list of Native American cultural resources, the NAHC suggested contacting Native American individuals and/or tribal organizations who may have direct knowledge of cultural resources in or near the project site. The NAHC provided the contact list along with the SLF search results.

Dudek prepared and sent letters to each of the six persons and entities on the contact list requesting information about cultural sites and resources in or near the project site. These letters, mailed on March 9, 2017, contained a brief description of the proposed project, a summary of the SLF search results, and reference maps. Recipients were asked to reply within 15 days of receipt of the letter should they have any knowledge of cultural resources in the area.

Dudek has received one response to the letters to-date. On March 15, 2017, Andrew Salas of the Gabrieleño Band of Mission Indians – Kizh Nation responded via email. Mr. Salas' letter cited Assembly Bill 52 language regarding government-to-government consultation, but did not provide any information about the proposed project.

The complete record of Dudek's coordination with the NAHC and tribes is located in Appendix B.

Assembly Bill 52

The proposed project is subject to compliance with Assembly Bill 52 (PRC 21074), which requires consideration of impacts to "tribal cultural resources" as part of the CEQA process, and requires the Los Angeles Harbor Department, the CEQA lead agency for the proposed project, to notify any groups who have requested notification of the proposed project and who are traditionally or culturally affiliated with the geographic area of the project site. Because Assembly Bill 52 is a government-to-government process, any records of correspondence related to Assembly Bill 52 notification and any subsequent consultation are on file with the Los Angeles Harbor Department.

4.3 Field Survey

Dudek Architectural Historian and Archaeologist Samantha Murray, MA, RPA, conducted a pedestrian survey of the project site on February 1, 2017.

The built-environment survey entailed walking all portions of the project site and documenting each building with notes and photographs. Each building was assessed for significant changes in condition since the 2011 evaluation, including integrity of character-defining features, spatial relationships, and setting. This required assessing each previously recorded building within the historic district for any recent alterations or damage.

The archaeological survey included a reconnaissance-level survey of the entire project site. Most of the project site falls within heavily disturbed, vacant land. Ground visibility was excellent throughout much of the project site (approximately 80%), with only minor visual obstructions from grass, tarps, or paved areas. The project site was found to be heavily disturbed by large cuts made in the soil over a large area. Most of the cuts were covered with black tarps held down with sandbags. The cuts in the soil provided a clear profile of many portions of the project site. Soil within the project site consists entirely of historic fill material and sand. The fill contains layers of sand, coarse gravel, and a variety of building material fragments. No archaeological resources were identified during the survey.

During the survey, significant construction activity was observed just south of the project site within the western portion of the historic district, directly adjacent to the Employees' Building and Machine Shop. Large sections of ground had been excavated for unknown reasons.

Dudek documented the fieldwork using field notes, digital photography, close-scale field maps, and aerial photographs. Photographs of the project site were taken with a Canon Power Shot SD90 digital camera with 12 megapixels and 3x optical zoom. All field notes, photographs, and records related to the current study are on file at Dudek's Pasadena, California, office.

4.4 Description of Surveyed Resources

Bethlehem Shipyard Historic District

The project site falls entirely within the boundary of the Bethlehem Shipyard Historic District (Figure 3), and the project proposes to demolish one non-contributing building known as the Compressor House.

The historic district comprises two separate areas: a mostly vacant region to the north and a paved area to the south, which is where most of the extant district buildings and cranes are located. The district includes 13 buildings and 7 whirly cranes. Eleven buildings are located within the southern portion of the district, with two buildings located farther north. Although the buildings vary in size, nearly all buildings are rectangular in plan and feature corrugated metal cladding on the exterior. The buildings also feature numerous rows of windows, typically multi-paned with metal frames. Cranes are located on rails that run along the wharf to the west, and to the south where the dry docks used to be located. Most of the area surrounding the buildings is paved, with some unpaved areas throughout. Excavation activities appear to have occurred along the west side of the district, with disturbance directly adjacent to the Employees' Building and Machine Shop #3 building. Piles of gravel and concrete were also present throughout the site. Detailed descriptions of each individual building can be found in Appendix C on the original Jones & Stokes 2000 DPR forms.

Compressor House Building

The Compressor House (Figures 4 and 5) is a tall, single-story, prefabricated, industrial metal building that is rectangular in plan. The building is steel framed and sheathed in corrugated metal panels. It features a front gable roof and broad expanses of multi-pane windows set in steel frames, some with operable hopper openings. Nearly all doors have been removed from the building. The largest bay door openings are located on the east and west elevations. Numerous exhaust stacks protrude from the building's south elevation, with additional stacks and vents located on the roof. The north elevation contains a shed-roof addition that runs nearly the entire length of the building. The words "Compressor House" are still visible on the west elevation just below the gable. The building measures 150 by 61 feet and was constructed in 1918. According to Harbor plans, it underwent alterations in 1941 and was reduced in size to its current configuration in 1960 (Jones & Stokes 2000). The overall condition of the building is poor. Many of the windows are broken, and numerous portions of the building have missing sheet panels, such that the interior of the building is completely exposed.

SOURCE: Bing Maps (Accessed 2016)

FIGURE 3

Bethlehem Shipyard Historic District

DUDEK

Transportation Vessels Manufacturing Facility Project, Port of Los Angeles, Berth 240

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Figure 4 Southeast Elevation of Compressor House

Figure 5 Northwest Elevation of Compressor House

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5. SIGNIFICANCE EVALUATION

5.1 Bethlehem Shipyard Historic District

Previous Evaluations

In 1996, San Buenaventura Research Associates inventoried Southwest Marine as part of a large-scale reconnaissance-level survey of the Port of Los Angeles. The study found that the Southwest Marine terminal constituted an NRHP-eligible historic district under Criterion A for its associations with the World War II shipbuilding industry at the Port of Los Angeles.

In 2000, Jones & Stokes prepared an updated survey and evaluation of Southwest Marine for the LAHD. The survey identified 27 buildings and structures within the Bethlehem Shipyard Historic District consisting of 22 contributing resources and five non-contributing resources. The Administration Building, Medical Building (No. 8), Foreman's Building (No. 34), Transportation Shop (No. 4), Blacksmith and Anglesmith Shop, Plate Shop (No. 6), Machine Shop (No. 3), Machine Storage and Warehouse Building (No. 7), Shop (No. 9), Employee's Building, Paint Shop and Substation, Substation No. 3, Substation No. 7, Building No. 22, Dry Dock No. 2, and the cranes constructed before 1946 were all identified as contributing elements to the historic district. The district was found eligible under NRHP Criterion A for its association with the World War II emergency shipbuilding program. The period of significance for the district was identified as 1941 to 1945, beginning with the time the site was occupied by the Bethlehem Steel Corporation and reconfigured to construct vessels for the U.S. Navy as part of the emergency shipbuilding program, and ending with the conclusion of World War II.

In 2011, SWCA prepared an updated evaluation of Southwest Marine as part of a survey of historic properties on Terminal Island (Murray et al. 2011). The updated evaluation found that of the 27 buildings and structures identified by Jones & Stokes, 20 are still extant. The district is now composed of 18 contributing resources and two non-contributing resources. Changes to the Jones & Stokes identified district were as follows:

- Three contributing buildings were removed/demolished: Substation No. 3 (demolished 2004–2005), Building No. 22 (demolished 2004–2005), and Dry Dock No. 2 (removed 2005–2011).
- Four non-contributing buildings were removed/demolished: (Guard House, Dock Control House, Dry Dock No. 1, and post-1946 crane).
- One extant contributing resource is now a non-contributing resource as a result of a change in setting. The updated evaluation identified a change in the immediate setting of the Administration Building as the result of a street realignment that occurred in 2008. Although the building was not physically moved or altered, it was previously situated on the west side of South Seaside Avenue. The realignment of Seaside Street now places the building on the east side of the street in the

parking lot of the Al Larson Boat Shop property, physically separating it from the district. The Administration Building no longer visually "reads" as part of the unified entity that defined the Bethlehem Shipyard Historic District. Because its setting has been compromised, the Administration Building was found to be a non-contributing resource to the district.

Despite the loss of three contributing resources and the change in status of the Administration Building from a contributor to a non-contributor, the Bethlehem Shipyard Historic District was found to remain eligible for the NRHP under Criterion A for its important associations with World War II shipbuilding.

Updated Evaluation

The current evaluation did not find a significant change in the condition or integrity of the district buildings or structures since the previous evaluation update in 2011. The Bethlehem Shipyard Historic District currently contains 20 elements consisting of 18 contributing resources and two non-contributing resource (Table 4; Figure 3). The most notable change to the site was the ground disturbance on the west side of the district, adjacent to the west elevations of the Employees' Building and Machine Shop (No. 3). Large, shallow pits have been excavated and soil has been pushed into piles. A large pile of broke concrete was also observed.

Table 4. Bethlehem Shipyard Historic District (Updated Status)

Building	Year Built	Status
Guard House	Circa 1950s	No longer extant
Administration Building	1941	Non-contributor
Medical Building (No. 8)	1941; altered 1943	Contributor
Foreman's Building (No. 34)	1941	Contributor
Transportation Shop (No. 4)	1941	Contributor
Blacksmith and Anglesmith Shop	1918; altered 1941	Contributor
Plate Shop (No. 6)	1918; altered 1941	Contributor
Machine Shop (No. 3)	1941	Contributor
Machine Shop and Warehouse Building (No. 7)	1941; altered 1943	Contributor
Shop (No. 9)	1941	Contributor
Employees' Building	1941	Contributor
Compressor House	1918; altered 1941, 1960	Non-contributor
Paint Shop and Substation	Circa 1940	Contributor
Substation No. 3	1918; moved 1941	No longer extant
Substation No. 7	1918; altered 1941	Contributor
Building No. 22	1941	No longer extant
Dock Control House (No. 29)	Circa 1950s; moved 1960s	No longer extant
Dry Dock No. 1	1913	No longer extant
Dry Dock No. 2	1919	No longer extant
Cranes	Circa 1918–1970	7 Contributors (pre-1946)

Source: Modified from Jones & Stokes 2000.

NRHP/CRHR Evaluation Update

As a result of the updated evaluation, the Bethlehem Shipyard Historic District appears to remain eligible for the NRHP and CRHR under Criteria A/1 for its important associations with the World War II emergency shipbuilding program. The period of significance is from 1941 to 1945, beginning with the time the site was first reconfigured to construct U.S. Navy destroyers for contracts that were part of the World War II emergency shipbuilding program, and ending with the conclusion of shipbuilding activities for the war when many contracts were cancelled.

Despite the loss of several buildings over the years, the district still servers as an important example of a critical shipbuilding industry at the Port of Los Angeles, which reached its peak of significance during World War II when it employed thousands of workers to construct and outfit 26 destroyers for the emergency ship building effort while under contract to the Emergency Fleet Corporation. The Bethlehem Shipyard is directly associated with the nation's unique and unprecedented ability to support its forces with a formidable fleet that allowed the United States to halt the Nazi occupation of Europe and Japanese advancement in the Pacific theater.

The current configuration of buildings within the historic district is largely the same as it was during World War II. Most of the alterations made to the original 1918 buildings occurred during the period of significance in 1941 when the site was transformed to support the massive wartime production efforts. Most of the buildings north of the Compressor House were demolished/removed between 1980 and 1994 (NETR 2017). However, the loss of these buildings has not impacted the integrity of the district, since these buildings were constructed outside the period of significance. The main cluster of extant district buildings, structures, and cranes in the southern portion of the district still retain integrity to their period of significance and still convey the important associations with the shipyard.

In consideration of location and design, most of the existing buildings and structures within the district retain sufficient integrity to remain eligible for listing in the NRHP as a district. The site still conveys the important events associated with Bethlehem Shipyard's mission and function as an important World War II shipyard. Most of the remaining buildings are essentially unaltered from this period of significance, and the relationships between the buildings, which reflect the functions of the buildings and the specialized shipbuilding trades, remain intact.

The Compressor House suffered loss of integrity when it was reduced in size in the 1960s (after the period of significance). The building appears to have been constructed in 1918, substantially altered in 1941–1942, and reduced in size by roughly half in 1960 to its current configuration. In addition, the immediate setting of the Administration Building has changed as the result of a street realignment that occurred in 2008. Although the building has not been physically moved or altered, it was previously situated on the west side of South Seaside Avenue. The realignment of Seaside Street now places the building on the east side of the street in the parking lot of the Al Larson Boat Shop property. The administration building no longer visually "reads" as part of the unified entity that defined the Bethlehem Shipyard Historic District. Because its setting has been significantly compromised, the administration building is now considered a non-contributing resource to the district.

World War II-era shipyards are becoming an increasingly rare and valuable resource type. Many of these sites have been demolished or heavily altered with the passage of time. The Bethlehem Shipyard Historic District continues to be eligible for the NRHP/CRHR under Criterion A/1 because it is the last remaining example of the once highly significant shipbuilding industry at the Port of Los Angeles, and is becoming an increasingly diminished resource type.

The district is not known to be associated with any significance persons (Criterion B/2), nor does it retain a level of integrity/significance that would warrant consideration under Criterion C/3 for its architectural merits. Finally, there is no evidence that the district yields untapped information important in history or prehistory, nor is it associated with an archaeological site (Criterion D/4).

City of Los Angeles HCM Updated Evaluation

For all of the reasons discussed in the above section, the district also remains eligible under City of Los Angeles HCM Criterion 1 for its important associations with the World War II emergency shipbuilding program. The updated Context/Theme/Property Type information is provided below for use in the SurveyLA Field Guide Survey System (FiGSS):

Resource Name	Address	Year Built	Resource Type	Resource Subtype	Architectural Style	Context	Subcontext	Theme	Subtheme	Property Type	Status Code(s)	Criteria	Reason Statement
Bethlehem Shipyard	985 S. Seaside Avenue	c. 1918-1950	Industrial District	Plant	Industrial, Utilitarian	Industrial Development	None	Port of Los Angeles, 1907–1980	None	Port Shipyards	3S; 3CS; 5S3	A/1/1	The property is associated with the World War II emergency shipbuilding program.

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6. FINDINGS AND CONCLUSIONS

After conducting background research and a pedestrian survey of the proposed project site, the Bethlehem Shipyard Historic District appears to remain eligible for the NRHP (Criterion A) and CRHR (Criterion 1), and as a City of Los Angeles HCM (Criterion 1) for its important associations with the emergency shipbuilding program during World War II. The Compressor House building remains a non-contributor to the historic district due to extensive alterations that occurred outside the district's period of significance, and the Administration Building also continues to be a non-contributor due to its alteration of setting that has visually removed it from the rest of the district. Altogether, the Bethlehem Shipyard Historic District comprises 20 buildings consisting of 18 contributors and two non-contributors (Table 4).

Because the proposed project site falls entirely within the boundary of a historic district, an impacts assessment is provided below in consideration of all proposed project activities with the potential to adversely impact historical resources under CEQA.

6.1 Impacts Assessment

Demolition

Compressor House Building

The Compressor House was identified as a non-contributing element of the Bethlehem Shipyard Historic District in 2000 because it lacks integrity to the historic district's period of significance (1941–1945). The building appears to be one of the original buildings constructed on the site in 1918. It was substantially altered in the early 1940s, and approximately half of the building was removed/demolished in 1960 (after the period of significance), resulting in its current configuration. The building appears to be in poor condition, with numerous broken windows and missing metal sheet panels that have exposed the interior of the building. The Compressor House is located at the north end of the main cluster of district contributors; therefore, its removal would not leave a visible gap in the district or disrupt the aesthetic cohesion of the buildings as a former shipyard. Because the Compressor House building lacks integrity from the period of significance, is not a contributor to the historic district, and is located on the periphery of most of the contributing buildings, its demolition would result in a less-than-significant impact to the historic district, and would not impact the district's NRHP, CRHR, or local-level eligibility.

New Construction

Prefabricated Industrial Building and Tank Farm

The project proposes to construct one, approximately 203,450-square-foot (4.7-acre), prefabricated industrial building that would measure approximately 105 feet tall, and a small tank farm (up to four tanks with a capacity of approximately 12,000 gallons each) adjacent to the building's northeast corner. The building/tank farm would occupy much of the land that is currently vacant/underutilized in the northern portion of the district (see Site Plan in Appendix D).

In consideration of impacts related to new construction within an historic district, Dudek reviewed the proposed project site plan; proposed elevations of the new industrial building; and visual representations of new construction from Ports O' Call.

Two of the Secretary of the Interior's Standards for Rehabilitation are relevant to new construction within a historic district, and were considered in this impacts analysis:

9. *New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.*

   The northern portion of the district once contained numerous industrial buildings and structures that fell outside the period of significance of the historic district. Between 1980 and 1994 (NETR 2017), most buildings located north of the Compressor House were removed/demolished. It is assumed that much of this change occurred in the 1980s after Bethlehem Steel Corporation divested itself of the shipyard and Southwest Marine purchased the shipyard. Very little development has occurred in this area since. Further, the realignment of South Seaside Avenue has separated the Administration Building from the rest of the district, and it is no longer a contributing element of the district. In summary, the northern portion of the historic district has undergone significant change within the last 30 years.

   The proposed new building is at a significantly larger scale than the existing historic district buildings. The introduction of oversized new construction adjacent to a historic district is typically something that would fall out of conformance with the Secretary of the Interior's Standards for Rehabilitation, but in this particular case the proposed new construction appears to work. The massive size of the new prefabricated building would be clearly distinguished in design, form, style, and period from the much smaller industrial buildings within the historic district. Further, the curvature of South Seaside Avenue allows for most of the district's buildings to remain visible from the public right-of-way when approaching the site from the north, even with the presence of adjacent large-scale adjacent new construction. The district would also remain visible from Ports O' Call across the Main Channel to the west (see simulations in Appendix D).

   Although the new building would be situated between Substation #7 (a district contributor) to the far north, and the rest of the district, Substation #7 has been somewhat isolated from the rest of the shipyard since the demolition of the buildings between Substation #7 and the Compressor House in the 1980s. Further, the structure is not currently visible from the main cluster of district buildings to the south. Therefore, the insertion of large-scale new construction between Substation #7 to the north and the rest of the district's contributors to the south would not disrupt any existing visual or historic connections, or destroy any spatial relationships.

Although the proposed new building would be large in scale, the prefabricated utilitarian plan and materials are appropriate for the setting. Proposed elevations for the new buildings (Appendix D) indicate that it will feature simple industrial metal roll-up doors, sections of small ribbon windows, and broad expanses of both smooth and textured metal cladding. The building's industrial style and simple plan would conform to the existing setting industrial/utilitarian style of Port of Los Angeles buildings, but would also be clearly differentiated as new construction within a historic district. Likewise, the tank farm would blend with the industrial setting of the Port. The tank farm will be located at the northeast corner of the proposed new building and would not disturb any of the district buildings.

10. *New additions and adjacent or related new construction will be undertaken in a such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.*

The area proposed for new construction is mostly vacant. Further, this portion of the district no longer contains any of the original buildings from its period of significance. Therefore, if removed in the future, the district would revert to its current vacant appearance, and no existing historic materials would be impacted. No contributing buildings will be lost as a result of the proposed new construction.

In summary, construction of a new large-scale building and associated tank farm would result in a less-than-significant impact to historical resources, and would not impact the district's NRHP, CRHR, or local level eligibility.

Renovations

Wharf Repairs

The project proposes repairs to the existing wharf on the west side of Berth 240. A review of historic aerial photographs and topographic maps indicates that the wharf to the west was significantly altered and partially infilled between 1957 and 1963 (NETR 2017) at the southwest corner of Berth 240. Therefore, the existing wharf on the west side does not contribute to the significance of the district because it was altered outside the district's period of significance. Further, the wharfs have been previously improved as part of routine maintenance. Minor improvements to these elements would have a less-than-significant impact on historical resources.

Paving and Landscaping

The project proposes to pave portions of the site to provide additional parking spaces and driveway access, and proposes to make minor landscaping improvements. Most portions of the district have already been paved to accommodate vehicle access in and around the district, so re-paving of existing areas and new paving in the northern portion of the site to accommodate additional parking spaces would have a less-than-significant impact on the district's setting. Further, minor landscaping improvements would not impact the setting, provided that the landscaping is somewhat understated and appropriate for a heavy industrial setting.

6.2 Conclusions

All proposed project activities appear to be in conformance with the Secretary of the Interior's Standards for Rehabilitation. As described above, the project is proposing to demolish one non-contributing building (the Compressor House) and to construct one large-scale prefabricated building, construct a small tank farm, and make necessary repairs to the wharf, landscaping, and paving. Upon review of all potential impacts to historical resources (Section 6.1), it appears that the proposed project would have a less-than-significant impact on historical resources.

7. RECOMMENDATIONS

7.1 Built Environment Resources

Conformance with the Secretary of the Interior's Standards for Rehabilitation

The proposed project falls entirely within the Bethlehem Shipyard Historic District. A review of the project description, site plan, proposed elevations, and visual representations from Ports O' Call indicates that the proposed project would have a less-than-significant impact on historical resources. However, it is strongly recommended that the LAHD ensure that the final design schematics/renderings of the proposed new building be reviewed to ensure conformance with the Secretary of the Interior's Standards for Rehabilitation. Although visual representations of the proposed new construction have been provided from across the Main Channel at Ports O' Call, no visual representations from South Seaside Avenue have been provided. As described in Section 6.1 (Impacts Analysis), all proposed project activities appear to be sensitive to the adjacent historic district and appear to conform to the Standards for Rehabilitation, but it is important that final design plans be reviewed prior to project implementation to ensure that the proposed new construction is executed as described.

Develop Protection Plan for Historic District

It is strongly recommended that an appropriate level of protection be provided for the adjacent district buildings during construction and operation of the proposed project. Ideally, a preservation plan should be developed to provide these details. At a minimum, protective fencing should be used during construction activities so district buildings are not disturbed or inadvertently impacted. In addition to addressing impacts associated with the adjacent new construction, the preservation plan should also clearly define who will be responsible for long-term maintenance and security of the district buildings and cranes (i.e., LAHD or the tenant), and should detail what these activities will entail.

7.2 Archaeological Resources

No archaeological resources were identified within the proposed project site as a result of the California Historical Resources Information System records search, Native American coordination, or pedestrian survey. Further, Terminal Island is built entirely atop historic fill material, so the likelihood of encountering any intact archaeological deposits is very low. However, in the unlikely event that resources or human remains are encountered during ground-disturbing activities, the following standard requirements should be followed to reduce potential impacts to unanticipated archaeological resources and human remains.

Unanticipated Discovery of Archaeological Resources

In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the proposed project, all construction work occurring within 100 feet of the find should immediately stop until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, can evaluate the significance of the find and determine whether or not additional study is warranted. Depending on the significance of the find under CEQA (14 CCR 15064.5(f); PRC Section 21082), the archaeologist may simply record the find and allow work to continue. If the discovery proves significant under CEQA, additional work, such as preparation of an archaeological treatment plan, testing, or data recovery, may be warranted.

Unanticipated Discovery of Human Remains

In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found, the County Coroner shall be immediately notified of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined, within 2 working days of notification of the discovery, the appropriate treatment and disposition of the human remains. If the County Coroner determines that the remains are, or are believed to be, Native American, he or she shall notify the NAHC in Sacramento within 24 hours. In accordance with California Public Resources Code, Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descendant from the deceased Native American. The most likely descendant shall complete his or her inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.

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APPENDIX A

CONFIDENTIAL CHRIS Records Search Results

APPENDIX B

NAHC and Tribal Coordination

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710
Fax (916) 373-5471

November 21, 2016

Samantha Murray, M.A., RPA
Dudek

Sent by E-mail: smurray@dudek.com

RE: Proposed Transportation Vessels Manufacturing Facility Cultural Resources Study Project (#10004), Port of Los Angeles; San Pedro USGS Quadrangle, Los Angeles County, California

Dear Ms. Murray:

A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* was completed for the area of potential project effect (APE) referenced above with negative results. Please note that the absence of specific site information in the *Sacred Lands File* does not indicate the absence of Native American cultural resources in any APE.

Attached is a list of tribes culturally affiliated to the project area. I suggest you contact all of the listed Tribes. If they cannot supply information, they might recommend others with specific knowledge. The list should provide a starting place to locate areas of potential adverse impact within the APE. By contacting all those on the list, your organization will be better able to respond to claims of failure to consult. If a response has not been received within two weeks of notification, the NAHC requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact via email: gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst

Native American Contact List
Los Angeles County
November 21, 2016

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693 — Gabrielino Tongva
San Gabriel , CA 91778
GTTribalcouncil@aol.com
(626) 483-3564 Cell

(626) 286-1262 Fax

Gabrieleno Band of Mission Indians - Kizh Nation
Andrew Salas, Chairperson
P.O. Box 393 — Gabrielino
Covina , CA 91723
gabrielenoindians@yahoo.com
(626) 926-4131

Gabrielino /Tongva Nation
Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St., #231 — Gabrielino Tongva
Los Angeles , CA 90012
sgoad@gabrielino-tongva.com
(951) 807-0479

Gabrielino Tongva Indians of California Tribal Council
Robert F. Dorame, Tribal Chair/Cultural Resources
P.O. Box 490 — Gabrielino Tongva
Bellflower , CA 90707
gtongva@verizon.net
(562) 761-6417 Voice/Fax

Gabrielino-Tongva Tribe
Linda Candelaria, Co-Chairperson
1999 Avenue of the Stars, Suite 1100 — Gabrielino
Los Angeles , CA 90067
(626) 676-1184 Cell

Soboba Band of Luiseno Indians
Joseph Ontiveros, Cultural Resource Department
P.O. BOX 487 — Luiseno
San Jacinto , CA 92581 — Cahuilla
jontiveros@soboba-nsn.gov
(951) 663-5279
(951) 654-5544, ext 4137
(951) 654-4198 Fax

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person or agency of statutory responsibility as defined in Public Resources Code Sections 21080.3.1 Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Transportation Vessels Manufacturing Facility Project (#10004); Port of Los Angeles, Los Angeles County, California.

DUDEK

3544 UNIVERSITY AVENUE
RIVERSIDE, CALIFORNIA 92501
T 951.300.2100 F 951.300.2105

March 9, 2017 10004

Ms. Linda Candelaria, Chairwoman
Gabrielino-Tongva Tribe
1999 Avenue of the Stars #1100
Los Angeles, CA 90067

Subject: Transportation Vessels Manufacturing Facility Project, Los Angeles County, California

Dear Ms. Candelaria:

Dudek was retained to prepare a cultural resources study for the proposed Transportation Vessels Manufacturing Facility Project (the proposed Project). The proposed Project consists of constructing a facility to manufacture transportation vessels, at Berth 240 on Terminal Island. The proposed Project would include the demolition of one structure that is approximately 9,150 square feet and 45 feet tall. The proposed Project would construct an approximately 203,450 square feet prefabricated building that would be approximately 90 feet tall. The proposed Project would also include up to 4 tanks (approximately 12,000 gallons each, or equivalent) as part of an ancillary tank farm to store materials needed for the manufacturing process, as well as paving and landscaping improvements.

The proposed Project is located at Berth 240, off S. Seaside Avenue on Terminal Island in Master Plan Area 4 within the Port. The proposed Project site is bounded to the north and east by S. Seaside Avenue and the Al Larson boatyard, the south by the former Southwest Marine Shipyard, and the west by the Port’s main channel. The site falls within Township 5 South, Range 13 West, of an unsectioned portion of the *San Pedro* U.S. Geological Service 7.5-minute series topographic Quadrangle map (see the attached Project Location Map).

A search of the Sacred Lands File (SLF) was completed for the Project area by the California Native American Heritage Commission (NAHC) on November 21, 2016. The SLF search did not indicate the presence of Native American cultural resources within the proposed Project area. The NAHC recommended that we contact you regarding your knowledge of the presence of cultural resources that may be impacted by this project. If you have any knowledge of cultural resources that may exist within or near the proposed Project area, please contact me directly at (760) 840-7556, adorrler@dudek.com, or at 3544 University Avenue, Riverside, CA 92501 within 15 days of receipt of this letter.

Please note that this letter does not constitute Assembly Bill (AB) 52 notification or initiation of consultation. Rather, this is an information request that shall be included in our cultural resources study. AB 52 is a process between the lead agency and California Native American Tribes concerning potential impacts to tribal cultural resources. Tribes that wish to be notified of projects for the purposes of AB 52 must contact the lead agency, the Los Angeles Harbor Department, in writing (pursuant to Public Resources Code Section 21080.3.1 (b)).

Thank you for your assistance.

Sincerely,

A. Dorrler

Adriane Dorrler
Archaeologist

Attachment.: *Project Location Map*

DUDEK

3544 UNIVERSITY AVENUE
RIVERSIDE, CALIFORNIA 92501
T 951.300.2100 F 951.300.2105

March 9, 2017 10004

Mr. Robert F. Dorame, Tribal Chair/Cultural Resources
Gabrieleno Tongva Indians of California Tribal Council
P.O. Box 490
Bellflower, CA 90707

Subject: Transportation Vessels Manufacturing Facility Project, Los Angeles County, California

Dear Mr. Dorame:

Dudek was retained to prepare a cultural resources study for the proposed Transportation Vessels Manufacturing Facility Project (the proposed Project). The proposed Project consists of constructing a facility to manufacture transportation vessels, at Berth 240 on Terminal Island. The proposed Project would include the demolition of one structure that is approximately 9,150 square feet and 45 feet tall. The proposed Project would construct an approximately 203,450 square feet prefabricated building that would be approximately 90 feet tall. The proposed Project would also include up to 4 tanks (approximately 12,000 gallons each, or equivalent) as part of an ancillary tank farm to store materials needed for the manufacturing process, as well as paving and landscaping improvements.

The proposed Project is located at Berth 240, off S. Seaside Avenue on Terminal Island in Master Plan Area 4 within the Port. The proposed Project site is bounded to the north and east by S. Seaside Avenue and the Al Larson boatyard, the south by the former Southwest Marine Shipyard, and the west by the Port's main channel. The site falls within Township 5 South, Range 13 West, of an unsectioned portion of the *San Pedro* U.S. Geological Service 7.5-minute series topographic Quadrangle map (see the attached Project Location Map).

A search of the Sacred Lands File (SLF) was completed for the Project area by the California Native American Heritage Commission (NAHC) on November 21, 2016. The SLF search did not indicate the presence of Native American cultural resources within the proposed Project area. The NAHC recommended that we contact you regarding your knowledge of the presence of cultural resources that may be impacted by this project. If you have any knowledge of cultural resources that may exist within or near the proposed Project area, please contact me directly at (760) 840-7556, adorrler@dudek.com, or at 3544 University Avenue, Riverside, CA 92501 within 15 days of receipt of this letter.

Please note that this letter does not constitute Assembly Bill (AB) 52 notification or initiation of consultation. Rather, this is an information request that shall be included in our cultural resources

study. AB 52 is a process between the lead agency and California Native American Tribes concerning potential impacts to tribal cultural resources. Tribes that wish to be notified of projects for the purposes of AB 52 must contact the lead agency, the Los Angeles Harbor Department, in writing (pursuant to Public Resources Code Section 21080.3.1 (b)).

Thank you for your assistance.

Sincerely,

A. Dorrler

Adriane Dorrler
Archaeologist

Attachment.: Project Location Map

DUDEK

3544 UNIVERSITY AVENUE
RIVERSIDE, CALIFORNIA 92501
T 951.300.2100 F 951.300.2105

March 9, 2017 10004

Ms. Sandonne Goad, Chairperson
Gabrielino-Tongva Nation
106 1/2 Judge John Also St.
Los Angeles, CA 90012

Subject: Transportation Vessels Manufacturing Facility Project, Los Angeles County, California

Dear Ms. Goad:

Dudek was retained to prepare a cultural resources study for the proposed Transportation Vessels Manufacturing Facility Project (the proposed Project). The proposed Project consists of constructing a facility to manufacture transportation vessels, at Berth 240 on Terminal Island. The proposed Project would include the demolition of one structure that is approximately 9,150 square feet and 45 feet tall. The proposed Project would construct an approximately 203,450 square feet prefabricated building that would be approximately 90 feet tall. The proposed Project would also include up to 4 tanks (approximately 12,000 gallons each, or equivalent) as part of an ancillary tank farm to store materials needed for the manufacturing process, as well as paving and landscaping improvements.

The proposed Project is located at Berth 240, off S. Seaside Avenue on Terminal Island in Master Plan Area 4 within the Port. The proposed Project site is bounded to the north and east by S. Seaside Avenue and the Al Larson boatyard, the south by the former Southwest Marine Shipyard, and the west by the Port's main channel. The site falls within Township 5 South, Range 13 West, of an unsectioned portion of the *San Pedro* U.S. Geological Service 7.5-minute series topographic Quadrangle map (see the attached Project Location Map).

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Thank you for your assistance.

Sincerely,

A. Dorrler

Adriane Dorrler
Archaeologist

Attachment.: Project Location Map

DUDEK

3544 UNIVERSITY AVENUE
RIVERSIDE, CALIFORNIA 92501
T 951.300.2100 F 951.300.2105

March 9, 2017 10004

Mr. Anthony Morales, Chairperson
Gabrieleno/Tongva San Gabriel Band of Mission Indians
P.O. Box 693
San Gabriel, CA 91778

Subject: Transportation Vessels Manufacturing Facility Project, Los Angeles County, California

Dear Mr. Morales:

Dudek was retained to prepare a cultural resources study for the proposed Transportation Vessels Manufacturing Facility Project (the proposed Project). The proposed Project consists of constructing a facility to manufacture transportation vessels, at Berth 240 on Terminal Island. The proposed Project would include the demolition of one structure that is approximately 9,150 square feet and 45 feet tall. The proposed Project would construct an approximately 203,450 square feet prefabricated building that would be approximately 90 feet tall. The proposed Project would also include up to 4 tanks (approximately 12,000 gallons each, or equivalent) as part of an ancillary tank farm to store materials needed for the manufacturing process, as well as paving and landscaping improvements.

The proposed Project is located at Berth 240, off S. Seaside Avenue on Terminal Island in Master Plan Area 4 within the Port. The proposed Project site is bounded to the north and east by S. Seaside Avenue and the Al Larson boatyard, the south by the former Southwest Marine Shipyard, and the west by the Port's main channel. The site falls within Township 5 South, Range 13 West, of an unsectioned portion of the *San Pedro* U.S. Geological Service 7.5-minute series topographic Quadrangle map (see the attached Project Location Map).

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Please note that this letter does not constitute Assembly Bill (AB) 52 notification or initiation of consultation. Rather, this is an information request that shall be included in our cultural resources

study. AB 52 is a process between the lead agency and California Native American Tribes concerning potential impacts to tribal cultural resources. Tribes that wish to be notified of projects for the purposes of AB 52 must contact the lead agency, the Los Angeles Harbor Department, in writing (pursuant to Public Resources Code Section 21080.3.1 (b)).

Thank you for your assistance.

Sincerely,

A. Dorrler

Adriane Dorrler
Archaeologist

Attachment.: Project Location Map

DUDEK

3544 UNIVERSITY AVENUE
RIVERSIDE, CALIFORNIA 92501
T 951.300.2100 F 951.300.2105

March 9, 2017 10004

Mr. Joseph Ontiveros, Cultural Resource Department
Soboba Band of Luiseno Indians
P.O. Box 487
San Jacinto, CA 92581

Subject: Transportation Vessels Manufacturing Facility Project, Los Angeles County, California

Dear Mr. Ontiveros:

Dudek was retained to prepare a cultural resources study for the proposed Transportation Vessels Manufacturing Facility Project (the proposed Project). The proposed Project consists of constructing a facility to manufacture transportation vessels, at Berth 240 on Terminal Island. The proposed Project would include the demolition of one structure that is approximately 9,150 square feet and 45 feet tall. The proposed Project would construct an approximately 203,450 square feet prefabricated building that would be approximately 90 feet tall. The proposed Project would also include up to 4 tanks (approximately 12,000 gallons each, or equivalent) as part of an ancillary tank farm to store materials needed for the manufacturing process, as well as paving and landscaping improvements.

The proposed Project is located at Berth 240, off S. Seaside Avenue on Terminal Island in Master Plan Area 4 within the Port. The proposed Project site is bounded to the north and east by S. Seaside Avenue and the Al Larson boatyard, the south by the former Southwest Marine Shipyard, and the west by the Port's main channel. The site falls within Township 5 South, Range 13 West, of an unsectioned portion of the *San Pedro* U.S. Geological Service 7.5-minute series topographic Quadrangle map (see the attached Project Location Map).

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Thank you for your assistance.

Sincerely,

A. Dorrler

Adriane Dorrler
Archaeologist

Attachment.: Project Location Map

DUDEK

3544 UNIVERSITY AVENUE
RIVERSIDE, CALIFORNIA 92501
T 951.300.2100 F 951.300.2105

March 9, 2017 10004

Mr. Andrew Salas, Chairperson
Gabrieleno Band of Mission Indians
P.O. Box 393
Covina, CA 91723

Subject: Transportation Vessels Manufacturing Facility Project, Los Angeles County, California

Dear Mr. Salas:

Dudek was retained to prepare a cultural resources study for the proposed Transportation Vessels Manufacturing Facility Project (the proposed Project). The proposed Project consists of constructing a facility to manufacture transportation vessels, at Berth 240 on Terminal Island. The proposed Project would include the demolition of one structure that is approximately 9,150 square feet and 45 feet tall. The proposed Project would construct an approximately 203,450 square feet prefabricated building that would be approximately 90 feet tall. The proposed Project would also include up to 4 tanks (approximately 12,000 gallons each, or equivalent) as part of an ancillary tank farm to store materials needed for the manufacturing process, as well as paving and landscaping improvements.

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study. AB 52 is a process between the lead agency and California Native American Tribes concerning potential impacts to tribal cultural resources. Tribes that wish to be notified of projects for the purposes of AB 52 must contact the lead agency, the Los Angeles Harbor Department, in writing (pursuant to Public Resources Code Section 21080.3.1 (b)).

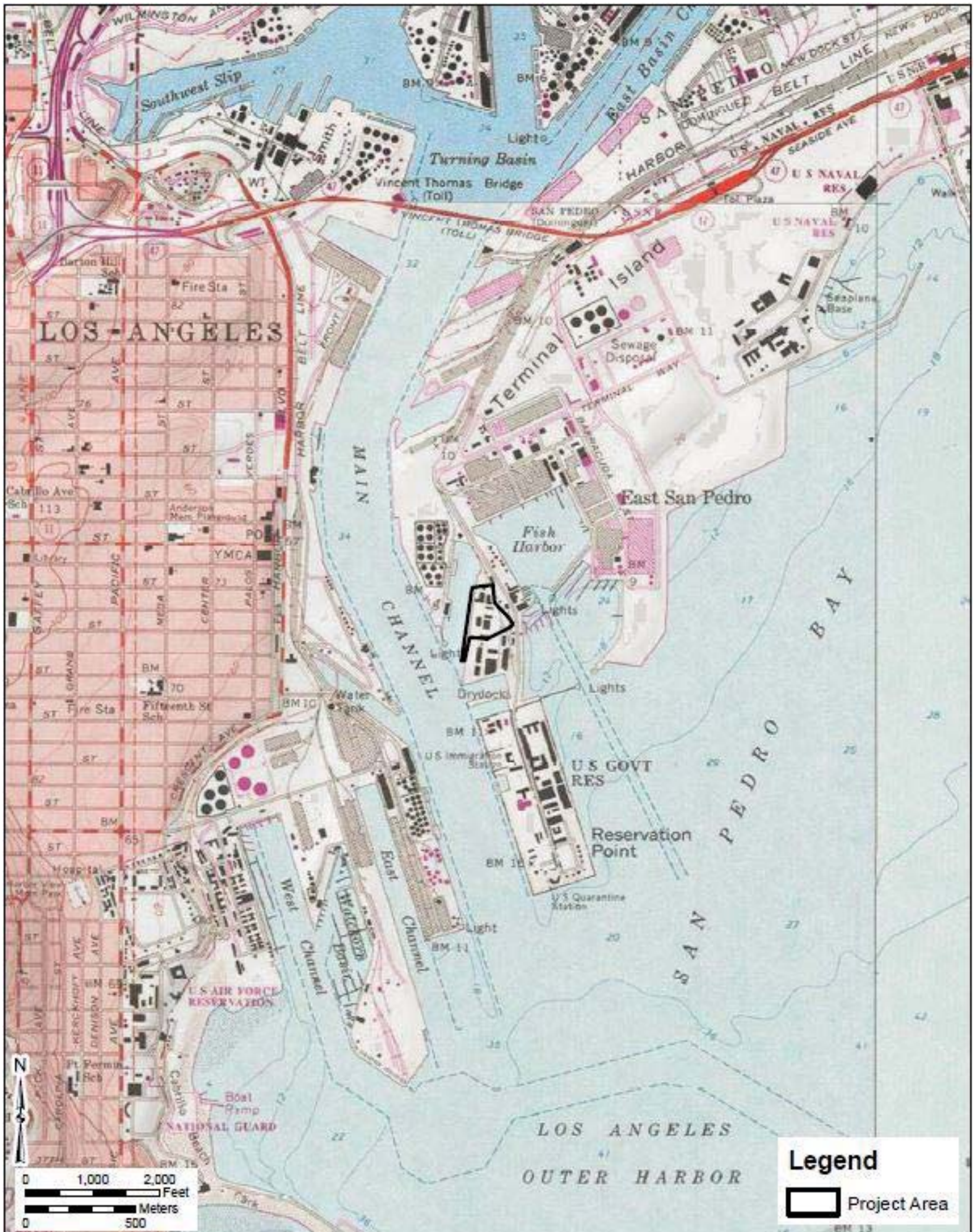
Thank you for your assistance.

Sincerely,

A. Dorrler

Adriane Dorrler
Archaeologist

Attachment.: *Project Location Map*



SOURCE: USGS 7.5-Minute Series San Pedro Quadrangle
Township 5S; Range 13W; Sections 17, 19, 20

Project Location Map

Transportation Vessels Manufacturing Facility Project

GABRIELEÑO BAND OF MISSION INDIANS - KIZH NATION

Historically known as The San Gabriel Band of Mission Indians

recognized by the State of California as the aboriginal tribe of the Los Angeles basin

Dudek
3544 University Ave.
Riverside, California 92501

March 15, 2017

Re: Archaeologist's request for tribal information for Transportation Vessels Manufacturing Facility Project, Los Angeles County, California project

Dear Adrianne Dorrler,

We have received your request for information regarding our tribal history and its relationship to the above-mentioned project. Pursuant to AB52, consultation with the lead agency or applicant is confidential (Public Resources Code 21082.3, subd. To minimize confusion and/or risk a breach of this confidentiality, we politely request that you contact the lead agency for the information you are looking for. Additionally, your presence at the consultation appointment is encouraged.

21082.3 (c) (1) Any Information, including, but not limited to, the location, description and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with subdivision (r) of Section 6254 of, and Section 654.10 of, the Government Code, and subdivision (d) of Section 15120 of Title 14 of the California Code of Regulations, without the prior consent of the tribe that provided the information. If the lead agency publishes any information shall be published in a confidential appendix to the environmental document unless the tribe that is provided the information consents, in writing, to the disclosure of some or all of the to the public. This subdivision does not prohibit the confidential exchange of the submitted information between public agencies that have a lawful jurisdiction over the preparation of the environmental document.

With Respect,

Andrew Salas, Chairman

Andrew Salas, Chairman | Nadine Salas, Vice-Chairman | Christina Swindall Martinez, secretary

Albert Perez, treasurer I | Martha Gonzalez Lemos, treasurer II | Richard Gradias, Chairman of the Council of Elders

PO Box 393, Covina, CA 91723 | www.gabrielenoindians.org | gabrielenoindians@yahoo.com

APPENDIX C

Bethlehem Shipyard Historic District DPR Form Update

***Recorded by:** Samantha Murray ***Date:** 2/1/2017 ☐ Continuation ☒ Update

P2c. Location/Address: 985 S. Seaside Avenue, Los Angeles, California 90731

***P3a. Description:** The historic district comprises two separate areas: a mostly vacant region to the north and a paved area to the south, which is where most of the extant district buildings and cranes are located. The district includes 13 buildings and 7 whirly cranes. Eleven buildings are located within the southern portion of the district, with two buildings located further north. While the buildings vary greatly in size, nearly all buildings are rectangular in-plan, and feature corrugated metal cladding on the exterior. The buildings also feature numerous rows of windows, typically multi-pane with metal frames. Cranes are located on rails that run along the wharf to the west, and to the south where the dry docks used to be located. Most of the area surrounding the buildings is paved, with some unpaved areas throughout. Excavation activities appear to have occurred along the west side of the district, with disturbance directly adjacent to the Employees' and Machine Shop #3 buildings. Piles of gravels and concrete were also present throughout the site. The Bethlehem Shipyard Historic District comprises 20 elements including 18 contributors and two non-contributors.

P9. Date Recorded: 2/1/2017

***P11. Report Citation:** *Historical Resources Technical Report for the Transportation Vessel Manufacturing Facility Project, Port of Los Angeles, Berth 240*. Dudek 2017.

B10. Significance: As a result of the updated evaluation, the Bethlehem Shipyard Historic District appears to remain eligible for the NRHP and CRHR under criteria A/1 for its important associations with the World War II emergency shipbuilding program. The period of significance is from 1941 to 1945, beginning with the time the site was first reconfigured to construct U.S. Navy destroyers for contracts that were part of the World War II emergency shipbuilding program, and ends with the conclusion of shipbuilding activities for the war when many existing contracts were cancelled.

Despite the loss of several buildings over the years, the district still servers as an important example of a critical shipbuilding industry at POLA, which reached its peak of significance during World War II when it employed thousands of workers to construct and outfit 26 destroyers for the emergency ship building effort while under contract to the EFC. The Bethlehem Shipyard is directly associated with the nation's unique and unprecedented ability to support its forces with a formidable fleet that allowed the United States to prevent the Nazi occupation of Europe and Japanese advancement in the Pacific theater.

The current configuration of buildings within the historic district is largely the same as it was during World War II. Most of the alterations made to the original 1918 buildings occurred during the period of significance in 1941 when the site was transformed to support the massive wartime production efforts, and most of the buildings north of the Compressor House were demolished/removed between 1980 and 1994 (NETR 2017). However, the loss of these buildings has not impacted the integrity of the district since these buildings were constructed outside the period of significance. The main cluster of extant district buildings, structures, and cranes in the southern portion of the district still retain integrity to their period of significance and still convey the important associations with the shipyard.

In consideration of location and design, most of the existing building and structures within the district retain sufficient integrity to remain eligible for listing in the NRHP as a district. The site still conveys the important events associated with Bethlehem Shipyard's mission and function as an important World War II shipyard. Most of the remaining buildings are essentially unaltered from this period of significance, and the relationships between the buildings, which reflect the functions of the buildings and the specialized shipbuilding trades, remain intact.

The Compressor House suffered loss of integrity when it was reduced in size in the 1960s (after the period of significance). The building appears to have been constructed in 1918, substantially altered in 1941-1942, and reduced in number by roughly half in 1960, to its current configuration. In addition, the immediate setting of the Administration Building has changed as the result of a street realignment that occurred north of the building in 2008. While the building has not been physically moved or altered, it was previously situated on the west side of South Seaside Avenue. The realignment of Seaside Street now places the building on the east side of the street in the parking lot of the Al Larson Boat Shop property. The administration building no longer visually "reads" as part of the unified entity that defined the Bethlehem Shipyard Historic District. Because its setting has been significantly compromised the administration building is now considered a non-contributing resource to the district.

Overtime, World War II-era shipyards are becoming an increasingly rare and valuable resource type. Certainly many of these sites will have been demolished or heavily altered with the passage of time. The Bethlehem Shipyard Historic District continue to be eligible for the NRHP/CRHR under Criterion A/1 because it is the last remaining example of the once highly significant shipbuilding industry at the Port of Los Angeles, and is becoming an increasingly diminished resource type.

***Recorded by:** Samantha Murray ***Date:** 2/1/2017 ☐ Continuation ☒ Update

The district is not known to be associated with any significance persons (Criterion B/2), nor does it retain a level of integrity/significance that would warrant consideration under Criterion C/3 for its architectural merits. Finally, there is no evidence that the district yields untapped information important in history or prehistory, nor is it associated with an archaeological site (Criterion D/4).

For all of the reasons discussed above, the district also remains eligible under City of Los Angeles HCM Criterion 1 for its important associations with the World War II emergency shipbuilding program.

B14. Evaluator: Samantha Murray, Dudek, 38 N. Marengo Avenue, Pasadena, CA 91101.

***Resource Name or #** (Assigned by recorder) Southwest Marine

***Recorded by:** Steven Treffers and Sam Murray ***Date:** August 24, 2011 ☐ Continuation ☒ Update

P2c. Location/Address: 955 South Neptune Avenue, Los Angeles (Terminal Island) 90731

B10. Significance: The Southwest Marine site (Berth 240) was initially evaluated for historical significance in April 2000. At that time, it was found to meet the criteria for listing in the National Register of Historic Places as a historic district under Criterion A because of its association with the World War II emergency shipbuilding program. The period of significance for this facility was identified as 1941 to 1945. This period ends with the war's conclusion and begins with the time the site, under direction of Bethlehem Steel Corporation, was first reconfigured to construct U.S. Navy destroyers and other vessels as part of the emergency shipbuilding program.

Referred to as the Bethlehem Shipyard Historic District, this property included 27 buildings and structures on the Southwest Marine site of which 22 were contributing resources with five non-contributing elements. The administration building, medical building, foreman's building, transportation shop, blacksmith and anglesmith shop, plate shop, machine shop, machine storage and warehouse building, shop (No. 9) building, employee's building, paint shop and substation, Substation No. 3, Substation No. 7, Building No. 22, Dry Dock No. 2, and the seven cranes constructed before 1946 were all considered contributing elements to the historic district.

Since the subject property was last evaluated in 2000, as a potential historic district eligible for National Register listing, there have been minimal changes to the Bethlehem Shipyard Historic District and its contributing resources. Of the twenty-two, previously identified contributing resources, nineteen are still extant. The three contributing resources that were removed from the property were the Substation No. 3 structure (demolished 2004-2005) (historicaerials.com); Building No. 22 (demolished 2004-2005) (historicaerials.com); and Dry Dock No. 2 (removed 2005-2011)(historicaerials.com). In addition to the three demolished contributing resources, the immediate setting of the administration building has changed as the result of a street realignment that occurred north of the building in 2008. While the building has not been physically moved or altered, it was previously situated on the west side of South Seaside Avenue. The realignment of Seaside Street now places the building on the east side of the street in the parking lot of the Al Larson Boat Shop property. The administration building no longer visually "reads" as part of the unified entity that defined the Bethlehem Shipyard Historic District. Because its setting has been compromised the administration building is now considered a non-contributing resource to the district. Four of the original five non-contributing resources initially identified in the 2000 survey have been demolished as well. Only the Compressor House remains standing. In total, the district is now comprised of eighteen contributing resources and one non-contributor.

Despite the loss of three contributing resources and the change in setting of the property's administration building, the majority of the historic district's contributing elements remain extant. The existing buildings and structures at the shipyard retain sufficient integrity to convey the site's overall historical significance and period of significance. Together they continue to reflect a clear sense of the Bethlehem Shipyard's mission and function as an important World War II shipyard. As such, the Bethlehem Shipyard Historic District's remains eligible for listing in the National Register under Criterion A.

P5b. Description of Photo: (View date, accession #) View to the west, of the Whirley Cranes, Plate Shop, and Machine Storage and Warehouse Building, October 4, 2011, Photograph #0113

P9. Date Recorded: August 2011

B14. Evaluator: Jan Ostashay, Steven Treffers, SWCA Inc. 150 South Arroyo Parkway, 2nd Floor, Pasadena, CA 91105

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3S
Other Listings
Review Code Reviewer Date

 ***Resource Name or #:** (Assigned by Recorder) Bethlehem Shipyard

P1. Other Identifier:

***P2. Location:** ☐ Not for Publication ☒ Unrestricted ***a. County** Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Long Beach Date 1981 T____; R____; ____ ¼ of ____ ¼ of Sec ____; ______ B.M.

c. Address ______ City ______ Zip ______

d. UTM: (Give more than one for large and/or linear resources) Zone:____; ______ mE/ ______ mN

e. Other Locational Data: (e.g. parcel #, directions to resource, elevation, etc., as appropriate)
Berth 240

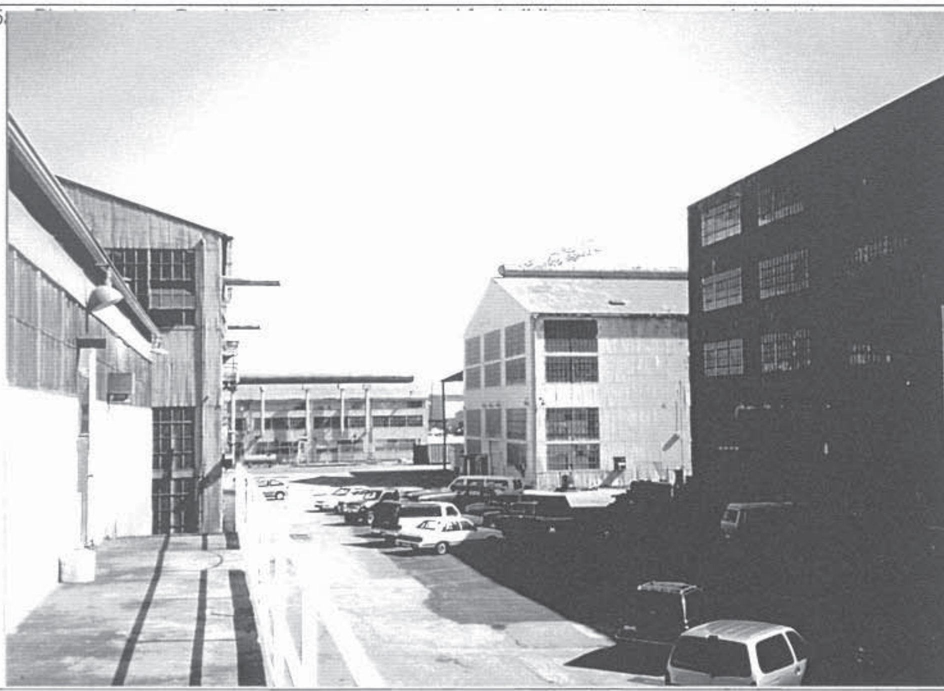
***P3a. Description** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The Southwest Marine facility is located at Berth 240 near the southwestern part of Terminal Island along Seaside Avenue. The site comprises two separate areas: a mostly vacant region to the north and a paved area to the south, which is occupied mainly by World War II–era buildings. Additional resources include a variety of cranes, two dry docks, and auxiliary buildings and sheds made of metal or wood and used primarily for storage. One small metal structure serves as an abrasive-blast booth for sandblasting. The history and construction dates of these assorted small buildings are unknown. A chain-link fence encloses the entire yard, which is accessed by a metal gate.

***P3b. Resource Attributes:** (List attributes and codes) HP 8 Industrial Building

***P4. Resources present:** ☐ Building ☐ Structure ☐ Object ☐ Site ☒ District ☐ Element of District ☐ Other (isolates, etc.)

P5



P5b. Description of Photo: (View, date, accession #)
Overview Facing North
4/18/00

***P6. Date Constructed/Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both
Constructed 1918 - ca 1950

***P7. Owner and Address:**
LAHD/POLA
425 Palos Verdes Street
San Pedro, CA 90733-3682

***P8. Recorded by:** (Name, affiliation, and address)
Madeline R. Lanz, Jones & Stokes
2600 V Street
Sacramento, CA 95818

***P9. Date Recorded:** 4/18/00

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the Port of Los Angeles, Los Angeles County, California* August 2000. Sacramento, CA.

***Attachments:** NONE ☒ Location Map ☒ Sketch Map ☒ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☒ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

DISTRICT RECORD

Primary #
HRI #
Trinomial

***NRHP Status Code** 3S

***Resource Name or #** (Assigned by recorder) Bethlehem Shipyard

D1. Historic Name: Bethlehem Shipyard D2. Common Name: Southwest Marine Terminal

***D3. Detailed Description** (Discuss overall coherence of the district, its setting, visual characteristics, and minor features. List all elements of district):

The Southwest Marine facility is located at Berth 240 near the southwestern part of Terminal Island along Seaside Avenue. The site comprises two separate areas: a mostly vacant region to the north and a paved area to the south, which is occupied mainly by World War II–era buildings. Additional resources include a variety of cranes, two dry docks, and auxiliary buildings and sheds made of metal or wood and used primarily for storage. One small metal structure serves as an abrasive-blast booth for sandblasting. The history and construction dates of these assorted small buildings are unknown. A chain-link fence encloses the entire yard, which is accessed by a metal gate.

The Bethlehem Shipyard Historic District comprises 27 buildings and structures on the Southwest Marine site. This number includes 22 contributing resources and five non contributing resources. (See Continuation Sheet)

***D4. Boundary Description** (Describe limits of district and attach map showing boundary and district elements.):

See Continuation Sheet

***D5. Boundary Justification:**

The boundary of this district coincides with the historic boundary of Bethlehem Shipyard during the period of significance (1941 - 1945), as indicated by the coordinates in D4.

***D6. Significance: Theme** WWII shipbuilding Area Los Angeles, California

Period of Significance 1941-1945 Applicable Criteria A (Discuss district's importance in terms of its (historical context as defined by theme, period of significance, and geographic scope. Also address the integrity of the district as a whole.)

The Southwest Marine terminal (Berth 240) appears to meet the criteria for listing in the National Register of Historic Places as a historic district under Criterion A because of its association with the World War II emergency shipbuilding program. The period of significance for this facility is from 1941 to 1945. This period ends with the war's conclusion and begins with the time the site, under direction of Bethlehem Steel Corporation, was first reconfigured to construct U.S. Navy destroyers and other vessels as part of the emergency shipbuilding program.

The facility at Berth 240 is an excellent example of the once highly important shipbuilding industry at the Port of Los Angeles. This industry reached its primary importance during World War II, when it employed thousands of people working in three shifts for 7 days a week. This enormous maritime construction effort, in Los Angeles as elsewhere, played an essential role in placing the United States economy on a wartime footing and providing necessary materials to the troops. The shipbuilding industry is especially noteworthy for its deep and lasting effects on the economy and social structure of the nation. (See Continuation Sheet)

***D7. References** (Give full citations including the names and addresses of any informants, where possible.):

See Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the Port of Los Angeles County, California* August 2000. Sacramento, CA.

***D8. Evaluator:** Madeline R. Lanz **Date:** May 5, 2000
Affiliation and address: Jones & Stokes, 2600 V Street, Sacramento, CA 95818

Description (Continued)

The contributing resources are comprised of an administration building, medical building, foreman's building, transportation shop, blacksmith and anglesmith shop, plate shop, machine shop, machine storage and warehouse building, shop building, employees' building, paint shop and substation, Substation No. 3, Substation No. 7, Building No. 22, Dry Dock No. 2, and pre-1946 cranes. The noncontributing elements include the guardhouse, compressor house, dock control house, Dry Dock No. 1, and cranes constructed after 1945.

The administration building, transportation shop, machine shop, shop building, employees' building, and Building No. 22 were constructed in 1941. The medical was constructed in 1941 and expanded in 1943. According to Port records, the foreman's building was built in 1941 as a field office for the blacksmith and anglesmith building and plate shop, which are located nearby. The blacksmith and anglesmith building was originally constructed in 1918 and altered in 1941. The plate shop was originally constructed in 1918 and was initially twice its present length. When Slip No. 1 and No. 2 were constructed in 1941, the plate shop was reduced to its current size. The machine storage and warehouse building was constructed in 1941 and the upper floor was added in 1943. The paint shop and substation is an L-shaped building comprising two elements. The stem of the "L" was built in 1944 as a paint booth, and the foot of the "L" was constructed as a substation. No building records were available for the substation; however, because of the building materials used, construction can be tentatively dated to before 1941. Substation No. 3 was constructed in 1918 and was moved to its current location in 1941. Substation No. 7 comprises two parts: an original element built in 1918, and a newer addition constructed in 1941. Dry Dock No.2 was constructed in 1919 in Seattle, installed at San Pedro in 1922, and renovated in 1943. In 1961, it was moved from the northwest portion of the shipyard to its present location. The Colby cranes were installed in 1941, and the Joshua Hendy gantry cranes, located throughout the shipyard, were installed in 1918. (San Buenaventura Research Associates 1996)

Significance (Continued)

With 3,000 feet of berthing space along the Main Channel and large dry docks, Bethlehem Shipyard made an excellent plant for wartime production. During World War II, Bethlehem constructed and outfitted 26 destroyers. (Friedman 1982, Silverstone 1965.) The yard took in an enormous amount of work and assembled ships so quickly that, on average, it repaired and returned to service two large naval vessels for each work day during the war. (Queenan 1983.)

Bethlehem Shipyard is strongly associated with the nations' emergence as a world power and with the Port of Los Angeles' critical role in the emergency shipbuilding program. Shipyards and the ships they assembled were crucial to winning World War II. Without these vessels, the United States would not have been able to support its forces on two fronts. It was the large and growing fleet supplied by the shipyards that delivered American troops abroad, preventing the Nazi conquest of Europe and Japanese advancement in the Pacific theater. This massive mobilization effort is without peer in modern history, and is unlikely to ever be duplicated. Indicative of this effort is a comparison between the production of destroyers by Japan and the United States from December 7, 1941 through the end of the war, August 15, 1945. During this time period, Japan launched only 51 destroyers (Watts 1966.) At the same time, Bethlehem Steel's shipyards on the west coast, San Francisco and San Pedro, launched 52 destroyers. These two shipyards were only two of fifteen private and Navy shipyards building destroyers. Bethlehem is the last remaining example at the Port of this tremendous feat. (See Continuation Sheet)

Significance (Continued)

The site at Berth 240 was laid out in the 1920s and reconfigured during World War II to prepare for the emergency shipbuilding program. The existing facility retains a high degree of integrity in terms of its appearance during World War II. Between 1941 and 1945, Bethlehem replaced two older shipways at the south portion of the site with the present shipbuilding-related buildings, shipways, dry docks, and cranes. Most of the current improvements on the site represent this major wartime development, and comprised either buildings constructed between 1941 and 1945, or expanded and remodeled buildings that were originally constructed in 1918. The buildings on the north half of the yard remained largely intact until they were demolished sometime during the last 25 years. Their elimination does not constitute a loss of integrity to the district because these buildings were not constructed within the period of significance (1941–1945). The remaining buildings adequately reflect the period of significance when shipbuilding took place, and the loss of the other buildings does not alter that. Standing in the midst of the buildings at the Southwest Marine site, one has a strong sense of a wartime shipbuilding facility.

As a district, the principal loss of integrity experienced by the shipyard was the removal of four shipbuilding ways and the construction of a new floating dry dock after World War II. Some buildings have also undergone minor alterations. However, with the exception of one building (the compressor house), taken as a whole, these changes have not been sufficient to result in ineligibility because they do not detract from the historic character of the buildings and are generally sympathetic to the historic fabric of the building.

The administration building, medical building, foreman's building, transportation shop, blacksmith and anglesmith shop, plate shop, machine shop, machine storage and warehouse building, shop building, employees' building, paint shop and substation, Substation No. 3, Substation No. 7, Building No. 22, Dry Dock No. 2, and cranes constructed before 1945 are all considered contributing elements of the historic district. These resources were constructed, altered, or moved during the period of significance and contribute to the historical character of the shipyard. The guardhouse, compressor house, dry dock control house, Dry Dock No. 1, and post-1945 cranes do not appear to contribute to the historic district.

The majority of buildings at the Southwest Marine terminal (Berth 240) remain essentially unaltered. What changes did take place are minimal or sympathetic to the building, including the replacement of windows and doors and the addition of stairs or HVAC equipment. The medical building, blacksmith and anglesmith shop, plate shop, and the machine storage and warehouse building were altered during the period of significance, and Substation No. 3 was moved during that period. Dry Dock No. 2 is considered a contributor to the district because it played an important part in the shipbuilding activity. In 1961, the dry dock was moved from the northwest portion of the shipyard to its present location. This relocation does not appear to compromise its significance, as a floating dry dock, by design, is intended to be moved when necessary. The guardhouse, dry dock control house, Dry Dock No. 1, and the post-1945 cranes (Clyde Crane) are not considered contributors to the historic district because they were constructed or moved to their current locations after World War II. The compressor house suffered loss of integrity when it was reduced in size in the 1960s (after the period of significance). The building appears to have been constructed in 1918, substantially altered in 1941–1942, and reduced in number by roughly half in 1960, to its current configuration.

In terms of location and design, the majority of existing building and structures at the shipyard retain sufficient integrity to potentially merit listing in the NRHP as a district. The site formerly occupied by Bethlehem Shipyard still conveys a clear sense of its mission and function as an important World War II shipyard. Most of the remaining buildings are essentially unaltered from this period of significance, and the relationships between the buildings, which reflect the functions of the buildings and the specialized shipbuilding trades, remain intact. The continuation of ship-related activities on the site contributes to the historic character of the site and evokes a strong sense of historical time and place.

As time goes on, World War II–era shipyards will become increasingly rare and potentially valuable resources, because many of these types of facilities have been demolished or greatly altered. In addition, many of the shipyards still in existence on the west coast are not private yards, but are owned by the military. Southwest Marine terminal appears to be eligible for listing under Criterion A because it is the last remaining example of the once highly significant shipbuilding industry at the Port of Los Angeles.

Primary #
HRI #
Trinomial

*Resource Name or # (Assigned by recorder) Bethlehem Shipyard

*Recorded by Madeline R. Lanz, Jones & Stokes *Date 4/18/00 x Continuation Update

Boundary Description (Continued)

Coordinates of points provided by Port of Los Angeles

Area	Point	North Latitude	East Longitude
263	1	79° 44' 42"	126° 09' 38"
263	2	79° 44' 42"	126° 09' 38"
263	3	79° 44' 48"	126° 10' 43"
263	4	79° 44' 47"	126° 10' 43"
263	5	79° 44' 50"	126° 11' 13"
263	6	79° 44' 52"	126° 11' 37"
263	7	79° 44' 52"	126° 11' 37"
263	8	79° 44' 51"	126° 13' 12"
263	9	79° 44' 49"	126° 14' 4"
263	10	79° 44' 49"	126° 14' 8"
263	11	79° 44' 39"	126° 14' 20"
263	12	79° 44' 37"	126° 13' 52"
263	13	79° 44' 37"	126° 13' 52"
263	14	79° 44' 37"	126° 13' 47"
263	15	79° 44' 37"	126° 13' 47"
263	16	79° 44' 36"	126° 13' 21"
263	17	79° 44' 35"	126° 13' 21"
263	18	79° 44' 35"	126° 13' 18"
263	19	79° 44' 39"	126° 11' 50"
263	20	79° 44' 42"	126° 10' 13"
263	21	79° 44' 43"	126° 10' 13"
263	22	79° 44' 43"	126° 10' 11"
263	23	79° 44' 43"	126° 10' 11"
263	24	79° 44' 43"	126° 10' 8"
263	25	79° 44' 42"	126° 09' 52"
263	26	79° 44' 41"	126° 09' 39"
263	27	79° 44' 42"	126° 09' 38"
263	28	79° 44' 42"	126° 09' 38"

(Map of points located on following Continuation Sheet)

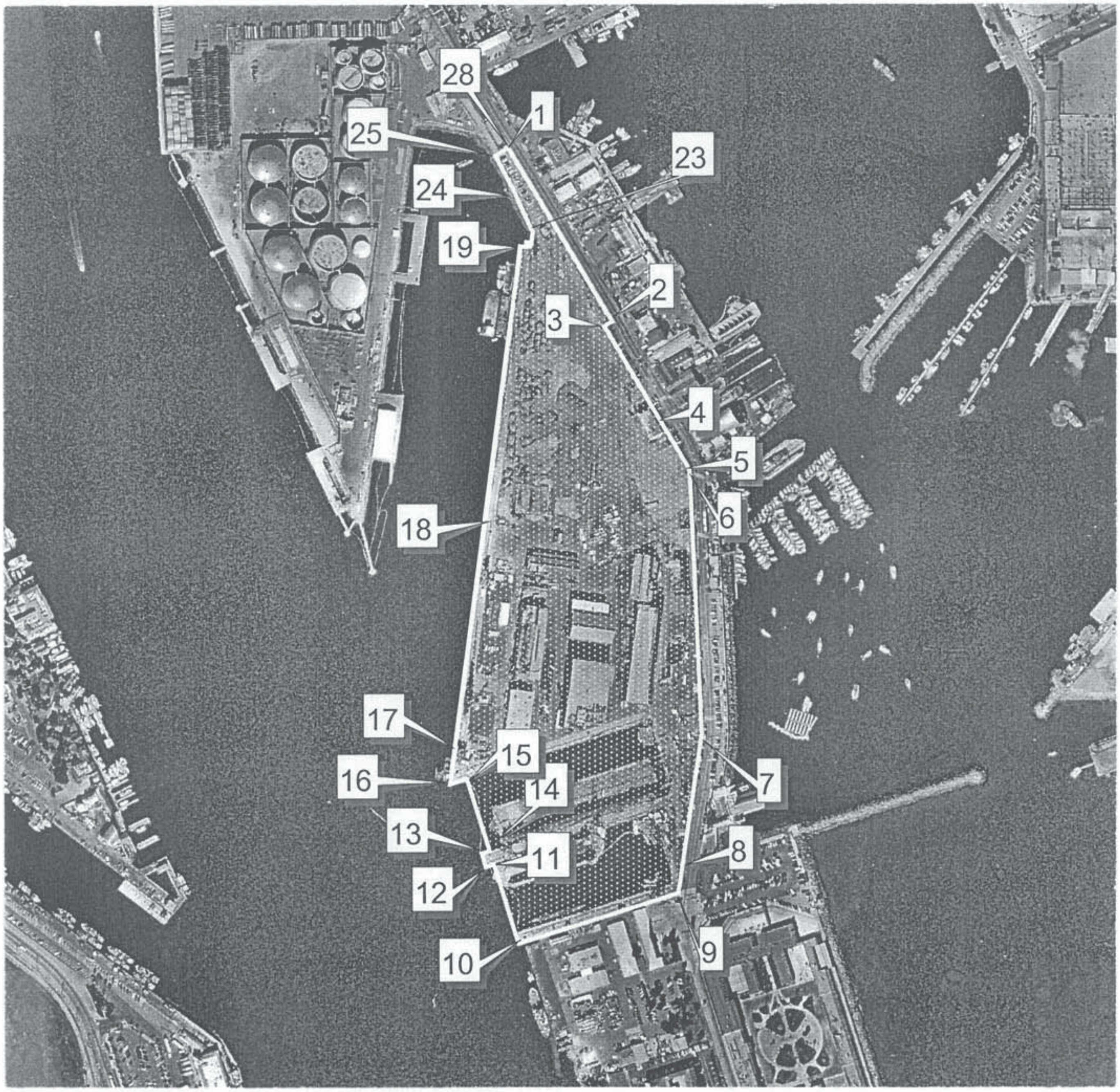
State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION **CONTINUATION SHEET**	Primary # HRI # Trinomial

Page 6 of 37 ***Resource Name or #** (Assigned by recorder) Bethlehem Shipyard

***Recorded by** Madeline R. Lanz, Jones & Stokes ***Date** 4/18/00 [x] Continuation [ ] Update

Boundary Description (Continued)

Map of points (provided by Port of Los Angeles).



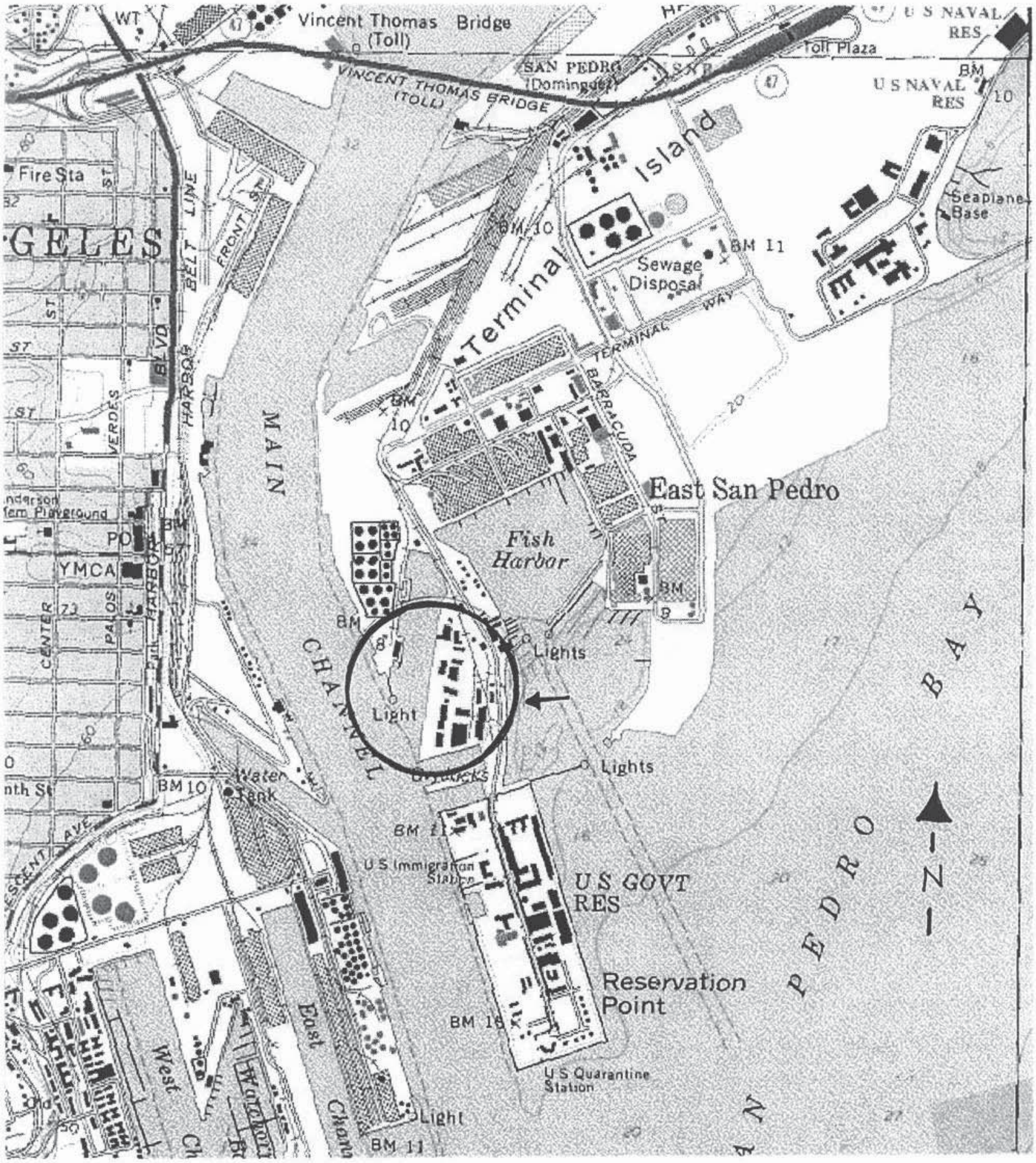
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary #
HRI #
Trinomial

*Resource Name or #: (Assigned by Recorder) Bethlehem Shipyard

*Map Name: Long Beach *Scale: 1:24,000 *Date of Map: 1981

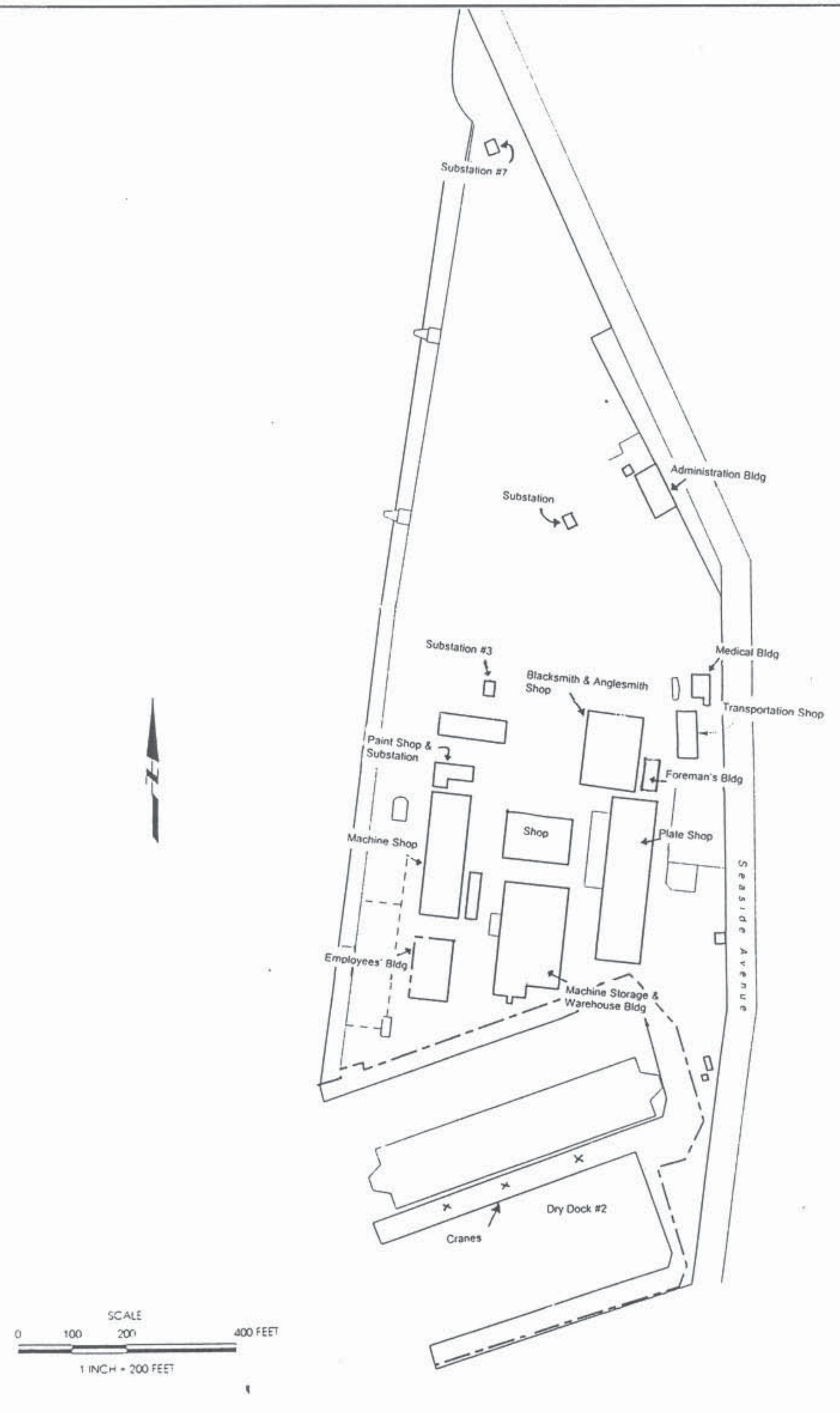


State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
SKETCH MAP

Primary #
HRI #
Trinomial

Page 8 of 37 ***Resource Name or #:** (Assigned by Recorder) Bethlehem Shipyard

***Drawn By:** Levine Fricke, amended by Jones & Stokes ***Date:** August 2000



Bethlehem Shipyard Historic District

NOTE: Include bar scale and north arrow.

DPR 523K (1.95) *Required Information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3D
Other Listings
Review Code Reviewer Date

 ***Resource Name or #:** (Assigned by Recorder) Bethlehem Shipyard Administration Building

P1. Other Identifier:

***P2. Location:** ☐ Not for Publication ☒ Unrestricted ***a. County** Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Long Beach CA Date 1981 T___; R___; ___ ¼ of ___ ¼ of Sec ___; ___ B.M.

c. Address 955 South Neptune Avenue City San Pedro Zip

d. UTM: (Give more than one for large and/or linear resources) Zone: ___; ___ mE/ ___ mN

e. Other Locational Data: (e.g. parcel #, directions to resource, elevation, etc., as appropriate)

Berth 240

***P3a. Description** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The administration building is on Seaside Avenue in the now-vacant area of the shipyard. The rectangular facility features a gable roof covered with composition shingles. The walls are clad with horizontal corrugated-metal siding accented by a band of vertical corrugated metal that wraps around the middle of the building. Vertical metal siding is also at the eaves of the building. Metal-framed multi-paned windows, some with center awnings, are located throughout the building. Some panes are missing or broken and others are boarded over. Concrete or wooden stairs provide access to the doors. The main entrance is recessed with curved walls and is accessed by concrete stairs. Additional features include concrete and wooden platforms, a skylight on the roof, and exterior stairs with metal rails that lead to the second floor. The building measures 100 x 50 feet and is supported by a concrete perimeter foundation.

***P3b. Resource Attributes:** (List attributes and codes) HP 6 1-3 story Commercial Building

***P4. Resources present:** ☐ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (isolates, etc.)

P

P5b. Description of Photo: (View, date, accession #)
Administration Building
Southeast Elevation 4/18/00

***P6. Date Constructed/Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both
Constructed 1941

***P7. Owner and Address:**
LAHD/POLA
425 Palos Verdes Street
San Pedro, CA 90733-3682

***P8. Recorded by:** (Name, affiliation, and address)
Madeline R. Lanz, Jones & Stokes
2600 V Street
Sacramento CA, 95818

***P9. Date Recorded:** 4/19/00

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Jones & Stokes Associates. 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the, Port of Los Angeles, Los Angeles County California.* August 2000. Sacramento CA.

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

Photographs (Continued):

Photograph 2. Northwest elevation

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial 3D
NRHP Status Code
Other Listings
Review Code Reviewer Date

***Resource Name or #:** (Assigned by Recorder) Bethlehem Shipyard Medical Building

P1. Other Identifier: Building #8

***P2. Location:** ☐ Not for Publication ☒ Unrestricted ***a. County** Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Long Beach CA Date 1981 T___; R___; ___ ¼ of ___ ¼ of Sec ___; ___ B.M.

c. Address 955 South Neptune Avenue City San Pedro Zip

d. UTM: (Give more than one for large and/or linear resources) Zone: ___; ___ mE/ ___ mN

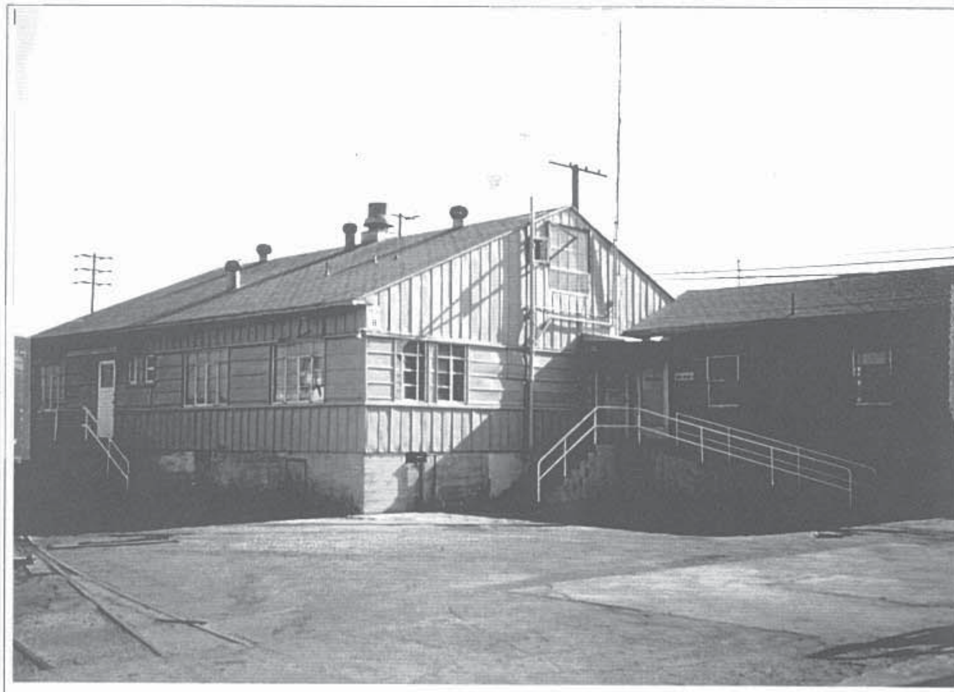
e. Other Locational Data: (e.g. parcel #, directions to resource, elevation, etc., as appropriate)
Berth 240

***P3a. Description** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This 75 x 43-foot medical facility is a one and a half story, L-shaped building with a gabled roof and a concrete perimeter foundation. It features vertical corrugated-metal siding accented by a band of horizontal corrugated metal that wraps around the middle of the building. Windows are a combination of metal-framed multi-lights and 1/1 wood-frame double-hung style. Some windows are covered by metal grates and some panes have been painted over. Concrete stairs or ramps with metal pipe rails provide entry into the building at the west, south, and east elevations. Wood stairs provide access to the rear. Awnings shade some doors, and vents are located on the roof. It was originally used as an employment office and hospital.

***P3b. Resource Attributes:** (List attributes and codes) HP41 Hospital Building

***P4. Resources present:** ☐ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (isolates, etc.)



P5b. Description of Photo: (View, date, accession #)
Medical Building
Southwest Elevation 4/18/00

***P6. Date Constructed/Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both
Constructed 1941; expanded 1943

***P7. Owner and Address:**
LAHD/POLA
425 Palos Verdes Street
San Pedro, CA 90733-3682

***P8. Recorded by:** (Name, affiliation, and address)
Madeline R. Lanz, Jones & Stokes
2600 V Street
Sacramento CA, 95818

***P9. Date Recorded:** 4/18/00

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the, Port of Los Angeles, Los Angeles County, California* August 2000. Sacramento, CA.

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3D
Other Listings
Review Code Reviewer Date

 ***Resource Name or #:** (Assigned by Recorder) Bethlehem Shipyard Foreman's Building

P1. Other Identifier: Building #34

***P2. Location:** ☐ Not for Publication ☒ Unrestricted ***a. County** Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Long Beach CA Date 1981 T____; R____; ____ ¼ of ____ ¼ of Sec____; ________ B.M.

c. Address 955 South Neptune Avenue City San Pedro Zip____

d. UTM: (Give more than one for large and/or linear resources) Zone:____; ________ mE/ ________ mN

e. Other Locational Data: (e.g. parcel #, directions to resource, elevation, etc., as appropriate)

Berth 240

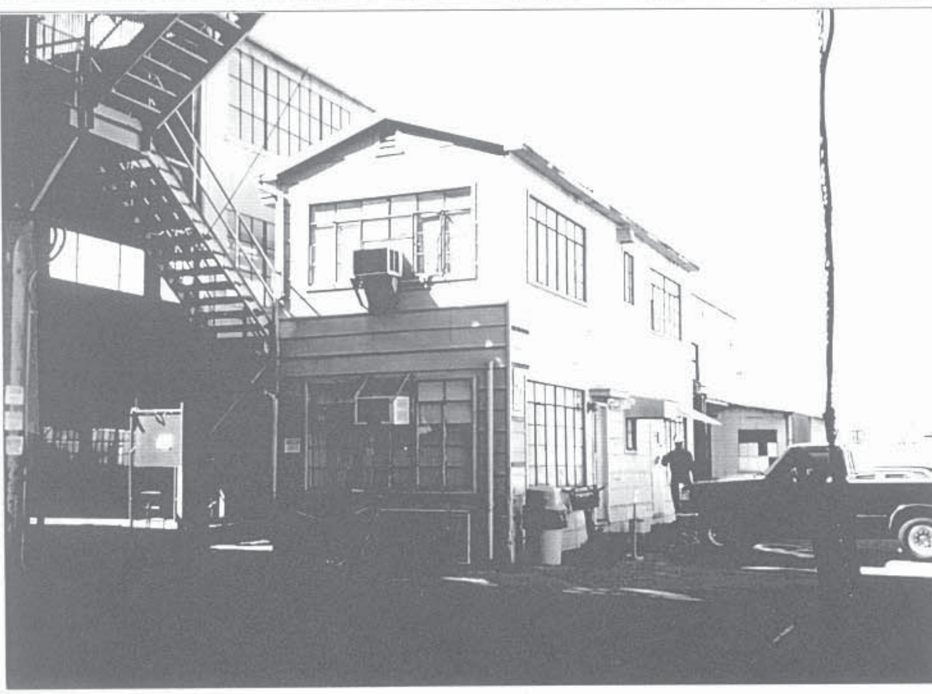
***P3a. Description** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Building 34 serves as the foreman's building. The small two-story building is located next to the plate shop and measures 38 x 13 feet. The wood-framed building is rectangular in plan and features a gabled roof. It is covered with horizontal corrugated metal and rests on a concrete perimeter foundation. Large, metal, multi-paned windows are located on each elevation. Some windows feature awning centers and some include air conditioning units. Single-entry doors provide access to the building. A door with a wood landing is located on the second floor at the south elevation. Exterior stairs, which once led to the landing, have been removed. Awnings shade some windows and doors.

***P3b. Resource Attributes:** (List attributes and codes) HP6 1-3 Commercial Building

***P4. Resources present:** ☐ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (isolates, etc.)

P5a.



P5b. Description of Photo: (View, date, accession #)
Foreman's Building
Southeast Elevation 4/18/2000

***P6. Date Constructed/Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both
Constructed 1941

***P7. Owner and Address:**
LAHD/POLA
425 Palos Verdes Street
San Pedro, CA 90733-3682

***P8. Recorded by:** (Name, affiliation, and address)
Madeline R. Lanz, Jones & Stokes
2600 V Street
Sacramento CA, 95818

***P9. Date Recorded:** 4/18/00

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the, Port of Los Angeles, Los Angeles County, California* August 2000. Sacramento, CA.

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3D
Other Listings
Review Code
Reviewer
Date

 *Resource Name or #: (Assigned by Recorder) Bethlehem Shipyard Transportation Shop

P1. Other Identifier: Building #4

*P2. Location: ☐ Not for Publication ☒ Unrestricted *a. County Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad Long Beach CA Date 1981 T___; R___; ___ ¼ of ___ ¼ of Sec ___; ___ B.M.

c. Address 955 South Neptune Avenue City San Pedro Zip

d. UTM: (Give more than one for large and/or linear resources) Zone:___; ___ mE/ ___ mN

e. Other Locational Data: (e.g. parcel #, directions to resource, elevation, etc., as appropriate)

Berth 240

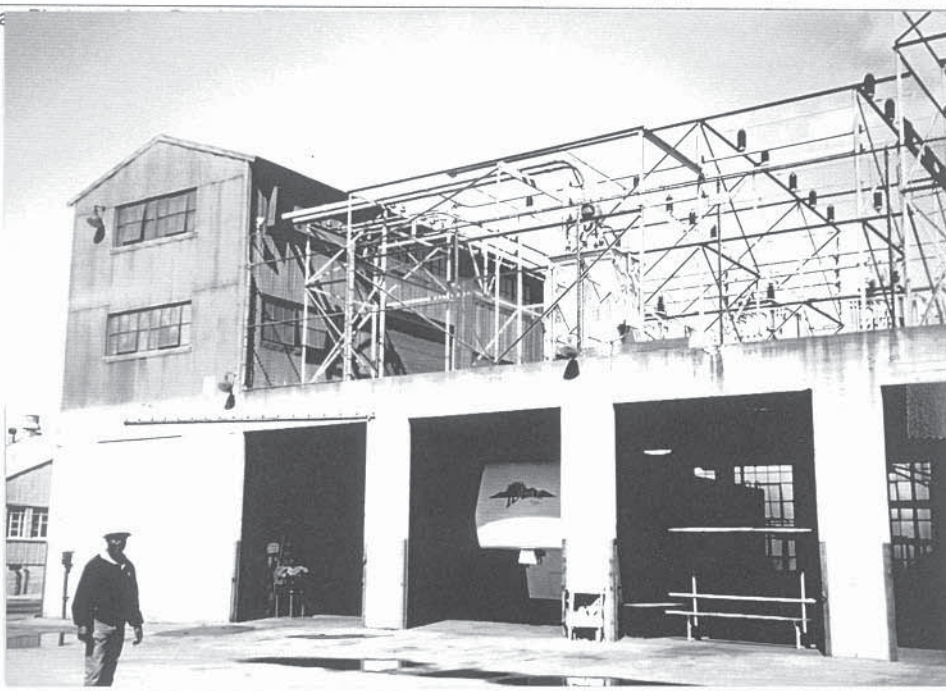
*P3a. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The transportation shop is a rectangular structure comprising a tall three-story element and a one-story element. The three-story portion of the building is made of concrete block partially covered with corrugated metal, and topped with a gabled roof. Windows throughout are steel-framed multi-panes, and some feature operable center units. The flat-roofed, one-story section is constructed of poured-in-place concrete and features four open bays. An additional bay has been filled in. Metal stairs provide access to the second floor at the north elevation. Transformer equipment is located on the roof of the one-story and is accessed by a roll-up door. A chain-link fence encloses the equipment. A large crane is situated next to the building at the south elevation.

*P3b. Resource Attributes: (List attributes and codes) HP9 Public Utility Building

*P4. Resources present: ☐ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (isolates, etc.)

P5a.



P5b. Description of Photo: (View, date, accession #)
Transportation Shop
West Elevation 4/18/00

*P6. Date Constructed/Age and Sources: ☒ Historic ☐ Prehistoric ☐ Both
Constructed 1941

*P7. Owner and Address:
LAHD/POLA
425 Palos Verdes Street
San Pedro, CA 90733-3682

*P8. Recorded by: (Name, affiliation, and address)
Madeline R. Lanz, Jones & Stokes
2600 V Street
Sacramento CA, 95818

*P9. Date Recorded: 4/18/00

*P10. Survey Type: (Describe)
Intensive

*P11. Report Citation: (Cite survey report and other sources, or enter "none.") Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the, Port of Los Angeles, Los Angeles County, California* August 2000. Sacramento, CA.

*Attachments: NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

Photographs (Continued):

Photograph 2. Rear elevation

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3D
Other Listings
Review Code Reviewer Date

 ***Resource Name or #:** (Assigned by Recorder) Bethlehem Shipyard Blacksmith & Anglesmith Shop

P1. Other Identifier:

***P2. Location:** ☐ Not for Publication ☒ Unrestricted ***a. County** Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Long Beach CA Date 1981 T___; R___; ___ ¼ of ___ ¼ of Sec ___; ______ B.M.

c. Address 955 South Neptune Avenue City San Pedro Zip

d. UTM: (Give more than one for large and/or linear resources) Zone: ____; ______ mE/ ______ mN

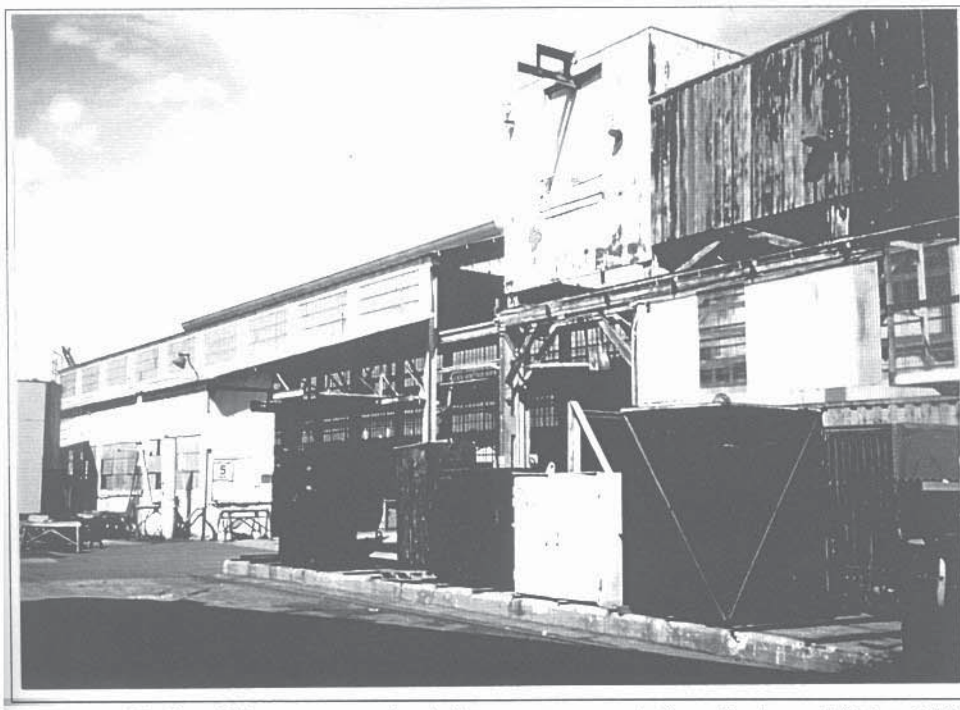
e. Other Locational Data: (e.g. parcel #, directions to resource, elevation, etc., as appropriate)
Berth 240

***P3a. Description** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The blacksmith and anglesmith shop is located to the north elevation of the plate shop. It is a two and one-half story building measuring 130 x 42 feet. The building features a gabled roof with a tubular vent and multi-paned, metal-framed windows. Some windows have operable units. A shed-roofed addition sided with corrugated metal is located at the west elevation.

***P3b. Resource Attributes:** (List attributes and codes) HP8 Industrial Building

***P4. Resources present:** ☐ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (isolates, etc.)



P5b. Description of Photo: (View, date, accession #)
Blacksmith and Anglesmith Shop
East Elevation 4/18/00

***P6. Date Constructed/Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both
Constructed 1918; Altered 1941

***P7. Owner and Address:**
LAHD/POLA
425 Palos Verdes Street
San Pedro, CA 90733-3682

***P8. Recorded by:** (Name, affiliation, and address)
Madeline R. Lanz, Jones & Stokes
2600 V Street
Sacramento CA, 95818

***P9. Date Recorded:** 4/18/00

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Jones & Stokes 2000 *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the, Port of Los Angeles, Los Angeles County, California* July 2000. Sacramento, CA

*Attachments: NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record ☐ Other (List):

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3D

Other Listings
Review Code   Reviewer   Date

Page 16 of 37   ***Resource Name or #:** (Assigned by Recorder) Bethlehem Shipyard Plate Shop

P1. Other Identifier: Building #6

***P2. Location:** ☐ Not for Publication ☒ Unrestricted   ***a. County** Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Long Beach CA Date 1981 T___; R___; ___ ¼ of ___ ¼ of Sec ___; ___ B.M.

c. Address 955 South Neptune Avenue   City San Pedro   Zip ___

d. UTM: (Give more than one for large and/or linear resources) Zone: ___; ___ mE/ ___ mN

e. Other Locational Data: (e.g. parcel #, directions to resource, elevation, etc., as appropriate)
Berth 240

***P3a. Description** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The plate shop is a two-story structure measuring approximately 320 x 90 feet. The wood-frame, rectangular building has an essentially flat roof supported by wood trusses (shown in **photograph 2**) and is clad with corrugated metal. Parts of the second story are covered with vertical board and batten siding. Windows are large, metal-framed multi-lights, some with operable center units. A number of windows are covered with plastic tarp or are painted over. Several large openings with varied treatment provide access to the interior of the shop. One opening includes a metal roll-up door and another has been filled in and replaced with a single-entry door. Additional bays are covered with chain-link fence. Carts holding various materials run through the building on tracks. **Photograph 3** depicts a cart on the track. (See Continuation Sheet)

***P3b. Resource Attributes:** (List attributes and codes) HP8 Industrial Building

***P4. Resources present:** ☐ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (isolates,

P

P5b. Description of Photo: (View, date, accession #)
Plate Shop
Southeast Elevation 4/18/00

***P6. Date Constructed/Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both
Constructed 1918

***P7. Owner and Address:**
LAHD/POLA
425 Palos Verdes Street
San Pedro, CA 90733-3682

***P8. Recorded by:** (Name, affiliation, and address)
Madeline R. Lanz, Jones & Stokes
2600 V Street
Sacramento CA, 95818

***P9. Date Recorded:** 4/18/00

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the, Port of Los Angeles, Los Angeles County, California* August 2000. Sacramento, CA.

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

DPR 523A (1/95)   *Required Information

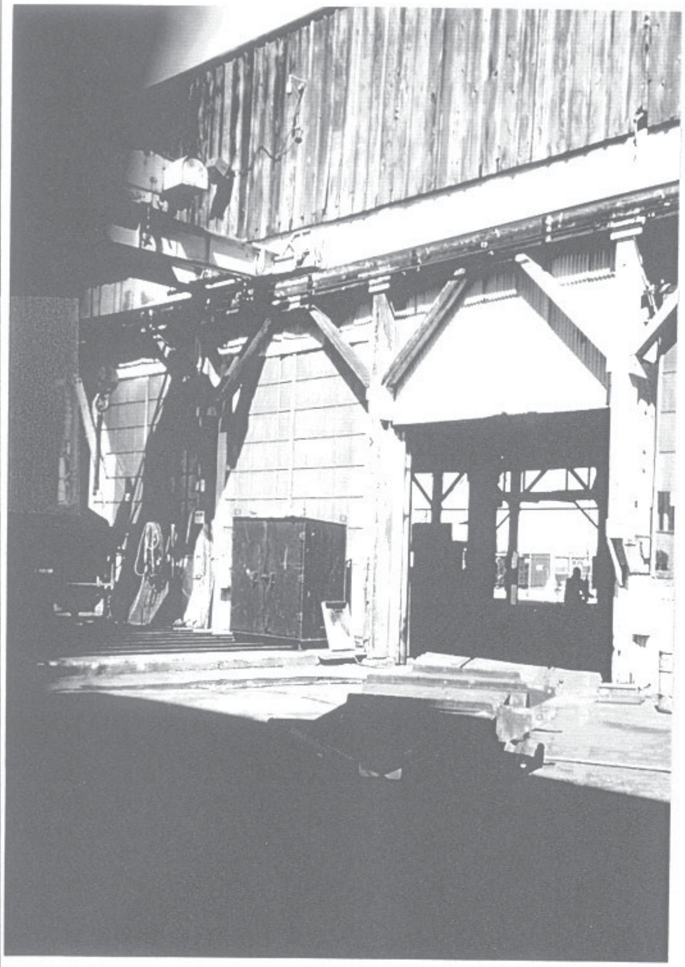
Description (Continued):

Exterior metal stairs provide access to the second floor, and a metal ladder leads to the roof of the building. Two cranes are located at the rear of the structure. The words "Southwest Marine" are painted on the east elevation of the building, facing Seaside Avenue.

Photographs (Continued):

Photograph 2. West elevation showing wood trusses

Photographs (Continued):



Photograph 3. Cart on track running through building

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3D
Other Listings
Review Code Reviewer Date

***Resource Name or #:** (Assigned by Recorder) Bethlehem Shipyard Machine Shop

P1. Other Identifier: Building #3

***P2. Location:** ☐ Not for Publication ☒ Unrestricted ***a. County** Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Long Beach CA Date 1981 T___; R___; __ ¼ of __ ¼ of Sec __; ___ B.M.

c. Address 955 South Neptune Avenue City San Pedro Zip

d. UTM: (Give more than one for large and/or linear resources) Zone: ; mE/ mN

e. Other Locational Data: (e.g. parcel #, directions to resource, elevation, etc., as appropriate)
Berth 240

***P3a. Description** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The machine shop is a tall, two-story, rectangular building with a gabled roof and corrugated-metal siding. The structure is dominated by fenestration comprising large multi-paned metal-framed windows. A tall, metal shelter supported by seven posts is attached to the rear of the building and is shown in **photograph 2**. This structure is used to store equipment. Additional features include a tubular vent on the roof and number of bays.

***P3b. Resource Attributes:** (List attributes and codes) HP8 Industrial Building

***P4. Resources present:** ☐ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (isolates, etc.)

P5b. Description of Photo: (View, date, accession #)
Machine Shop
Southeast Elevation 4/18/2000

***P6. Date Constructed/Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both
Constructed 1941

***P7. Owner and Address:**
LAHD/POLA
425 Palos Verdes Street
San Pedro, CA 90733-3682

***P8. Recorded by:** (Name, affiliation, and address)
Madeline R. Lanz, Jones & Stokes
2600 V Street
Sacramento CA, 95818

***P9. Date Recorded:** 4/18/00

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the, Port of Los Angeles, Los Angeles County, California* August 2000. Sacramento, CA.

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

Photographs (Continued):

Photograph 2. Metal shelter at rear of building

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3D
Other Listings
Review Code Reviewer Date

*Resource Name or #: (Assigned by Recorder) Bethlehem Shipyard Machine Storage & Warehouse

P1. Other Identifier: Building #7

*P2. Location: ☐ Not for Publication ☒ Unrestricted *a. County Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad Long Beach CA Date 1981 T____; R____; ____ ¼ of ____ ¼ of Sec ____; ________ B.M.

c. Address 955 South Neptune Avenue City San Pedro Zip

d. UTM: (Give more than one for large and/or linear resources) Zone:____; ________ mE/ ________ mN

e. Other Locational Data: (e.g. parcel #, directions to resource, elevation, etc., as appropriate)

Berth 240

*P3a. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Building No. 7 is a large, five-story machine storage building and warehouse measuring 230 x 130 feet. The flat-roofed structure is sheathed in corrugated metal and includes the same multi-paned, metal-framed windows found on most of the buildings in the yard. Some windows have operable units. At the rear elevation, some original siding has been removed and replaced with newer corrugated-metal siding and roll-up doors. An original roll-up door remains at this elevation. Replacement wooden stairs lead to the second floor of the building, and exterior metal stairs (depicted in **photograph 2**) provide access to the roof. A shed-roofed awning and replacement-metal, sliding-sash windows (shown in **photograph 3**) are located at the west elevation, and a concrete loading platform is at the east elevation.

*P3b. Resource Attributes: (List attributes and codes) HP8 Industrial Building

*P4. Resources present: ☐ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (isolates, etc.)

P5b. Description of Photo: (View, date, accession #)
Machine Storage and Warehouse Bldg
Southwest Elevation 4/18/2000

*P6. Date Constructed/Age and Sources: ☒ Historic ☐ Prehistoric ☐ Both
Constructed 1941; 1943

*P7. Owner and Address:
LAHD/POLA
425 Palos Verdes Street
San Pedro, CA 90733-3682

*P8. Recorded by: (Name, affiliation, and address)
Madeline R. Lanz, Jones & Stokes
2600 V Street
Sacramento CA, 95818

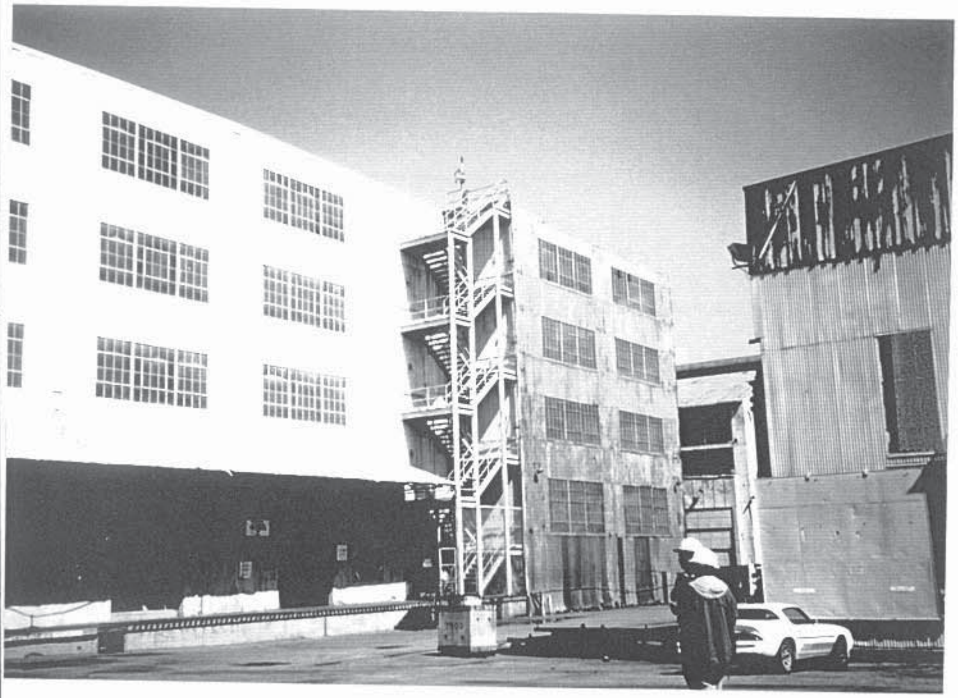
*P9. Date Recorded: 4/18/00

*P10. Survey Type: (Describe)
Intensive

*P11. Report Citation: (Cite survey report and other sources, or enter "none.") Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the, Port of Los Angeles, Los Angeles County, California* August 2000. Sacramento, CA.

*Attachments: NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

Photographs (Continued)



Photograph 2. Exterior metal stairs

Photograph 3. Replacement windows and metal awning

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3D

Other Listings
Review Code Reviewer Date

 *Resource Name or #: (Assigned by Recorder) Bethlehem Shipyard Shop Building

P1. Other Identifier: Building #9

*P2. Location: ☐ Not for Publication ☒ Unrestricted *a. County Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad Long Beach CA Date 1981 T____; R____; ___ ¼ of ___ ¼ of Sec ___; ______ B.M.

c. Address 955 South Neptune Avenue City San Pedro Zip

d. UTM: (Give more than one for large and/or linear resources) Zone: ____; ______ mE/ ______ mN

e. Other Locational Data: (e.g. parcel #, directions to resource, elevation, etc., as appropriate)

Berth 240

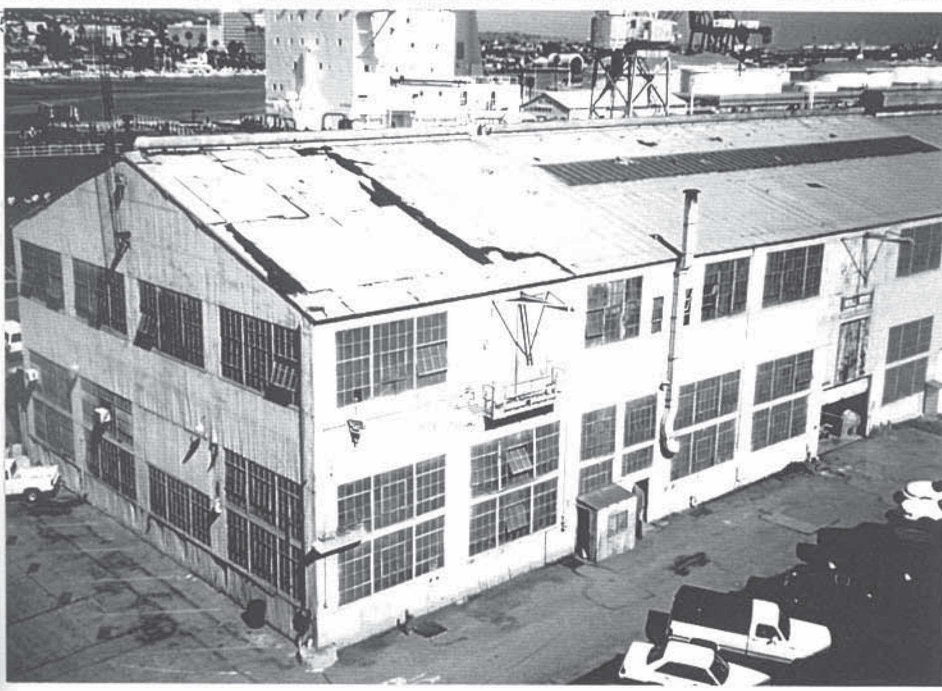
*P3a. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Building No. 9 is a tall, three-story shops building with a gabled roof and multi-pane windows of a style similar to that found on other buildings in the yard. Building No. 9 measures 242 x 82 feet and rests on a concrete foundation. A tubular vent and skylights are on the roof. The building is clad with corrugated metal and has bays with roll-up doors. Metal platforms are located under several second-floor windows, although some have been removed. A large metal chute, a sawdust silo, and joists used to lift heavy equipment are attached to the building. The sawdust silo is shown in **photograph 2**. A wood-framed, shed-roofed addition is located at the east elevation. Exterior metal stairs provide access to the second floor, and a ladder leads to the roof. The building is currently being used as a pipe/machine/carpenter shop.

*P3b. Resource Attributes: (List attributes and codes) HP8 Industrial Building

*P4. Resources present: ☐ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (isolates, etc.)

P



P5b. Description of Photo: (View, date, accession #)
Shop Building
Southeast Elevation 4/18/2000

*P6. Date Constructed/Age and Sources: ☒ Historic ☐ Prehistoric ☐ Both
Constructed 1941

*P7. Owner and Address:
LAHD/POLA
425 Palos Verdes Street
San Pedro, CA 90733-3682

*P8. Recorded by: (Name, affiliation, and address)
Madeline R. Lanz, Jones & Stokes
2600 V Street
Sacramento CA, 95818

*P9. Date Recorded: 4/18/00

*P10. Survey Type: (Describe)
Intensive

*P11. Report Citation: (Cite survey report and other sources, or enter "none.") Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the, Port of Los Angeles, Los Angeles County, California* August 2000. Sacramento, CA.

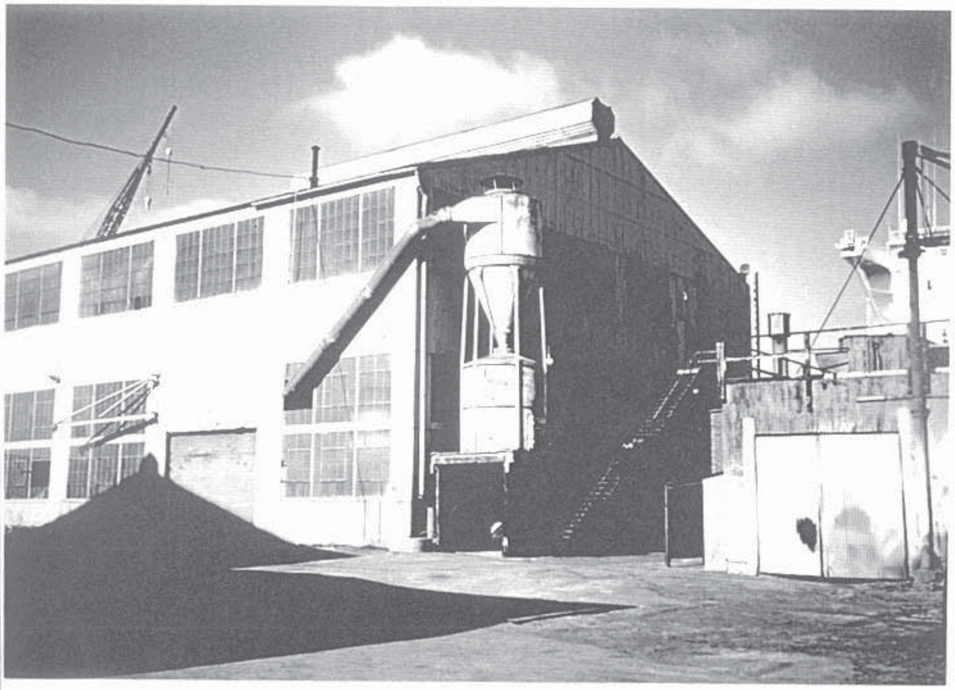
*Attachments: NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

Primary #
HRI #
Trinomial

 *Resource Name or # (Assigned by recorder) Bethlehem Shipyard Shop Building

*Recorded by Madeline R. Lanz, Jones & Stokes *Date 4/18/00 [x] Continuation [ ] Update

Photographs (Continued):



Photograph 2. Sawdust silo at north elevation

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3D

Other Listings
Review Code Reviewer Date

***Resource Name or #:** (Assigned by Recorder) Bethlehem Shipyard Employees' Building

P1. Other Identifier:

***P2. Location:** ☐ Not for Publication ☒ Unrestricted ***a. County** Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Long Beach CA Date 1981 T____; R____; ___ ¼ of ___ ¼ of Sec ___; ______ B.M.

c. Address 955 South Neptune Avenue City San Pedro Zip______

d. UTM: (Give more than one for large and/or linear resources) Zone:______; ________ mE/ ________ mN

e. Other Locational Data: (e.g. parcel #, directions to resource, elevation, etc., as appropriate)
Berth 240

***P3a. Description** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The employees' building measures 135 x 77 feet and is located next to Dry Dock No. 1 in the southwestern portion of the yard. The two-story building features a gabled roof and metal siding, and is supported by a concrete perimeter foundation. A band of metal-framed multi-lights wraps around the second floor of the building. These windows appear to be original. Additional windows are replacement-metal sliders and fixed-pane windows. The building includes both double- and single-entry doors. Two sets of metal stairs provide access to the building at the east elevation, and HVAC equipment is on the roof. "Southwest Marine" is painted in large letters on the west elevation.

***P3b. Resource Attributes:** (List attributes and codes) HP6 1-3 Story Commercial Building

***P4. Resources present:** ☐ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (isolates, etc.)

P5b. Description of Photo: (View, date, accession
Employees' Building
Northwest Elevation 4/18/00

***P6. Date Constructed/Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both
Constructed 1941

***P7. Owner and Address:**
LAHD/POLA
425 Palos Verdes Street
San Pedro, CA 90733-3682

***P8. Recorded by:** (Name, affiliation, and address)
Madeline R. Lanz, Jones & Stokes
2600 V Street
Sacramento CA, 95818

***P9. Date Recorded:** 4/18/00

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the, Port of Los Angeles, Los Angeles County, California* August 2000. Sacramento, CA.

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3D
Other Listings
Review Code Reviewer Date

***Resource Name or #:** (Assigned by Recorder) Bethlehem Shipyard Paint Shop and Substation

P1. Other Identifier:

***P2. Location:** ☐ Not for Publication ☒ Unrestricted ***a. County** Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Long Beach CA Date 1981 T___; R___; ___ ¼ of ___ ¼ of Sec ___; ___ B.M.

c. Address 955 South Neptune Avenue City San Pedro Zip

d. UTM: (Give more than one for large and/or linear resources) Zone:___; ___ mE/ ___ mN

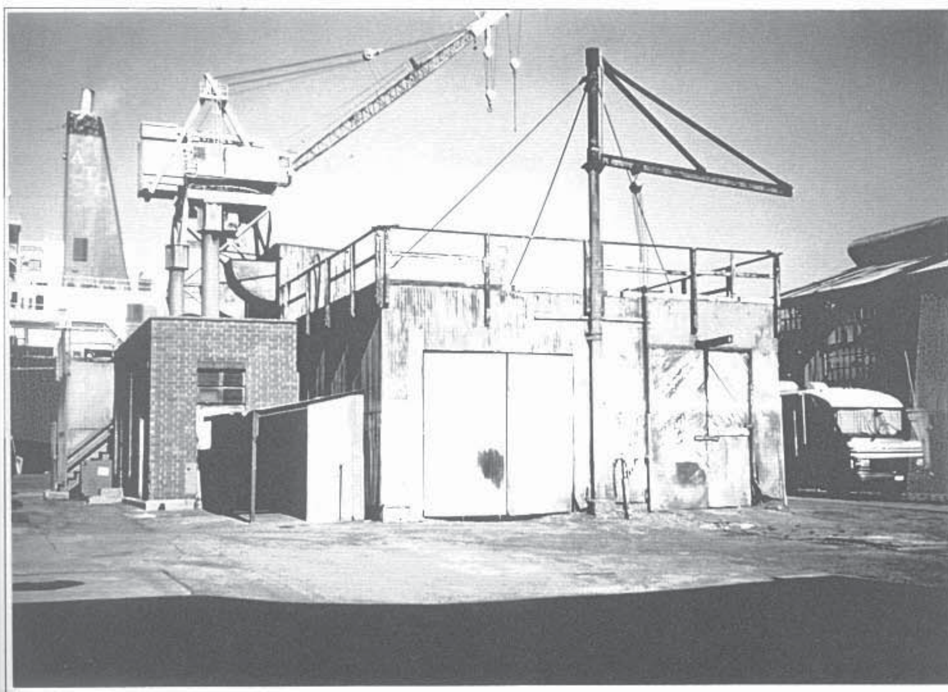
e. Other Locational Data: (e.g. parcel #, directions to resource, elevation, etc., as appropriate)
Berth 240

***P3a. Description** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The paint shop and substation is an L-shaped building comprising two elements. The stem of the "L" was built as a paint booth, and the foot of the "L" was constructed as a substation. The paint booth (shown in the attached photograph) is a one-story, flat-roofed building measuring 81 x 30 feet. Wood rails and a large vent are located on the roof. The building is covered with corrugated metal and includes bays and wood double- and single-entry doors. Windows are 2/2 wood-frame and replacement-metal sliders. Some doors are covered with corrugated metal, and some windows have been painted over. Additional doors have been filled in. A wood ladder and stairs provide access to the roof. A 1-ton jib crane and a joist are attached to the building.

***P3b. Resource Attributes:** (List attributes and codes) HP8 Industrial Building

***P4. Resources present:** ☐ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (isolates, etc.)



P5b. Description of Photo: (View, date, accession #)
Paint Booth
Northwest Elevation 4/18/2000

***P6. Date Constructed/Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both
See Description

***P7. Owner and Address:**
LAHD/POLA
425 Palos Verdes Street
San Pedro, CA 90733-3682

***P8. Recorded by:** (Name, affiliation, and address)
Madeline R. Lanz, Jones & Stokes
2600 V Street
Sacramento CA, 95818

***P9. Date Recorded:** 4/18/00

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the, Port of Los Angeles, Los Angeles County, California* August 2000. Sacramento CA.

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #
HRI #
Trinomial

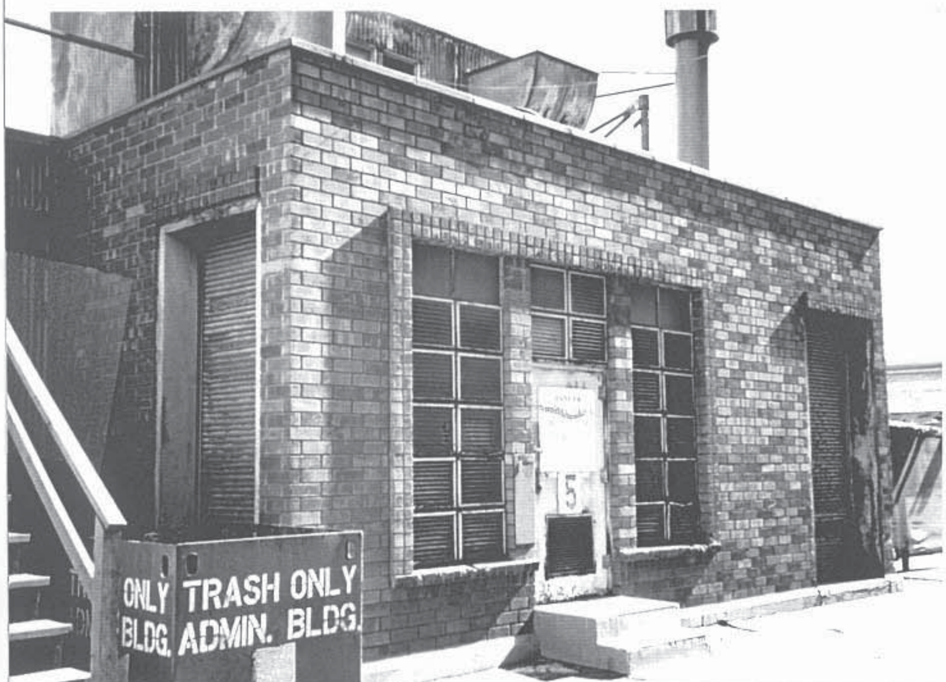
Page 27 of 37 *Resource Name or # (Assigned by recorder) Bethlehem Shipyard Paint Shop & Substation

*Recorded by Madeline R. Lanz, Jones & Stokes *Date 4/18/00 [x] Continuation [ ] Update

Description (Continued):

The substation (shown in **photograph 2**) element is a flat-roofed brick structure with narrow, recessed bays and roll-up doors and multi-paned vents. A single-entry door is located at the west elevation, and two tall vents are on the roof.

Photographs (Continued):



Photograph 2. Substation, southwest elevation

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3D
Other Listings
Review Code Reviewer Date

 *Resource Name or #: (Assigned by Recorder) Bethlehem Shipyard Substation #3

P1. Other Identifier: Building #8

*P2. Location: ☐ Not for Publication ☒ Unrestricted *a. County Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad Long Beach CA Date 1981 T___; R___; ¼ of ¼ of Sec___; B.M.

c. Address 955 South Neptune Avenue City San Pedro Zip

d. UTM: (Give more than one for large and/or linear resources) Zone:___; mE/ mN

e. Other Locational Data: (e.g. parcel #, directions to resource, elevation, etc., as appropriate)
Berth 240

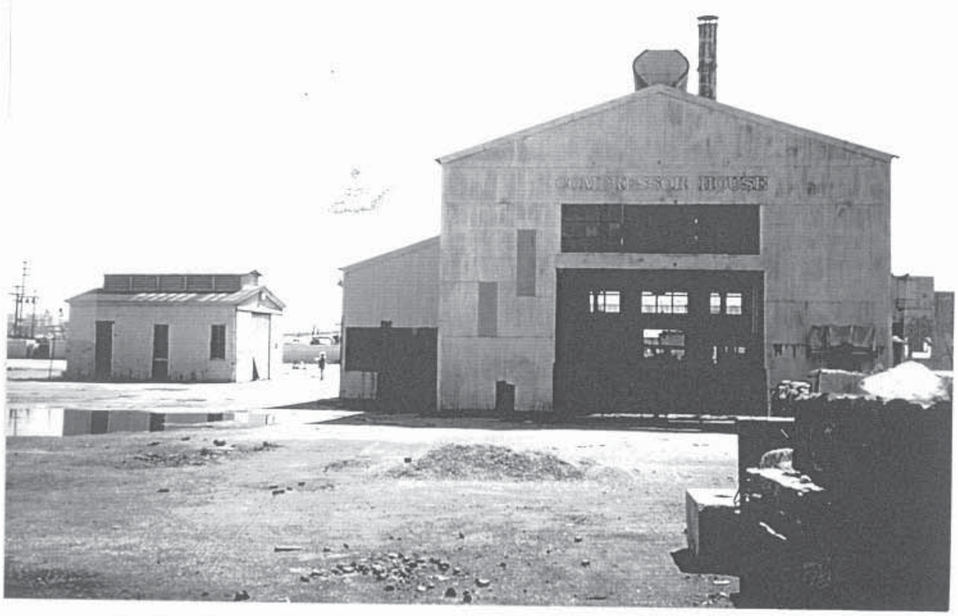
*P3a. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Substation No. 3 is located immediately north of the compressor building. Rectangular in shape, the 32 x 26-foot wood-frame structure is covered by a gabled roof and sheathed in corrugated metal. A gabled monitor vent is on the ridge line of the roof. Three 2/2, double-hung, wood-frame windows with lower vents are located at the east and west elevations, and a bay with a track-hung door is on the south elevation. Some window panes are missing, and one vent has been covered with sheet metal.

*P3b. Resource Attributes: (List attributes and codes) HP9 Public Utility Building

*P4. Resources present: ☐ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (isolates, etc.)

P5



P5b. Description of Photo: (View, date, accession #)
Substation located left corner of photo.
West Elevation 4/18/00

*P6. Date Constructed/Age and Sources: ☒ Historic ☐ Prehistoric ☐ Both
1918

*P7. Owner and Address:
LAHD/POLA
425 Palos Verdes Street
San Pedro, CA 90733-3682

*P8. Recorded by: (Name, affiliation, and address)
Madeline R. Lanz, Jones & Stokes
2600 V Street
Sacramento CA, 95818

*P9. Date Recorded: 4/18/00

*P10. Survey Type: (Describe)
Intensive

*P11. Report Citation: (Cite survey report and other sources, or enter "none.") Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the, Port of Los Angeles, Los Angeles County, California* August 2000. Sacramento, CA.

*Attachments: NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3D
Other Listings
Review Code
Reviewer
Date

*Resource Name or #: (Assigned by Recorder) Bethlehem Shipyard Substation #7

P1. Other Identifier:

*P2. Location: ☐ Not for Publication ☒ Unrestricted *a. County Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad Long Beach CA Date 1981 T___; R___; ___ ¼ of ___ ¼ of Sec ___; ___ B.M.

c. Address 955 South Neptune Avenue City San Pedro Zip

d. UTM: (Give more than one for large and/or linear resources) Zone: ___; ___ mE/ ___ mN

e. Other Locational Data: (e.g. parcel #, directions to resource, elevation, etc., as appropriate)
Berth 240

*P3a. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This substation comprises two parts: an original element and a newer addition. The original element is covered with riveted steel panels and includes a hipped roof covered with the same type of panels. Additional features include four-pane windows and a monitor vent on the roof. The newer element is sheathed with corrugated metal and includes a band of multi-light windows and a corrugated-metal double door. The roof is gabled and covered with corrugated metal. A chain-link fence partially encloses the structure. The building is supported by a concrete perimeter foundation and measures 26 x 15 feet.

*P3b. Resource Attributes: (List attributes and codes) HP9 Public Utility Building

*P4. Resources present: ☐ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (isolates, etc.)

P5b. Description of Photo: (View, date, accession #)
Substation #7
Southwest Elevation 4/18/00

*P6. Date Constructed/Age and Sources: ☒ Historic ☐ Prehistoric ☐ Both
Constructed 1918, 1941

*P7. Owner and Address:
LAHD/POLA
425 Palos Verdes Street
San Pedro, CA 90733-3682

*P8. Recorded by: (Name, affiliation, and address)
Madeline R. Lanz, Jones & Stokes
2600 V Street
Sacramento CA, 95818

*P9. Date Recorded: 4/18/00

*P10. Survey Type: (Describe)
Intensive

*P11. Report Citation: (Cite survey report and other sources, or enter "none.") Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the, Port of Los Angeles, Los Angeles County, California* August 2000. Sacramento, CA.

*Attachments: NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3D

Other Listings
Review Code Reviewer Date

 ***Resource Name or #:** (Assigned by Recorder) Bethlehem Shipyard Building #22

P1. Other Identifier: Substation

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Long Beach CA Date 1981 T ; R ; ¼ of ¼ of Sec ; B.M.

c. Address 955 South Neptune Avenue City San Pedro Zip

d. UTM: (Give more than one for large and/or linear resources) Zone: ; mE/ mN

e. Other Locational Data: (e.g. parcel #, directions to resource, elevation, etc., as appropriate)
Berth 240

***P3a. Description** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Building No. 22 is a small (19 x 14-foot) wood-frame building with corrugated-metal siding. The gable-roofed building is located south of Substation No. 7, in the vacant area immediately north of the yard. It includes a single-entry door and metal-framed multi-lights with center hoppers. Some windows are protected by metal screens.

***P3b. Resource Attributes:** (List attributes and codes) HP9 Public Utility Building

***P4. Resources present:** ☐ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects)

P5b. Description of Photo: (View, date, accession #)
No photograph available.

***P6. Date Constructed/Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both
Constructed 1941

***P7. Owner and Address:**
LAHD/POLA
425 Palos Verdes Street
San Pedro, CA 90733-3682

***P8. Recorded by:** (Name, affiliation, and address)
Madeline R. Lanz, Jones & Stokes
2600 V Street
Sacramento CA, 95818

***P9. Date Recorded:** 4/18/00

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Jones & Stokes 2000 *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the, Port of Los Angeles, Los Angeles County, California* August 2000. Sacramento, CA.

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3D
Other Listings
Review Code | Reviewer | Date

 ***Resource Name or #:** (Assigned by Recorder) Bethlehem Shipyard Dry Dock #2

P1. Other Identifier:

***P2. Location:** ☐ Not for Publication ☒ Unrestricted ***a. County** Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Long Beach CA Date 1981 T___; R___; ___ ¼ of ___ ¼ of Sec ___; ___ B.M.

c. Address 955 South Neptune Avenue City San Pedro Zip

d. UTM: (Give more than one for large and/or linear resources) Zone: ___; ___ mE/ ___ mN

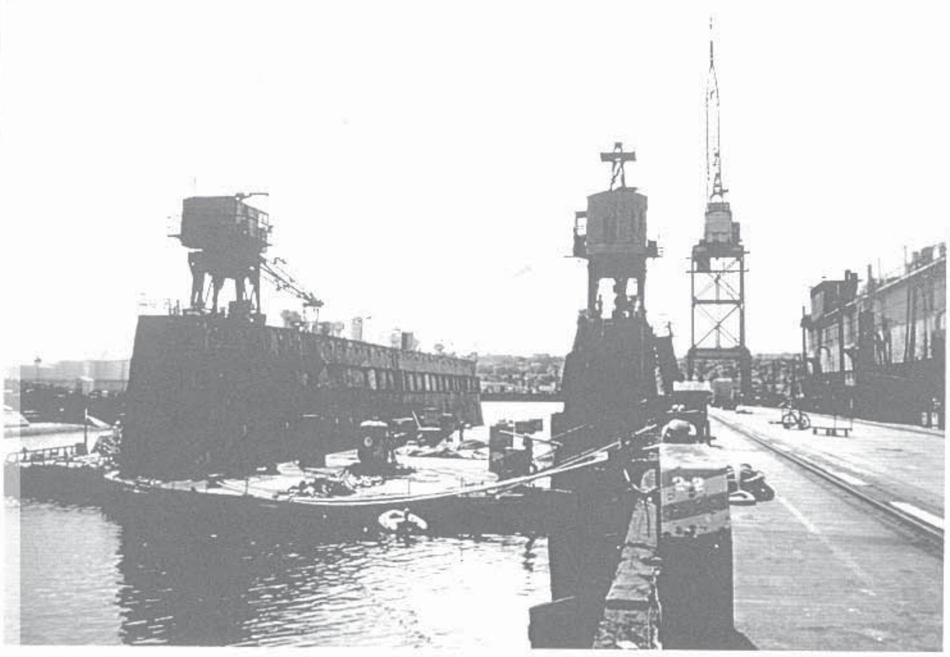
e. Other Locational Data: (e.g. parcel #, directions to resource, elevation, etc., as appropriate)
Berth 240

***P3a. Description** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Dry Dock No. 2 is a large, 15,000-ton structure located at the south end of the shipyard, next to Dry Dock No. 1. The U-shaped dry dock is made of steel and features concrete-covered walls and wood decking. Concrete blocks at the center of the structure are used to support the ships. The walls are topped with catwalks that are accessed by metal ladders and stairs. A small metal and wood structure and two cranes are located on the ridge line of the walls. The structure is 515 feet long and 126 feet wide and measures 50.75 feet from the keel to the tops of the walls. The dry dock is one of the oldest and most impressive resources still operating at the shipyard.

***P3b. Resource Attributes:** (List attributes and codes) HP11 Engineering Structure

***P4. Resources present:** ☐ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (isolates, etc.)



P5b. Description of Photo: (View, date, accession #)
Dry Dock #2
Overview 4/18/00

***P6. Date Constructed/Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both
Constructed 1919, altered 1922, 1943

***P7. Owner and Address:**
LAHD/POLA
425 Palos Verdes Street
San Pedro, CA 90733-3682

***P8. Recorded by:** (Name, affiliation, and address)
Madeline R. Lanz, Jones & Stokes
2600 V Street
Sacramento CA, 95818

***P9. Date Recorded:** 4/18/00

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the, Port of Los Angeles, Los Angeles County, California* July 2000. Sacramento, CA.

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

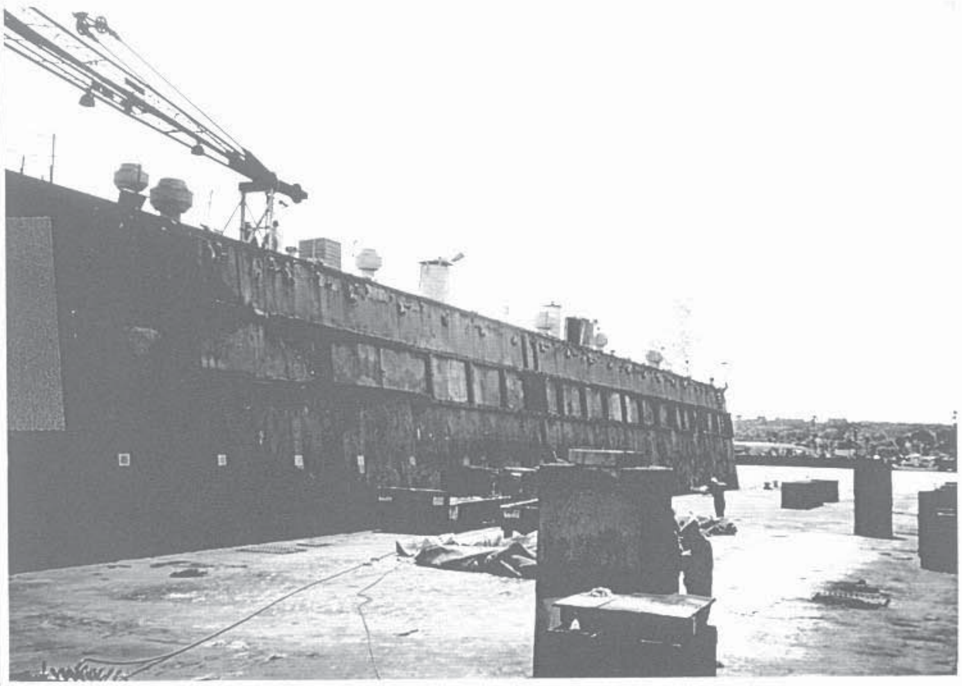
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #
HRI #
Trinomial

 ***Resource Name or #** (Assigned by recorder) Bethlehem Shipyard Dry Dock #2

***Recorded by** Madeline R. Lanz, Jones & Stokes ***Date** 4/18/00 [x] Continuation [ ] Update

Photographs (Continued):



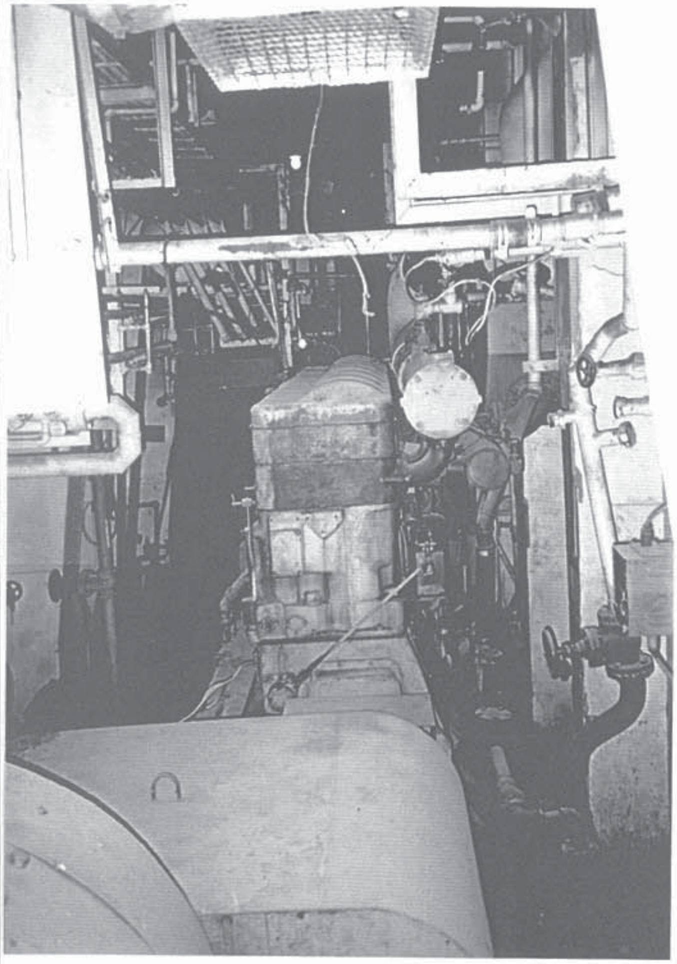
Photograph 2. View from gangplank toward water

Primary #
HRI #
Trinomial

 *Resource Name or # (Assigned by recorder) Bethlehem Shipyard Dry Dock #2

*Recorded by Madeline R. Lanz, Jones & Stokes *Date 4/18/00 [x] Continuation [ ] Update

Photographs (Continued)



Photograph 3. View of inside far wall

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3D

Other Listings
Review Code Reviewer Date

***Resource Name or #:** (Assigned by Recorder) Bethlehem Shipyard Cranes (pre-1946)

P1. Other Identifier:

***P2. Location:** ☐ Not for Publication ☒ Unrestricted ***a. County** Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Long Beach CA Date 1981 T ; R ; ¼ of ¼ of Sec ; B.M.

c. Address 955 South Neptune Avenue City San Pedro Zip

d. UTM: (Give more than one for large and/or linear resources) Zone: ; mE/ mN

e. Other Locational Data: (e.g. parcel #, directions to resource, elevation, etc., as appropriate)
Berth 240

***P3a. Description** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The shipyard features a number of cranes including Colby cranes, a Clyde crane, and Joshua Hendy cranes. Seven "whirly" cranes are located at the shipyard: six 22-ton Colby cranes and one 60-foot Clyde crane. The Colby cranes are 70-foot tall, steel-girder structures with a 30 x 24-foot base supported by concrete piers. Metal stairs ascend the structure. These cranes move along railroad tracks located along the slips and waterfront. Additional cranes include Joshua Hendy gantry cranes, which range from 3 to 8 tons.

***P3b. Resource Attributes:** (List attributes and codes) HP11 Engineering Structure

***P4. Resources present:** ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects)

P5b. Description of Photo: (View, date, accession #)
See Continuation Sheet

***P6. Date Constructed/Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both
Colby Cranes 1941
Joshua Hendy Cranes 1918

***P7. Owner and Address:**
LAHD/POLA
425 Palos Verdes Street
San Pedro, CA 90733-3682

***P8. Recorded by:** (Name, affiliation, and address)
Madeline R. Lanz, Jones & Stokes
2600 V Street
Sacramento CA, 95818

***P9. Date Recorded:** 4/18/00

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the, Port of Los Angeles, Los Angeles County, California* August 2000, Sacramento, CA.

***Attachments:** NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

Photographs (Continued):

Photograph 1. Colby Crane southeast view

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #
HRI #
Trinomial

*Resource Name or # (Assigned by Bethlehem Shipyard Cranes (pre-1946)

*Recorded by Madeline R. Lanz, Jones & Stokes *Date 4/18/00 [X] Continuation [ ] Update

Photographs (Continued)

Photograph 2 Detail of Colby Cranes

References

Friedman, N. 1982. U.S. Destroyers: An illustrated design history. Naval Institute Press. Annapolis, MD.

Queenan, C. F. 1983. The port of Los Angeles; from wilderness to world port. The Los Angeles Harbor Department. San Pedro, CA.

San Buenaventura Research Associates. 1992. Section 106 historic resources analysis: United Fruit Company Berth 147, Port of Los Angeles. Santa Paula, CA.

Silverstone, P. H. 1965. U.S. warships of World War II. Doubleday & Company. New York.

Watts, A.J. 1966. Japanese warships of World War II. Doubleday & Company. Garden City, NY.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6
Other Listings
Review Code Reviewer Date

 ***Resource Name or #:** (Assigned by Recorder) Guardhouse

P1. Other Identifier:

***P2. Location:** ☐ Not for Publication ☒ Unrestricted ***a. County** Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Long Beach CA Date 1981 T___; R___; ___ ¼ of ___ ¼ of Sec ___; ___ B.M.

c. Address 955 South Neptune Avenue City San Pedro Zip

d. UTM: (Give more than one for large and/or linear resources) Zone:___; ___ mE/ ___ mN

e. Other Locational Data: (e.g. parcel #, directions to resource, elevation, etc., as appropriate)
Berth 240

***P3a. Description** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The guardhouse is in the northeast corner of the shipyard, near Seaside Avenue. It features a gable roof covered with corrugated metal, as well as wood siding and wood-framed fixed-pane windows. Two wood single-entry doors with four-lights provide access to the building.

***P3b. Resource Attributes:** (List attributes and codes) HP 4 Ancillary Building

***P4. Resources present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (isolates, etc.)

P5b. Description of Photo: (View, date, accession
Guardhouse
Southwest Elevation 4/18/00.

***P6. Date Constructed/Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both
Constructed ca. 1950s

***P7. Owner and Address:**
LAHD/POLA
425 Palos Verdes Street
San Pedro, CA 90733-3682

***P8. Recorded by:** (Name, affiliation, and address)
Madeline R. Lanz, Jones & Stokes
2600 V Street
Sacramento CA, 95818

***P9. Date Recorded:** 4/18/00

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the, Port of Los Angeles, Los Angeles County, California* August 2000. Sacramento, CA.

***Attachments:** NONE ☐ Location Map ☒ Sketch Map ☐ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #

HRI #

BUILDING, STRUCTURE, AND OBJECT RECORD

*NRHP Status Code 6

*Resource Name or # (Assigned by recorder) Guardhouse

B1. Historic Name: Guardhouse

B2. Common Name:

B3. Original Use: Guardhouse   B4. Present Use: Guardhouse

***B5. Architectural Style:** Utilitarian

*B6. Construction History: (Construction date, alterations, and date of alterations)

Constructed circa 1950s. Windows and siding were replaced. Date of alterations are unknown..

***B7. Moved?** [X] No [ ] Yes [ ] Unknown **Date:** **Original Location:**

***B8. Related Features:**

B9a. Architect: Unknown   b. Builder: Unknown

***B10. Significance: Theme:** WWII Shipbuilding **Area:** Los Angeles, California

Period of Significance: 1941-1945 **Property Type:** Building **Applicable Criteria:** N/A

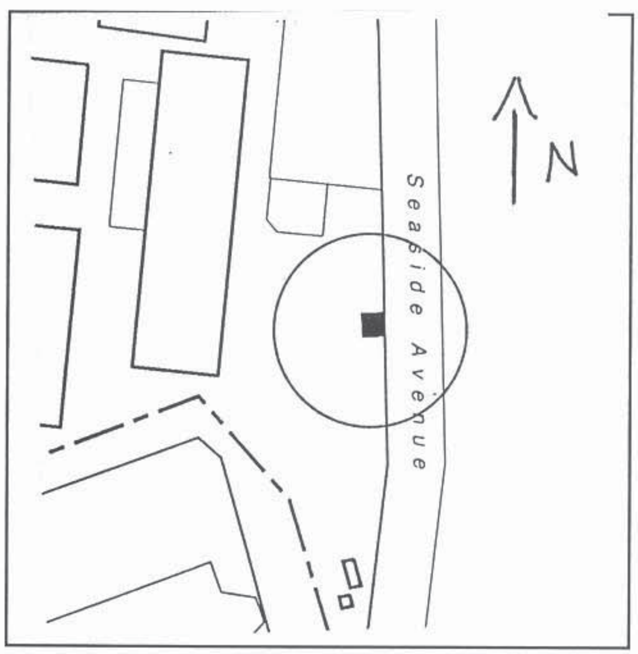
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Building records are not available for the guardhouse, but based on materials used, it most likely was constructed in the 1950s. It suffered a loss of integrity when its windows and siding were replaced. The guardhouse is not considered a contributor to the Bethlehem Shipyard Historic District because it was constructed after the period of significance (1941-1945). The building does not appear to meet the criteria for listing in the NRHP because it most likely is less than fifty years old and does not appear to be exceptionally significant. Furthermore, the guardhouse has not retained integrity to its period of significance. Lacking exceptional significance and integrity, the guardhouse does not appear to meet the criteria for listing in the NRHP.

B11. Additional Resource Attributes: (List attributes and codes)

***B12. References:**

See Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the Port of Los Angeles County, California* August 2000. Sacramento, CA.



B13. Remarks:

***B14. Evaluator:** Madeline R. Lanz, Jones & Stokes

***Date of Evaluation:** May 5, 2000

(This space reserved for official comments.)

*Required Information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6

Other Listings
Review Code   Reviewer   Date

***Resource Name or #:** (Assigned by Recorder) Compressor House

P1. Other Identifier:

***P2. Location:** ☐ Not for Publication ☒ Unrestricted ***a. County** Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Long Beach CA Date 1981 T___; R___; ___ ¼ of ___ ¼ of Sec ___; ___ B.M.

c. Address 955 South Neptune Avenue City San Pedro Zip

d. UTM: (Give more than one for large and/or linear resources) Zone:___; ___ mE/ ___ mN

e. Other Locational Data: (e.g. parcel #, directions to resource, elevation, etc., as appropriate)

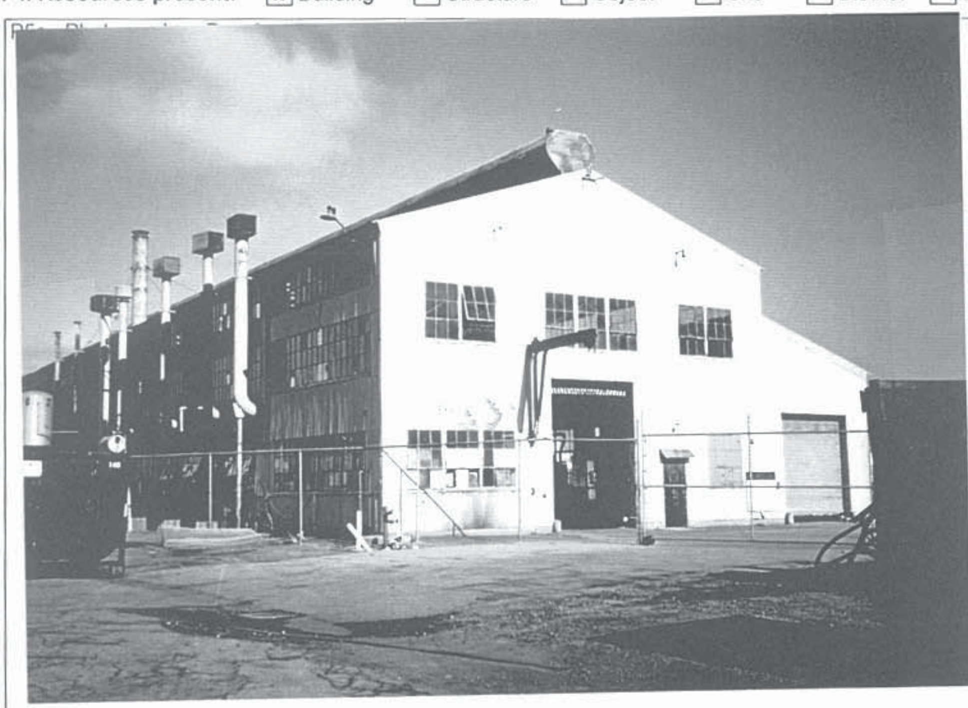
Berth 240

***P3a. Description** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The compressor house is a tall, rectangular building located in the northwestern part of the yard, next to the paint shop. The building has a gabled roof and walls clad with corrugated-metal panels. Windows are multi-paned and are set in steel frames; a few have operable units. Doors are single-entry, and some are shaded by metal awnings. Numerous exhaust stacks extend along the south elevation, and an additional stack and tubular vents are on the roof. Bays are located at the end elevations. The words, "Compressor House" are painted on the west elevation. A shed-roofed, metal-sided extension (shown in **photograph 2**) is located at the north elevation. The extension features a roll-up door and the same multi-paned windows as the main element. The building measures 150 x 61 feet.

***P3b. Resource Attributes:** (List attributes HP8 Industrial Building

***P4. Resources present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (isolates,



P5b. Description of Photo: (View, date, accession #)
Compressor House
Southeast Elevation 4/18/00

***P6. Date Constructed/Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both
Constructed 1918

***P7. Owner and Address:**
LAHD/POLA
425 Palos Verdes Street
San Pedro, CA 90733-3682

***P8. Recorded by:** (Name, affiliation, and address)
Madeline R. Lanz, Jones & Stokes
2600 V Street
Sacramento CA, 95818

***P9. Date Recorded:** 4/18/00

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the, Port of Los Angeles, Los Angeles County, California* August 2000. Sacramento, CA.

***Attachments:** NONE ☐ Location Map ☒ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

Primary #
HRI #

BUILDING, STRUCTURE, AND OBJECT RECORD

*NRHP Status Code 6

*Resource Name or # (Assigned by recorder) Compressor House

B1. Historic Name: Compressor House
B2. Common Name:
B3. Original Use: Compressor House B4. Present Use: Compressor House
***B5. Architectural Style:** Utilitarian
*B6. Construction History: (Construction date, alterations, and date of alterations)
Constructed 1918. Altered 1941, and reduced in size in 1960.

***B7. Moved?** [X] No [ ] Yes [ ] Unknown **Date:** **Original Location:**
***B8. Related Features:**

B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme:** WWII Shipbuilding **Area:** Los Angeles, California
Period of Significance: 1941-1945 **Property Type:** Building **Applicable Criteria:** N/A
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The compressor house is not considered a contributor to the Bethlehem Shipyard Historic District nor does it appear to meet the criteria for listing in the National Register of Historic Places because it has not retained its integrity to its period of significance. The building appears to have been constructed in 1918, substantially altered in 1941-1942, and reduced in number by roughly half in 1960 (after the period of significance), to its current configuration.

B11. Additional Resource Attributes: (List attributes and codes)
***B12. References:**

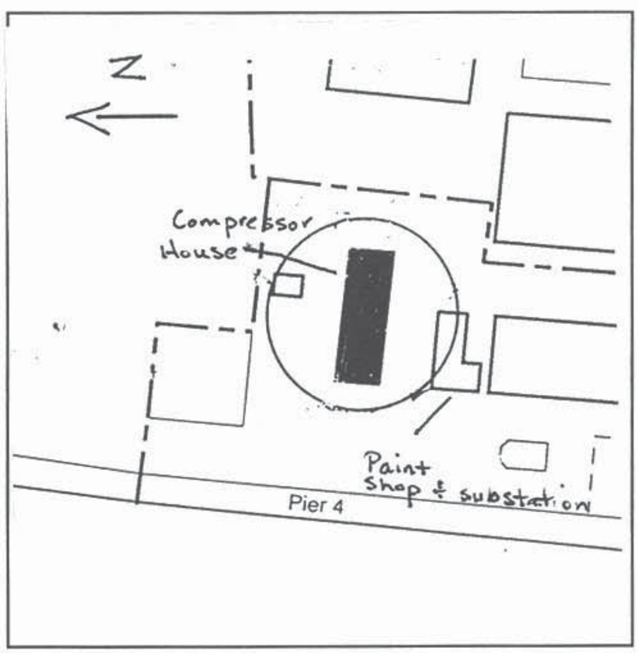
See Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the Port of Los Angeles County, California* August 2000. Sacramento, CA.

B13. Remarks:

***B14.Evaluator:** Madeline R. Lanz

***Date of Evaluation:** May 5, 2000

(This space reserved for official comments.)



*Required Information

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #
HRI #
Trinomial

Page 3 of 3 *Resource Name or # (Assigned by recorder) Compressor House

*Recorded by Madeline R. Lanz *Date 4/18/00 [X] Continuation [ ] Update

Photographs (Continued)

Photograph 2. Shed-roofed, metal-sided extension

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6

Other Listings
Review Code Reviewer Date

 ***Resource Name or #:** (Assigned by Recorder) Dry Dock Control House

P1. Other Identifier: Building #29

***P2. Location:** ☐ Not for Publication ☒ Unrestricted ***a. County** Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Long Beach CA Date 1981 T ; R ; ¼ of ¼ of Sec ; B.M.

c. Address 955 South Neptune Avenue City San Pedro Zip

d. UTM: (Give more than one for large and/or linear resources) Zone: ; mE/ mN

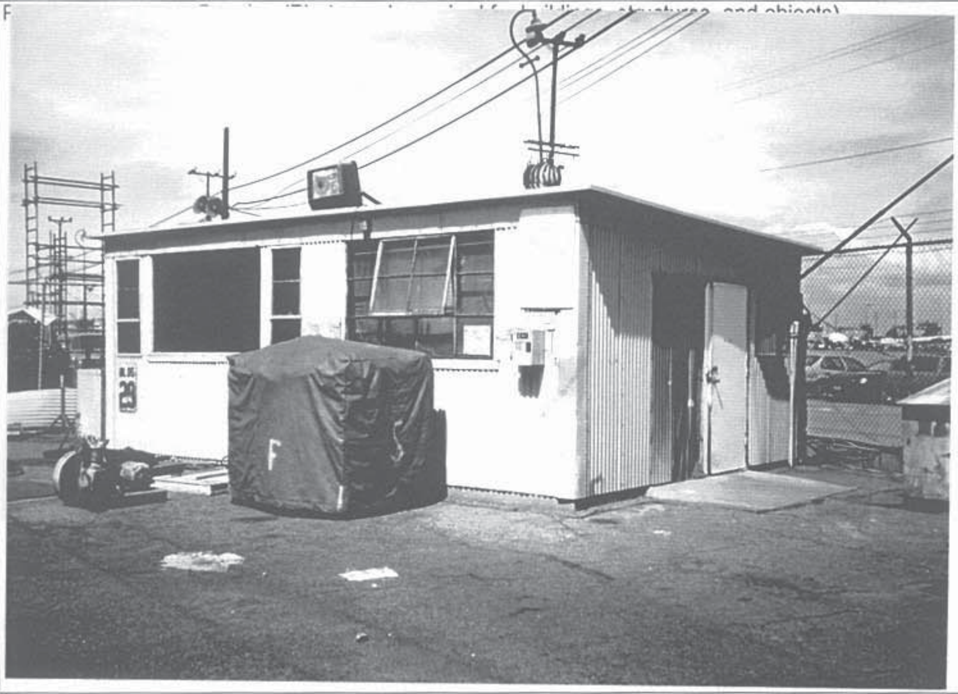
e. Other Locational Data: (e.g. parcel #, directions to resource, elevation, etc., as appropriate)
Berth 240

***P3a. Description** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The dock control house is located at the rear of Dry Dock No. 1. The rectangular (24 x 16-foot) building features a shed roof and is sided with corrugated-metal panels. Windows are steel-framed multi-lights with operable units. A large, fixed-pane replacement window is at the west elevation. Doors are single-entry; one door at the north elevation is protected by a metal gate. Two vents are on the roof. The building houses control equipment to operate the dry dock.

***P3b. Resource Attributes:** (List attributes and codes) HP24 Lighthouse

***P4. Resources present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (isolates, etc.)



P5b. Description of Photo: (View, date, accession #)
Dry Dock Control House
Southwest Elevation 4/18/00

***P6. Date Constructed/Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both
Constructed ca. 1940

***P7. Owner and Address:**
LAHD/POLA
425 Palos Verdes Street
San Pedro, CA 90733-3682

***P8. Recorded by:** (Name, affiliation, and address)
Madeline R. Lanz, Jones & Stokes
2600 V Street
Sacramento CA, 95818

***P9. Date Recorded:** 4/18/00

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the, Port of Los Angeles, Los Angeles County, California* July 2000. Sacramento, CA.

***Attachments:** NONE ☐ Location Map ☒ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record ☐ Other (List):

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
Primary #
HRI #

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code** 6

***Resource Name or #** (Assigned by recorder) Dry Dock Control House

B1. Historic Name: Dry Dock Control House

B2. Common Name:

B3. Original Use: Dry Dock Control House

B4. Present Use: Dry Dock Control House

***B5. Architectural Style:** Utilitarian

*B6. Construction History: (Construction date, alterations, and date of alterations)

Constructed ca. 1940.

***B7. Moved?** ☐ No ☒ Yes ☐ Unknown **Date:** 1960s **Original Location:** Unknown

***B8. Related Features:**

B9a. Architect: Unknown

b. Builder: Unknown

***B10. Significance: Theme:** WWII Shipbuilding **Area:** Los Angeles, California

Period of Significance: 1941-1945 **Property Type:** Building **Applicable Criteria:** N/A

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The style and materials used in construction of the dry dock control house indicate that it most likely was built in the 1940s. The building suffered a loss of integrity when a window was replaced. The dry dock control house is not considered a contributor to the Bethlehem Shipyard Historic District because it was moved to its current location in the 1960s after the period of significance (1941-1945). The dry dock control house does not appear to meet the criteria for listing in the NRHP because it has not retained integrity to its period of significance nor is it historically or architecturally significant. The dry dock control house lacks historical and architectural significance because it is a humble structure and it not a remarkable example of architecture. Lacking integrity as well as architectural and historical significance, the dry dock control house does not appear to meet the criteria for listing in the NRHP.

B11. Additional Resource Attributes: (List attributes and codes)

***B12. References:**

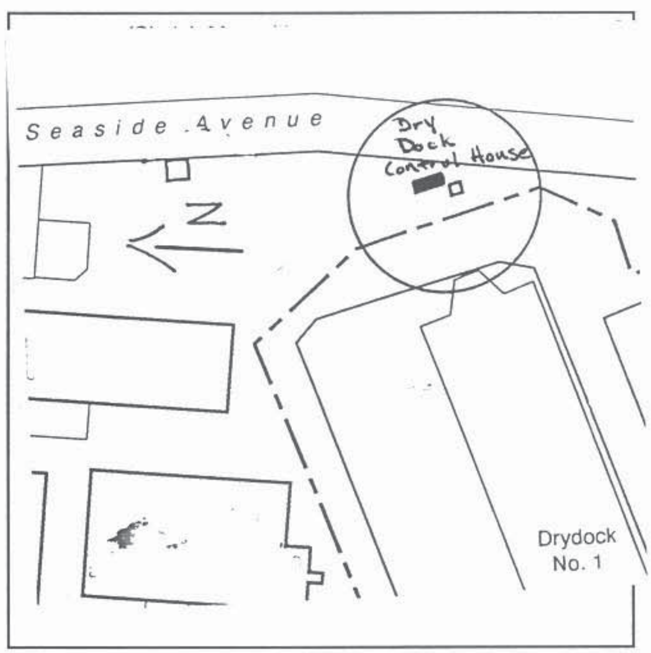
See Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the Port of Los Angeles County, California* August 2000. Sacramento, CA.

B13. Remarks:

***B14. Evaluator:** Madeline R. Lanz

***Date of Evaluation:** May 5, 2000

(This space reserved for official comments.)



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6
Other Listings
Review Code   Reviewer   Date

***Resource Name or #:** (Assigned by Recorder) Dry Dock #1

P1. Other Identifier:

***P2. Location:** ☐ Not for Publication ☒ Unrestricted ***a. County** Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Long Beach CA Date 1981 T ___; R ___; ___ ¼ of ___ ¼ of Sec ___; ___ B.M.

c. Address 955 South Neptune Avenue City San Pedro Zip

d. UTM: (Give more than one for large and/or linear resources) Zone: ___; ___ mE/ ___ mN

e. Other Locational Data: (e.g. parcel #, directions to resource, elevation, etc., as appropriate)

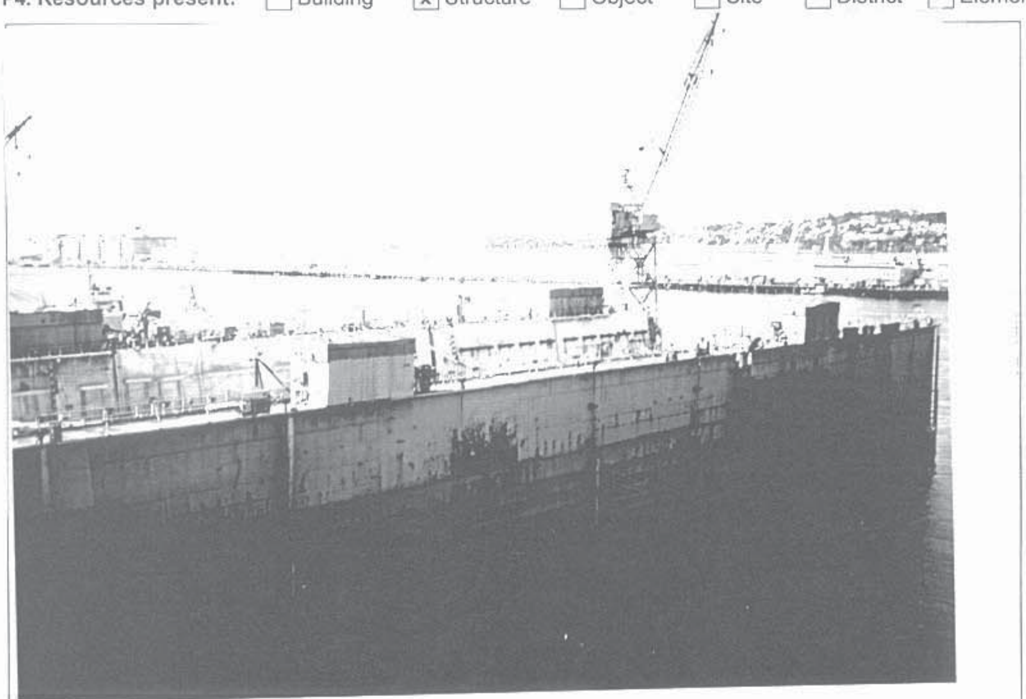
Berth 240

***P3a. Description** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Floating Dry Dock No.1 is located at the south end of the shipyard. It is an immense U-shaped steel structure with plywood decking. The steel walls are hollow and are topped with catwalks, which are accessed by metal stairs and ladders. The walls are flooded with seawater, which submerges the structure, and are pumped dry to lift vessels above the water for repairs.

***P3b. Resource Attributes:** (List attributes and codes) HP11 Engineering Structure

***P4. Resources present:** ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (isolates, etc.)



P5b. Description of Photo: (View, date, accession #)
Dry Dock #1
Overview 4/18/00

***P6. Date Constructed/Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both
Constructed 1913

***P7. Owner and Address:**
LAHD/POLA
425 Palos Verdes Street
San Pedro, CA 90733-3682

***P8. Recorded by:** (Name, affiliation, and address)
Madeline R. Lanz, Jones & Stokes
2600 V Street
Sacramento CA, 95818

***P9. Date Recorded:** 4/18/00

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the, Port of Los Angeles, Los Angeles County, California* July 2000. Sacramento, CA.

***Attachments:** NONE ☐ Location Map ☒ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

Primary #
HRI #

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code** 6

***Resource Name or #** (Assigned by recorder) Dry Dock #1

B1. Historic Name: Dry Dock
B2. Common Name:
B3. Original Use: Dry Dock B4. Present Use: Dry Dock
***B5. Architectural Style:** Utilitarian
*B6. Construction History: (Construction date, alterations, and date of alterations)
Dry Dock #1 was constructed in 1913.

***B7. Moved?** ☐ No ☒ Yes ☐ Unknown **Date:** 1989 **Original Location:** Vancouver, British Columbia

***B8. Related Features:**

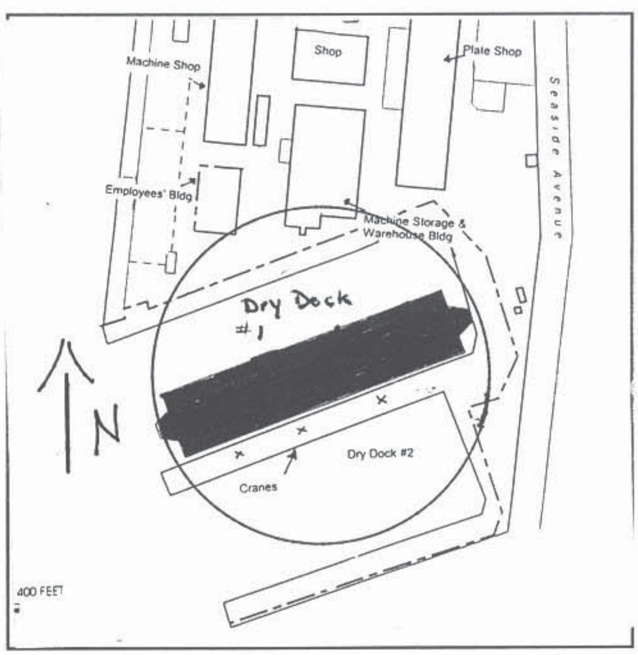
B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance:** WWII Shipbuilding **Area:** Los Angeles, California
Period of Significance: 1941-1945 **Property Type:** Structure **Applicable Criteria:** N/A
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Dry Dock #1 was originally constructed in 1913 in Vancouver, British Columbia and moved to its current location in 1989. It is not considered a contributor to the Bethlehem Shipyard Historic District because it was moved to the shipyard in 1989 after the period of significance (1941-1945). The structure does not appear to meet the criteria for listing in the NRHP because it lacks historical significance and does not appear to be a distinguished example of a type, period, or method of construction.

B11. Additional Resource Attributes: (List attributes and codes)
***B12. References:**

See Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the Port of Los Angeles County, California* August 2000. Sacramento, CA.

B13. Remarks:



***B14.Evaluator:** Madeline R. Lanz

***Date of Evaluation:** May 4, 2000

(This space reserved for official comments.)

 ***Required Information**

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #
HRI #
Trinomial

 *Resource Name or # (Assigned by recorder) Dry Dock #1

*Recorded by Madeline R. Lanz, Jones & Stokes *Date 4/18/00 [x] Continuation [ ] Update

Photographs (Continued):

Photograph 2. Front of Dry Dock #1 wing wall, southwest elevation

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6
Other Listings
Review Code Reviewer Date

***Resource Name or #:** (Assigned by Recorder) Clyde Crane

P1. Other Identifier:

***P2. Location:** ☐ Not for Publication ☒ Unrestricted ***a. County** Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Long Beach CA Date 1981 T ; R ; ¼ of ¼ of Sec ; B.M.

c. Address 955 South Neptune Avenue City San Pedro Zip

d. UTM: (Give more than one for large and/or linear resources) Zone: ; mE/ mN

e. Other Locational Data: (e.g. parcel #, directions to resource, elevation, etc., as appropriate)
Berth 240

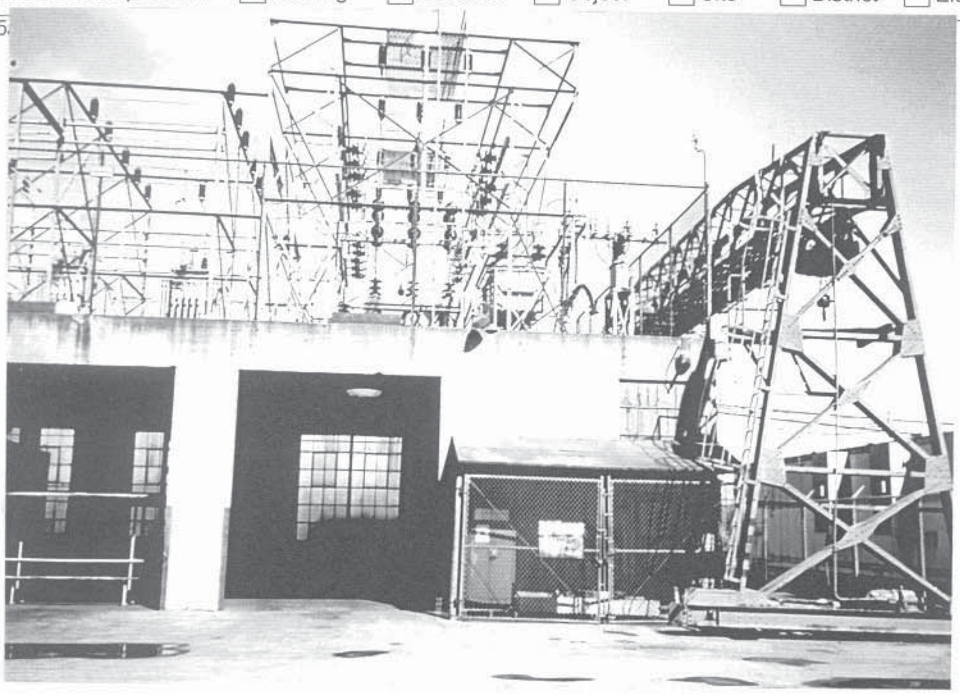
***P3a. Description** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The shipyard features a number of cranes including Colby cranes, a Clyde crane, and Joshua Hendy cranes. Seven "whirly" cranes are located at the shipyard: six 22-ton Colby cranes and one 60-foot Clyde crane. They are located throughout the shipyard. The Clyde crane, which appears to be no longer in use, is situated south of the transportation shop. This crane was apparently once associated with the mold loft, which has since been removed.

***P3b. Resource Attributes:** (List attributes and codes) HP11 Engineering Structure

***P4. Resources present:** ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (isolates, etc.)

P5



P5b. Description of Photo: (View, date, accession #)
Clyde Crane 4/18/00
Located at South End of Trans Bldg.

***P6. Date Constructed/Age and Sources:** ☒ Historic ☐ Prehistoric ☐ Both
ca. 1970s

***P7. Owner and Address:**
LAHD/POLA
425 Palos Verdes Street
San Pedro, CA 90733-3682

***P8. Recorded by:** (Name, affiliation, and address)
Madeline R. Lanz, Jones & Stokes
2600 V Street
Sacramento CA, 95818

***P9. Date Recorded:** 4/18/00

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the, Port of Los Angeles, Los Angeles County, California* August 2000, Sacramento, CA.

***Attachments:** NONE ☐ Location Map ☒ Sketch Map ☐ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other (List):

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #
HRI #

BUILDING, STRUCTURE, AND OBJECT RECORD

*NRHP Status Code 6

*Resource Name or # (Assigned by recorder) (Clyde Crane)

B1. Historic Name: Clyde Crane

B2. Common Name: Clyde Crane

B3. Original Use: Crane   B4. Present Use: Crane

***B5. Architectural Style:** Industrial

*B6. Construction History: (Construction date, alterations, and date of alterations)
ca. 1970s

***B7. Moved?** ☐ No ☒ Yes ☐ Unknown **Date:** Unknown **Original Location:** Mold Loft

***B8. Related Features:**

B9a. Architect: N/A   b. Builder: Unknown

***B10. Significance:** WWII Shipbuilding   **Area:** Los Angeles, California

Period of Significance: 1941-1945   **Property Type:** Structure   **Applicable Criteria:** N/A

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The Clyde Crane was installed in the Bethlehem Shipyard in the 1970s. This post-1945 crane is not considered a contributor to the Bethlehem Shipyard Historic District because it was constructed after 1941-1945, the period of significance. Furthermore, the structure does not appear to meet the criteria for listing in the NRHP because it is less than fifty years old and does not meet the demanding threshold for recently constructed resources.

B11. Additional Resource Attributes: (List attributes and codes)

***B12. References:**

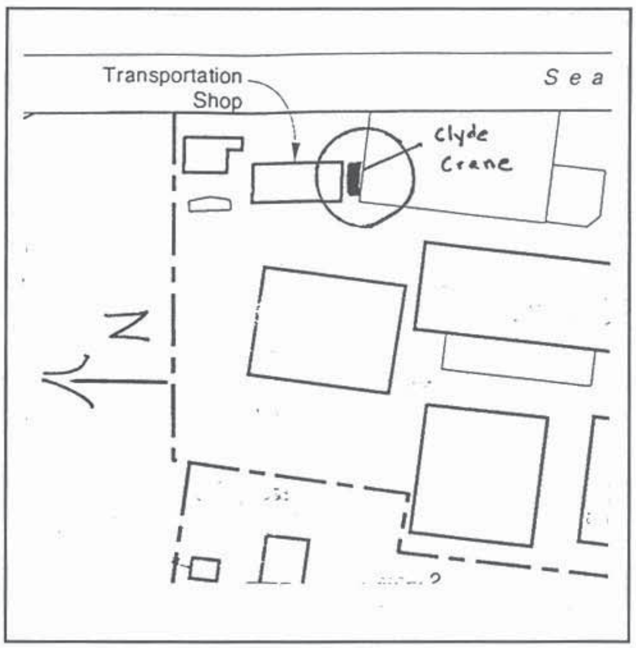
See Jones & Stokes 2000. *Architectural Survey and Evaluation of the Southwest Marine Terminal (Berth 240) of the Port of Los Angeles County, California* August 2000. Sacramento, CA.

B13. Remarks:

***B14.Evaluator:** Madeline R. Lanz

***Date of Evaluation:** 5/3/00

(This space reserved for official comments.)



DPR 523 B (1/95)   ***Required Information**

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
DISTRICT RECORD

Primary # ________________
HRI # ________________
Trinomial ________________

NRHP Status Code *3d*

Resource Name or #: (Assigned by recorder) *Southwest Marine*

D1. Historic Name: *Southwestern Shipbuilding* D2. Common Name: *Southwest Marine*

D3. Detailed Description (Discuss overall coherence of the district, its setting, visual characteristics, and minor features. List all elements of district.):

This shipyard site is located on the eastern side of the Main Ship Channel, and near the southwestern tip of Terminal Island. It consists of 13 buildings ranging in footprint from roughly 400 to 30,000 square feet in area, two slips with drydocks and seven overhead "whirly" crane structures and several gantry cranes. The majority of the buildings are between 20 and 40 feet in height, and sided with corrugated metal siding. Nearly all of the buildings and structures were constructed during the period 1941-44. These buildings and structures are clustered on the southern end of the site and along Seaside Avenue.

D4. Boundary Description (Describe limits of district and attach map showing boundary and district elements.):

The district boundaries consist of the parcel defined by the property lease to the Southwest Marine Corporation. This parcel is generally bounded by Seaside Avenue on the north and east, the U.S. Government reservation to the south, and the Main Ship Channel to the west.

D5. Boundary Justification:

This parcel includes the area historically associated with the shipbuilding activities during the period of significance.

D6. Significance: Theme *Manufacturing and Trade* **Area** *Southern California*

Period of Significance *1901-1945* **Applicable Criteria** *A* Discuss district's importance in terms of its historical context as defined by theme, period of significance, and geographic scope. Also address the integrity of the district as a whole.)

The authorization of the Emergency Fleet Corporation by Congress in April 1917 followed the United States entry into World War I and provided for the rapid construction of a maritime fleet. This crash building program resulted in the formation of numerous shipbuilding companies nationwide and locally, including the Los Angeles Shipbuilding and Drydock Corporation and the Southwestern Shipbuilding Corporation at the Port of Los Angeles. This new economic activity was particularly welcomed at the Port of Los Angeles, coming in the years immediately following the completion of modern port facilities and during a period of otherwise curtailed world trade. [continued]

D7. References (Give full citations including the names and addresses of any informants, where possible.):

D8. Evaluator: *Mitch Stone* **Date:** *10/31/96*

Affiliation and Address: *San Buenaventura Research Associates, 627 E. Pleasant St. Santa Paula CA 93060*

D6. Importance [continued]

After the war, activities at the yard turned to the mothballing of US Navy oil tankers in the early 1950s. A cold war improvement program, completed in February 1961, began in early 1959 with the demolition of four shipbuilding ways constructed during the wartime. A new 22,000 ton floating drydock was installed in 1961-62. Facing major economic challenges in their core steel manufacturing business during the 1970s and 1980s, the Bethlehem Steel Corporation divested themselves of the San Pedro yard in 1981. It was purchased by Southwest Marine, Inc., a San Diego-based company, who continue to operate it as a ship repair facility. The similarity between the names of the present and first owners of the yard appears to be a coincidence.

The Southwestern Shipbuilding Corporation/Bethlehem Steel yard appears to be eligible for listing on the NRHP under Criterion A (events) as the last remaining example of the once highly significant shipbuilding industry at the Port of Los Angeles. This industry reached its zenith of importance during World War II, when it employed tens of thousands of individuals working three shifts, seven days a week. This monumental maritime construction effort, in Los Angeles as elsewhere, played an essential role in placing the national economy on a wartime footing and providing to the armed forces the essential materiel of war. This massive mobilization effort was without peer in modern history, and is unlikely to ever be duplicated. It is especially notable for its deep and lasting effects on the economy and social structure of the nation.

The majority of the existing buildings and structures on the site reflect the wartime period of development. Most of the remaining buildings are essentially unaltered from this period of significance, and the relationships between the buildings, which reflect the functions of the buildings and the specialized shipbuilding trades, remain intact. The continuation of the ship-related activities on the site contribute to the historic character of the site and a sense of historical place and time.

Contributors to District

Administrative Building
Plate Shop
Employees Building No. 2
Machine Storage & Warehouse No. 2
Outfitting Shop & accessory buildings
Machine Shop No. 2 & accessory buildings
Compressor House & accessory building
Transportation Shop & Main Substation
Foreman's Building
Hospital & Employment Office
Blacksmith & Anglesmith Shop
Dry Dock No. 2
Dry Dock Control house
Cranes (pre-1945)

Non-Contributors

Floating Dry Dock No. 1
Cranes (post-1945)

D6. Importance [continued]

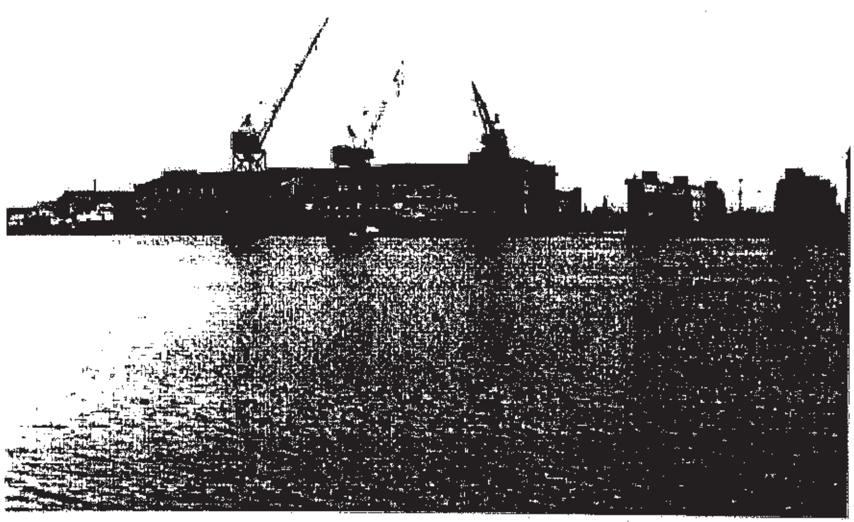
Southwestern was organized on March 1, 1918, and the yard facilities completed in less than six months. The new company's first contract, for twenty-three, 8,800 ton ships, was obtained from the Emergency Fleet Corporation in March, 1917, and the West Carifax, the first ship completed, launched from the yards on October 19, 1917 after 77 days. The second launching, the West Caruth, occurred on December 31, 1917. When the wartime building program ended abruptly later that same year, the local shipbuilding industry found itself with excess capacity and in a struggle for profitability. Even as combined employment at the yards dropped from 14,000 to 10,000 in the immediate postwar period, however; shipbuilding remained the Port's single largest employer.

The Southwestern yard closed in 1921, but was immediately reopened under lease to the Bethlehem Shipbuilding Corporation, Ltd., which purchased it outright in 1923. During the subsequent years, and until 1981, the yard was operated by a number of divisions of the Bethlehem Steel Company. The relatively slack period following World War I and extending through the Great Depression ended with the World War II military buildup. The Bethlehem San Pedro yard, one of 15 owned by the company, was awarded its first Navy contract on October 1, 1940. During 1940-41, Bethlehem spent $4.25 million in an expansion program to accommodate Navy contracts for the construction of ten destroyers. Some of the earlier improvements, particularly on the southern end of the site, were swept away in this rapid redevelopment of the yards. The entire national wartime mobilization effort was characterized by these nearly instantaneous transformations of physical place.

The wartime construction program on the Bethlehem site resulted in the replacement of two older shipways with the present shipbuilding trade and related buildings, shipways, drydocks and cranes. Most of the current improvements on the site represent this major wartime redevelopment of the site, and were either newly constructed during the years 1941-1944, or expanded and remodeled buildings from the first wartime construction effort on the site in 1918. The buildings on the northern half of the site evidently remained largely intact from 1918 through the Second World War, until they were demolished at some point within the last twenty years.

In 1943 the Bethlehem operation remained one of the smallest at the Port, employing 6,000 persons in ship repair and the construction of destroyers. At the same time, the massive California Shipbuilding Corporation on Terminal Island employed 40,000; the Todd Corporation 12,000 and the Consolidated Steel Company, 7,000. Of these operations, only the Bethlehem yards remain in existence today. [continued]

Supplemental Photograph or Drawing



Description of Photo: (View, date, accession #)
Shipyard viewed from west, opposite side of Main Ship Channel, dry docks on right. (#1001, 6/6/96).

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3d

Other Listings
Review Code ____ Reviewer ____________ Date ______

Resource Name or #: (Assigned by recorder) *Southwest Marine*

P1. Other Identifier: *Administrative Building*

P2. Location: ☐ Not for Publication ☐ Unrestricted **a. County** *Los Angeles*
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
b. USGS 7.5' Quad Date T ; R ; 1/4 of 1/4 of Sec ; B.M.
c. Address: *965-85 South Seaside Avenue* City *Los Angeles* Zip
d. UTM: (Give more than one for large and/linear resources) ; mE/ mN
e. Other Locational Data (Enter Parcel #, legal description, directions to resource, elevation, etc., as appropriate)

Parcel No. *258*

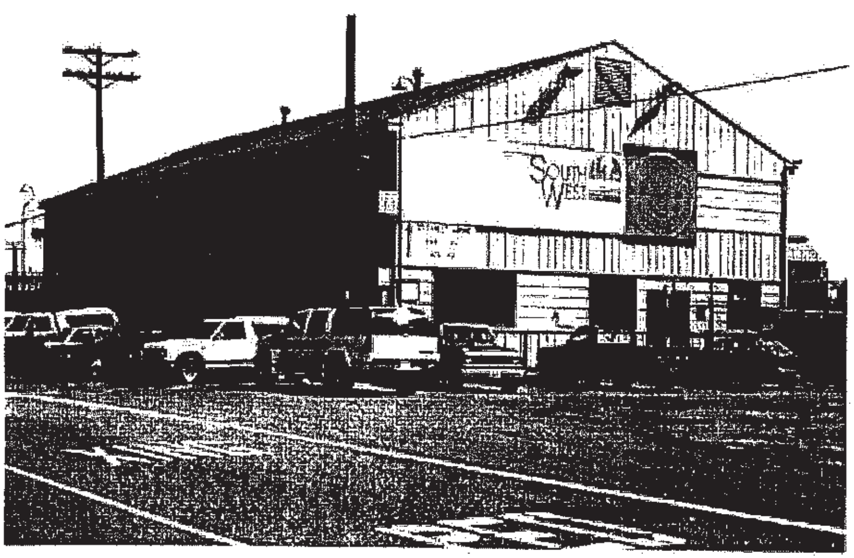
P3. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This two story industrial office building (50 by 100 feet) is rectangular in plan and principally clad with lapped, vertical standing-seam metal siding on the second floor of the (shorter) northern and southern elevations and gable ends, and horizontal standing-seam metal siding on the eastern and western elevations. It rests on a concrete perimeter foundation. The roof is a medium-pitched gable covered by asphalt composition materials. The shallow eaves are boxed. Windows are a variety of steel mullioned multipanes arranged in singles and pairs, some fixed and others with casement inserts. The use of horizontal lapped metal siding wrapping the entire ground floor elevations, and the somewhat stylish wall sconces flanking the main entrance, effects a distinctly Streamline Moderne style for this building. The building was constructed in 1941, and appears to be essentially unaltered.

P3b. Resource Attributes: (List attributes and codes) *HP8 - Industrial Building*

P4. Resources Present ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects)



P5b. Description of Photo: (View, date, accession #)
Northern and eastern elevations, viewed from north (#1020, 6/6/96).

P6. Date Constructed/Age and Sources: ☐ Prehistoric ☒ Historic ☐ Both
1941 F

P7. Owner and Address

P8. Recorded by: (Name, affiliation, and address)
Mitch Stone
San Buenaventura Research Associates
627 East Pleasant Street
Santa Paula CA 93060

P9. Date Recorded: *6/6/96*

P10. Survey Type: (Describe)

P11. Report Citation: (Cite survey report and other sources, or enter "none")

Attachments ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☒ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code *3d*

Other Listings
Review Code ____ **Reviewer** ____________ **Date** ______

Resource Name or #: (Assigned by recorder) *Southwest Marine*

P1. Other Identifier: *Plate Shop*

P2. Location: ☐ **Not for Publication** ☐ **Unrestricted** **a. County** *Los Angeles*
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
b. USGS 7.5' Quad **Date** **T** **; R** **;** **1/4 of** **1/4 of Sec** **;** **B.M.**
c. Address: *965-85 South Seaside Avenue* City *Los Angeles* Zip
d. UTM: (Give more than one for large and/linear resources) ; mE/ mN
e. Other Locational Data (Enter Parcel #, legal description, directions to resource, elevation, etc., as appropriate)

Parcel No. *258*

P3. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

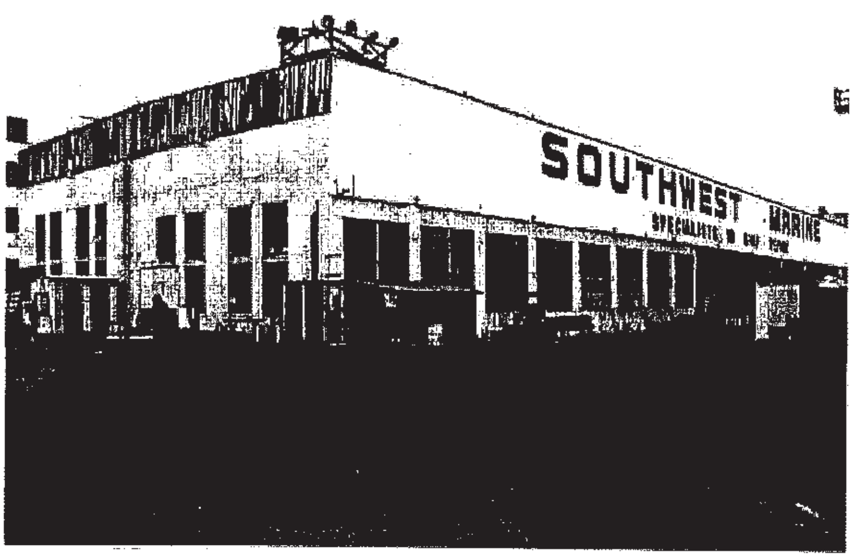
This large, two story industrial building (roughly 324 by 89 feet) is rectangular in plan and clad with corrugated metal siding over the majority of the building's body, and vertical board and batten siding covering portions of the second story. It rests on a concrete perimeter foundation. The roof is a very low-pitched gable covered by asphalt composition and supported by a wood truss system. Windows are a variety of three by five and five by seven steel mullioned multipanes arranged singly and in pairs. Some are center pivot units. Gantry cranes and at least one concrete platen are located adjacent and to the west of the building. The building appears to be unaltered.

The Plate Shop building was first constructed in 1918 for the Southwestern Shipbuilding Company near the beginning of its existence on this site. In its original configuration, this building was apparently nearly twice its current length. With the construction of Slip nos. 1 and 2 at the southern end of the site in 1941, the Plate Shop was reduced in size to its current configuration and otherwise altered. Other than the reduction in size, the extent of the 1941 alterations are unknown. Some of the present mechanical equipment within the Plate Shop evidently dates from both 1918 and the period 1941-2.

P3b. Resource Attributes: (List attributes and codes) *HP8 - Industrial Building*

P4. Resources Present ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects)



P5b. Description of Photo: (View, date, accession #) *Southern and eastern elevations, viewed from southeast (#1002, 6/6/96).*

P6. Date Constructed/Age and Sources: ☐ Prehistoric ☒ Historic ☐ Both
1918 F, altered 1941 F

P7. Owner and Address

P8. Recorded by: (Name, affiliation, and address)
Mitch Stone
San Buenaventura Research Associates
627 East Pleasant Street
Santa Paula CA 93060

P9. Date Recorded: *6/6/96*

P10. Survey Type: (Describe)

P11. Report Citation: (Cite survey report and other sources, or enter "none")

Attachments ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☒ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3d

Other Listings
Review Code ____ Reviewer ____ Date ____

Resource Name or #: (Assigned by recorder) *Southwest Marine*

P1. Other Identifier: *Employees Building No. 2*

P2. Location: ☐ Not for Publication ☐ Unrestricted **a. County** *Los Angeles*
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
b. USGS 7.5' Quad Date T ; R ; 1/4 of 1/4 of Sec ; B.M.
c. Address: *965-85 South Seaside Avenue* City *Los Angeles* Zip
d. UTM: (Give more than one for large and/linear resources) ; mE/ mN
e. Other Locational Data (Enter Parcel #, legal description, directions to resource, elevation, etc., as appropriate)

Parcel No. *258*

P3. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

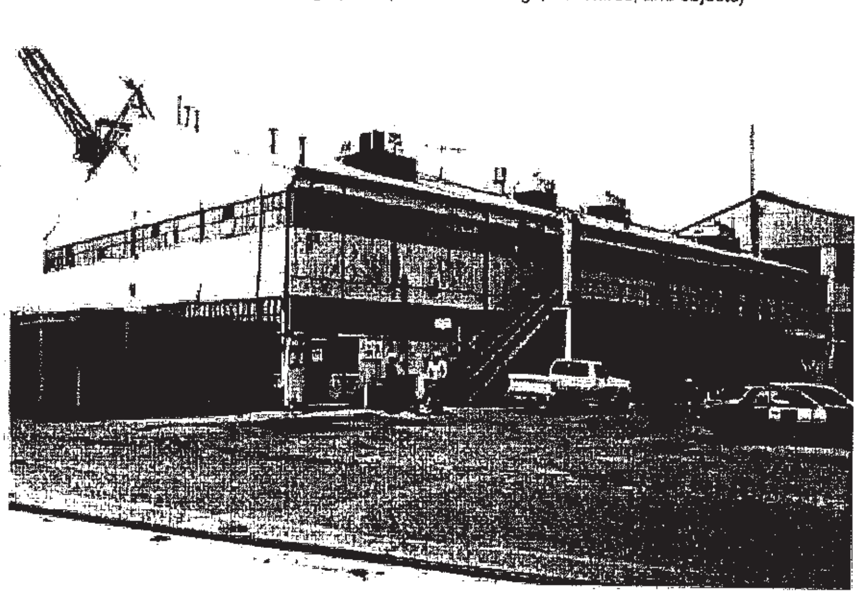
This two story industrial building (135 by 77 feet) is rectangular in plan and clad with corrugated metal siding and rests on a concrete perimeter foundation. The roof is a medium-pitched gable covered by a rolled tar paper material. Windows are steel mullioned multipanes located in the upper portion of both floors, and arranged in horizontal bands wrapping around the building. Some are center pivot units. An external stairway with a pipe railing is attached to the southern facade. The building appears to be unaltered, except for the recent addition of fairly prominent heating/ventilating/air conditioning units to the roof.

This building was constructed in 1941 for use as a yard office, and as one of two locker room/shower facilities for the shipyard employees. The US Navy maintained a ground floor office in the building.

P3b. Resource Attributes: (List attributes and codes) *HP8 - Industrial Building*

P4. Resources Present ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects)



P5b. Description of Photo: (View, date, accession #) *Southern and eastern elevation viewed from southeast (#1003, 6/6/96).*

P6. Date Constructed/Age and Sources: ☐ Prehistoric ☒ Historic ☐ Both

1941 F

P7. Owner and Address

P8. Recorded by: (Name, affiliation, and address)
Mitch Stone
San Buenaventura Research Associates
627 East Pleasant Street
Santa Paula CA 93060

P9. Date Recorded: *6/6/96*

P10. Survey Type: (Describe)

P11. Report Citation: (Cite survey report and other sources, or enter "none")

Attachments ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☒ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3d

Other Listings
Review Code Reviewer Date

Page 7 of 22

Resource Name or #: (Assigned by recorder) *Southwest Marine*

P1. Other Identifier: *Machine Storage & Warehouse No. 2*

P2. Location: ☐ Not for Publication ☐ Unrestricted a. County *Los Angeles*
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
b. USGS 7.5' Quad Date T ; R ; 1/4 of 1/4 of Sec ; B.M.
c. Address: *965-85 South Seaside Avenue* City *Los Angeles* Zip
d. UTM: (Give more than one for large and/linear resources) ; mE/ mN
e. Other Locational Data (Enter Parcel #, legal description, directions to resource, elevation, etc., as appropriate)

Parcel No. *258*

P3. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

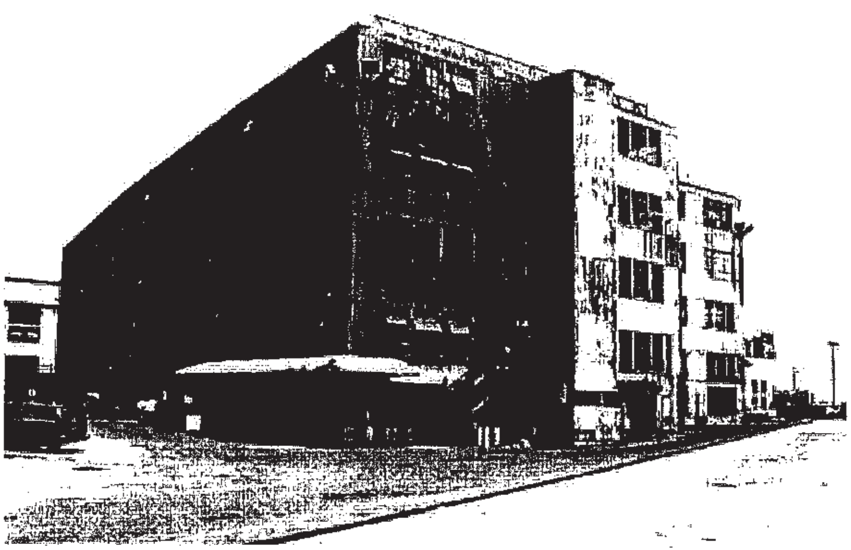
This very large, five story industrial building (230 by 130 feet) is L-shaped in plan and clad with corrugated metal siding and rests on a concrete slab foundation. The roof is flat. Windows are steel mullioned five by three and five by four multipanes arranged in triples, some with center pivot units. An exterior wood stairway and elevator shaft are attached to the southern facade. The building appears to be unaltered.

The first four floors of this building were constructed in 1941, with the upper floor added in 1943. It was used as a general warehouse and for machine storage. It was referred to as Machine Storage and Warehouse No. 2 during the 1940s, but is currently referred to as Warehouse No.1, probably due to the demolition of the original Warehouse No. 1.

P3b. Resource Attributes: (List attributes and codes) *HP8 - Industrial Building*

P4. Resources Present ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects)



P5b. Description of Photo: (View, date, accession #)
Southern and western elevations (#1004, 6/6/96).

P6. Date Constructed/Age and Sources: ☐ Prehistoric ☒ Historic ☐ Both
1941-1943 F

P7. Owner and Address

P8. Recorded by: (Name, affiliation, and address)
Mitch Stone
San Buenaventura Research Associates
627 East Pleasant Street
Santa Paula CA 93060

P9. Date Recorded: *6/6/96*

P10. Survey Type: (Describe)

P11. Report Citation: (Cite survey report and other sources, or enter "none")

Attachments ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☒ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code *3d*

Other Listings
Review Code ____ Reviewer ____ Date ____

 Resource Name or #: (Assigned by recorder) *Southwest Marine*

P1. Other Identifier: *Outfitting Shop*

P2. Location: ☐ Not for Publication ☐ Unrestricted **a. County** *Los Angeles*
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
b. USGS 7.5' Quad Date T ; R ; 1/4 of 1/4 of Sec ; B.M.
c. Address: *965-85 South Seaside Avenue* City *Los Angeles* Zip
d. UTM: (Give more than one for large and/linear resources) ; mE/ mN
e. Other Locational Data (Enter Parcel #, legal description, directions to resource, elevation, etc., as appropriate)

Parcel No. *258*

P3. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

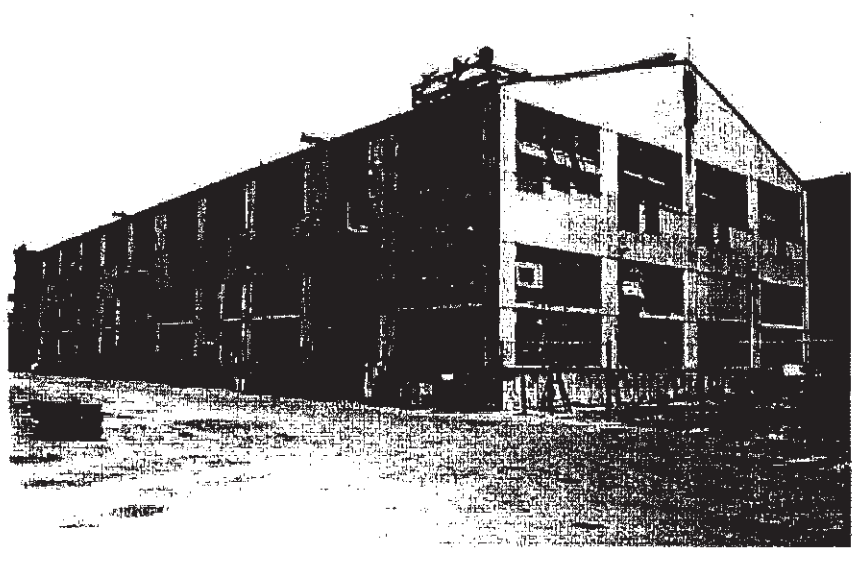
This large, three story industrial building (242 by 82 feet) is rectangular in plan and clad with corrugated metal siding and rests on a concrete slab foundation. The roof is a medium-pitched gable. Windows are steel mullioned five by four, four by four, and five by five multipanes arranged in triples and singles, some with center pivot units. Window glass is pebbled and opaque. A large number of garage door openings with roll-up steel doors provide access to the ground floor on all four elevations.

This building was constructed in 1941 for use as the Outfitting Shop, where pipes, sheet metal and shipboard electrical systems were fabricated. A 1977 inventory of machine tools and equipment indicates that the majority of the power equipment and overhead cranes within the building date from the period 1941-3. The building appears to be unaltered.

P3b. Resource Attributes: (List attributes and codes) *HP8 - Industrial Building*

P4. Resources Present ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects)



P5b. Description of Photo: (View, date, accession #)
Southern and western elevations (#1005, 6/6/96)

P6. Date Constructed/Age and Sources: ☐ Prehistoric ☒ Historic ☐ Both
1941 F, 1942 E

P7. Owner and Address

P8. Recorded by: (Name, affiliation, and address)
Mitch Stone
San Buenaventura Research Associates
627 East Pleasant Street
Santa Paula CA 93060

P9. Date Recorded: *6/6/96*

P10. Survey Type: (Describe)

P11. Report Citation: (Cite survey report and other sources, or enter "none")

Attachments ☐ NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☒ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

CONTINUATION SHEET

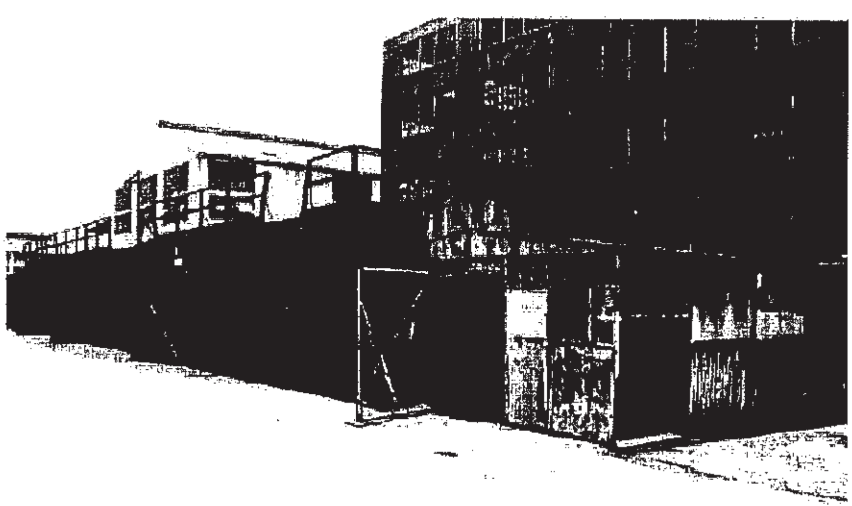
Primary # ____________
HRI # ____________
Trinomial ____________

Page 9 **of** 22 **Resource Name or #:** (Assigned by recorder) *Southwest Marine*

Recorded by: *Mitch Stone* **Date** *6/6/96* ☒ Continuation ☐ Update

This grouping of one-story buildings located to the east of the Outfitting Shop consists of a five-bay garage constructed of wood frame materials. It is flat-roofed, with a wood deck platform above enclosed by a low, simple wood railing. Access to the the platform is via a woodframe stairway at the northern end. Door openings with corrugated steel roll-up doors face west. Immediately adjacent and to the south of the garages is a small building constructed of steel plates attached to a metal tubing skeleton. The low gable roof is topped with a monitor. The historic uses of these buildings are presently unknown, but they appear to have been constructed prior to 1944, probably circa 1942.

Supplemental Photograph or Drawing



Description of Photo: (View, date, accession #)
Southern and western elevation (#1006, 6/6/96)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3d

Other Listings
Review Code ____ Reviewer ____ Date ____

 Resource Name or #: (Assigned by recorder) *Southwest Marine*

P1. Other Identifier: *Machine Shop No. 2*

P2. Location: ☐ Not for Publication ☐ Unrestricted a. County *Los Angeles*
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
b. USGS 7.5' Quad Date T ; R ; 1/4 of 1/4 of Sec ; B.M.
c. Address: *965-85 South Seaside Avenue* City *Los Angeles* Zip
d. UTM: (Give more than one for large and/linear resources) ; mE/ mN
e. Other Locational Data (Enter Parcel #, legal description, directions to resource, elevation, etc., as appropriate)

Parcel No. *258*

P3. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

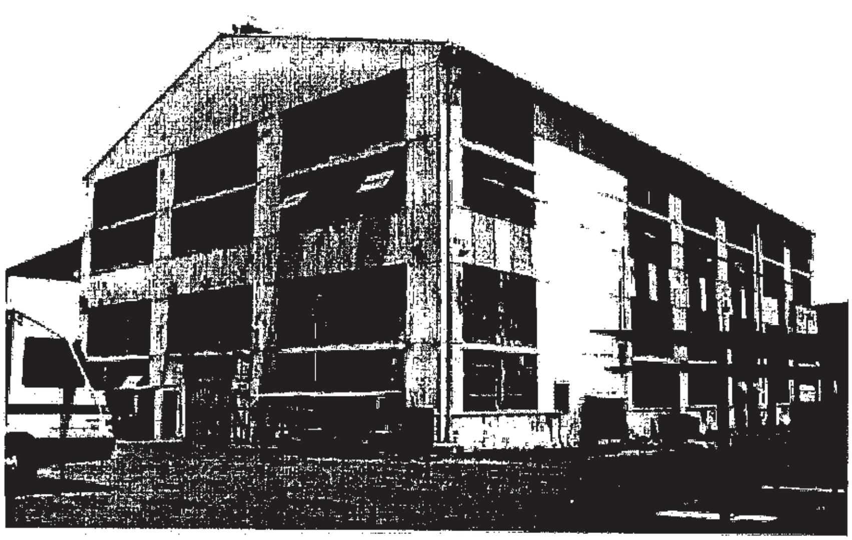
This large, two story industrial building (141 by 84 feet) with an interior mezzanine is rectangular in plan and clad with corrugated metal siding and rests on a concrete slab foundation. The roof is a medium-pitched gable. Windows are steel mullioned six by six and six by four multipanes arranged in doubles and triples, some with center pivot units.

This building was constructed in 1941 for use as a Machine Shop. A 1977 inventory of machine tools and equipment indicates that some of the power equipment and overhead cranes within the building, including a 20-ton bridge crane, date from the period 1941-3. The building appears to be unaltered. Machine Shop No. 1 no longer exists.

P3b. Resource Attributes: (List attributes and codes) *HP8 - Industrial Building*

P4. Resources Present ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects)



P5b. Description of Photo: (View, date, accession #)
Southern and western elevations, viewed from southwest (#1007, 6/6/96).

P6. Date Constructed/Age and Sources: ☐ Prehistoric ☒ Historic ☐ Both
1941 F

P7. Owner and Address

P8. Recorded by: (Name, affiliation, and address)
Mitch Stone
San Buenaventura Research Associates
627 East Pleasant Street
Santa Paula CA 93060

P9. Date Recorded: *6/6/96*

P10. Survey Type: (Describe)

P11. Report Citation: (Cite survey report and other sources, or enter "none")

Attachments ☐ NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☒ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

CONTINUATION SHEET

Primary # ______
HRI # ______
Trinomial ______

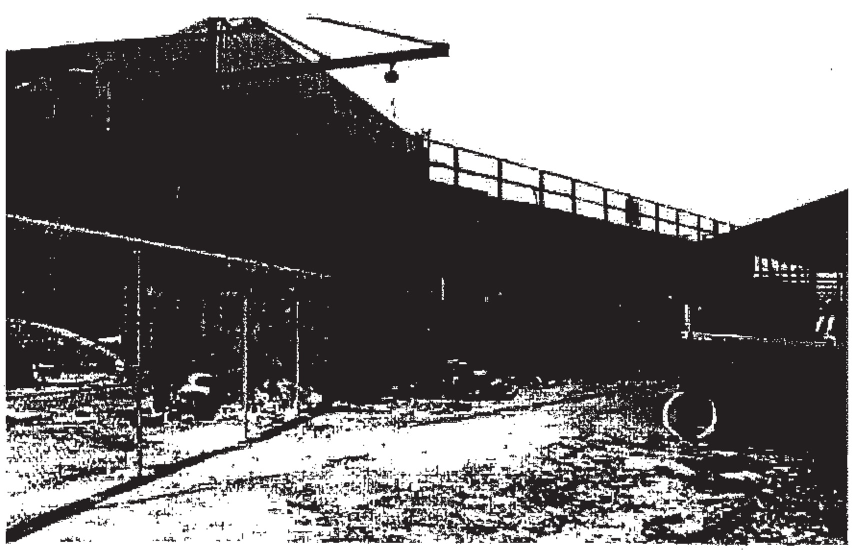
 Resource Name or #: (Assigned by recorder) *Southwest Marine*

Recorded by: *Mitch Stone* **Date** *6/6/96* ☒ Continuation ☐ Update

Paint Shop

This one-story woodframe building is rectangular in plan (30 by 81 feet) with a small two-story shed-roofed lean-to addition on the south. The flat roof is surrounded by a simple wood railing. Roll-up garage doors open to the north. A one-ton jib crane is attached to the eastern elevation. This building was constructed in 1944 as a paint shop. It appears to now be unused and in deteriorated condition.

Supplemental Photograph or Drawing



Description of Photo: (View, date, accession #)
Northern and eastern elevations, viewed from northeast (#1008, 6/6/96).

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3d

Other Listings
Review Code ____ Reviewer ____ Date ____

 Resource Name or #: (Assigned by recorder) *Southwest Marine*

P1. Other Identifier: *Compressor House*

P2. Location: ☐ Not for Publication ☐ Unrestricted a. County *Los Angeles*
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
b. USGS 7.5' Quad Date T ; R ; 1/4 of 1/4 of Sec ; B.M.
c. Address: *965-85 South Seaside Avenue* City *Los Angeles* Zip
d. UTM: (Give more than one for large and/linear resources) ; mE/ mN
e. Other Locational Data (Enter Parcel #, legal description, directions to resource, elevation, etc., as appropriate)

Parcel No. *258*

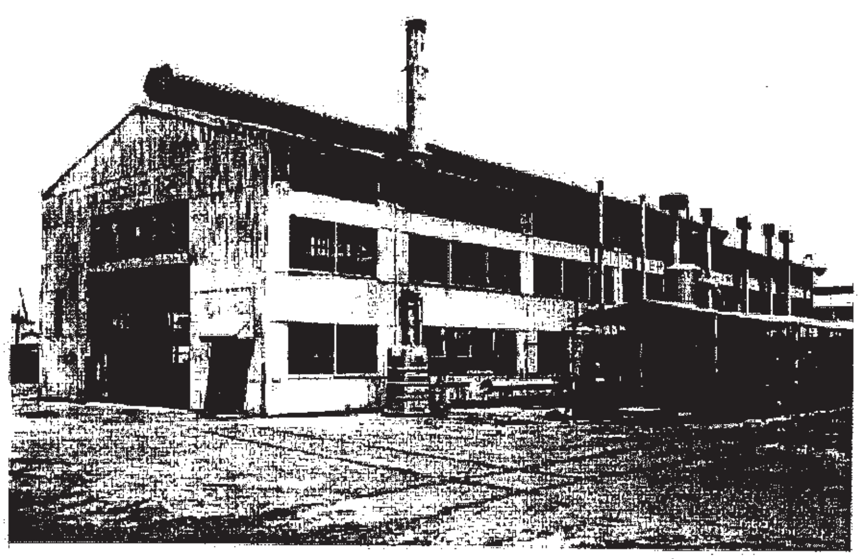
P3. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This large, two story industrial building (150 by 61 feet) is rectangular in plan, including a one-story, shed-roofed lean-to section attached to the entire length of the northern elevation, and is clad with corrugated metal siding and rests on a concrete slab foundation. The roof over the main body of the building is a medium-pitched gable and features an unusual cylindrical roof vent extending the entire ridge line. Windows are steel mullioned three by five multipanes arranged in pairs and triples, some with center pivot units. A number of exhaust stacks jut from the southern elevation and the roofline. The building appears to be unaltered.

P3b. Resource Attributes: (List attributes and codes) *HP8 - Industrial Building*

P4. Resources Present ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects)



P5b. Description of Photo: (View, date, accession #)
Southern and western elevations, viewed from southwest (#1009, 6/6/96).

P6. Date Constructed/Age and Sources: ☐ Prehistoric ☒ Historic ☐ Both
1918 E

P7. Owner and Address

P8. Recorded by: (Name, affiliation, and address)
Mitch Stone
San Buenaventura Research Associates
627 East Pleasant Street
Santa Paula CA 93060

P9. Date Recorded: *6/6/96*

P10. Survey Type: (Describe)

P11. Report Citation: (Cite survey report and other sources, or enter "none")

Attachments ☐ NONE ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record ☐ Archaeological Record ☒ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

Primary # ____________
HRI # ____________

BUILDING, STRUCTURE, AND OBJECT RECORD

NRHP Status Code *3d*

Resource Name or #: (Assigned by recorder) *Southwest Marine*

B1. Historic Name: *Combination Building*
B2. Common Name: *Compressor House*
B3. Original Use: *Various*
B4. Present Use: *Compressor House*
B5. Architectural Style: *Industrial*
B6. Construction History: (Construction date, alterations, and date of alterations)
constructed 1918, altered in 1941 and 1960

B7. Moved? ☒ No ☐ Yes ☐ Unknown Date : Original Location:
B8. Related Features: *Electric Substation No. 3, to the north. Various mechanical equipment to the south.*

B9a. Architect: *unknown* b. Builder: *unknown*
B10. Significance: Theme: *Manufacturing & Trade* Area: *Southern California*
Period of Significance: *1901-1945* **Property Type:** *Industrial Building* **Applicable Criteria:** *A*
(Discuss importance in terms of historical or architectural context as defined by theme, period and geographic scope. Also address integrity.)

According recent plans, this building was constructed in 1941 and altered in 1960. However, its developmental history appears to be somewhat more complex. A building of a similar configuration, but roughly twice the length, appears on a 1939 site plan for the shipyard. It was then known as the Combination Building, and a construction date of 1918 is indicated. A building with the same footprint persists at least through to 1958, though it was identified by that time as the Engineering Building. A 1977 inventory of machine tools and equipment indicates that three of the compressors date from 1924, and some of the power equipment date from the period 1941-2. It appear likely that the building was constructed in 1918, substantially altered 1941-2, and cut by roughly half to its current configuration in 1960.

B11. Additional Resource Attributes: (List attributes and codes) *HP8 - Industrial Building*
B12. References:

(Sketch Map with north arrow required.)

B13. Remarks:

B14. Evaluator: *Mitch Stone*
Date of Evaluation: *8/20/96*

(This space reserved for official comments.)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

CONTINUATION SHEET

Primary # ______
HRI # ______
Trinomial ______

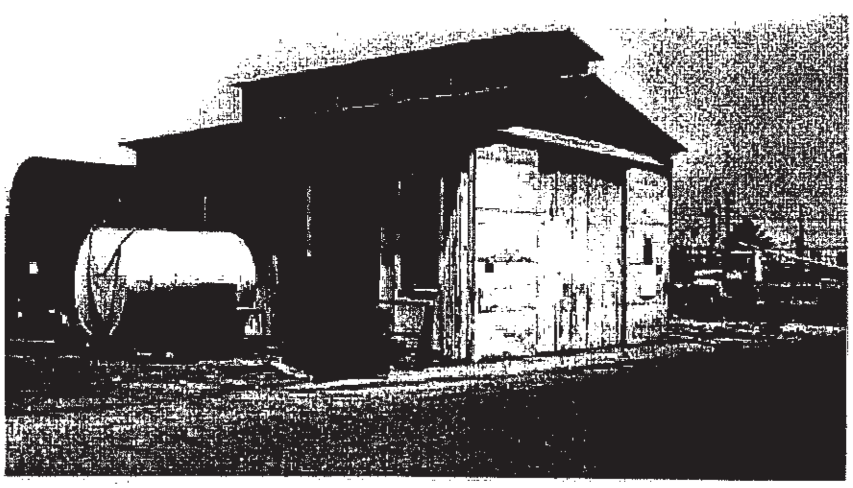
Page 14 **of** 22 **Resource Name or #:** (Assigned by recorder) *Southwest Marine*
Recorded by: *Mitch Stone* **Date** *6/6/96* ☒ Continuation ☐ Update

Substation No. 3

This small building is located immediately to the north of the Compressor House. It is rectangular in plan (32 by 26 feet) and clad in corrugated steel panels. It has a low-pitched gable roof with shallow eaves, and a gabled monitor vent at the ridge line. A pair of track-hung, steel clad doors face south. Three, double-hung woodframe sash windows are located on the eastern and western elevations.

Recent records indicate a 1941 construction date for this building, but also make a conflicting reference to the building as having been constructed in 1918 and relocated in 1941. However, it is apparently similar in dimensions and plan to a transformer station shown on this site on the 1939 and 1944 site plans of the shipyard. It is dated 1918 on the former and 1918-41 on the latter plan of the yard. The use of woodframe windows for this building clearly suggests a pre-1930 construction date. An undated but early photograph of the shipyard clearly shows a small building with very similar elevations, but clad in vertical board-and-batten siding. It is likely that this building was constructed in 1918, and altered in 1941.

Supplemental Photograph or Drawing



Description of Photo: (View, date, accession #)
Southern and western elevation (#1011, 6/6/96).

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3d
Other Listings
Review Code ____ Reviewer ____ Date ____

Page 15 of 22 Resource Name or #: (Assigned by recorder) *Southwest Marine*

P1. Other Identifier: *Transportation Shop & Main Substation*

P2. Location: ☐ Not for Publication ☐ Unrestricted a. County *Los Angeles*
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
b. USGS 7.5' Quad Date T ; R ; 1/4 of 1/4 of Sec ; B.M.
c. Address: *965-85 South Seaside Avenue* City *Los Angeles* Zip
d. UTM: (Give more than one for large and/linear resources) ; mE/ mN
e. Other Locational Data (Enter Parcel #, legal description, directions to resource, elevation, etc., as appropriate)

Parcel No. *258*

P3. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

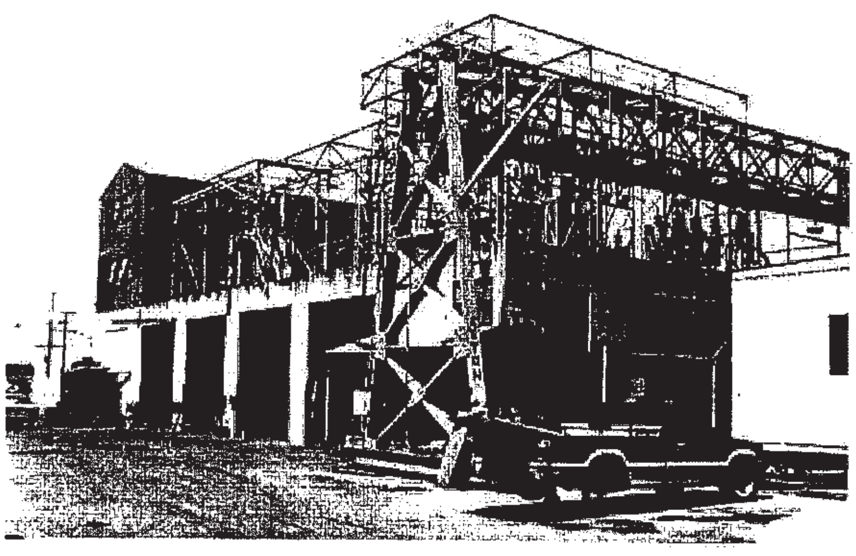
This one and three story industrial building (98 by 46 feet) is rectangular in plan, and is partially constructed of poured-in-place concrete, and partially clad with corrugated metal siding. An extensive steel beam superstructure along with transformer equipment is located on the roof of the one-story portion. Windows in the two and three story section are steel mullioned four by six and two by four multipanes, some with center pivot units. Four doorless garage bays open to the west. A fifth bay at the northern end of the building has been closed with concrete, the building's only apparent alteration.

This building was constructed in 1941 as the shipyard's vehicle garage and main transformer station. It remains in this use today, and appears to be unaltered.

P3b. Resource Attributes: (List attributes and codes) *HP8 - Industrial Building*

P4. Resources Present ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects)



P5b. Description of Photo: (View, date, accession #)
1012, southern and western elevation (6/6/96)

P6. Date Constructed/Age and Sources: ☐ Prehistoric ☒ Historic ☐ Both
1941 F

P7. Owner and Address

P8. Recorded by: (Name, affiliation, and address)
Mitch Stone
San Buenaventura Research Associates
627 East Pleasant Street
Santa Paula CA 93060

P9. Date Recorded: *6/6/96*

P10. Survey Type: (Describe)

P11. Report Citation: (Cite survey report and other sources, or enter "none")

Attachments ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☒ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3d

Other Listings
Review Code ____ Reviewer ________ Date ____

Page 16 of 22

Resource Name or #: (Assigned by recorder) *Southwest Marine*

P1. Other Identifier: *Foreman's Building*

P2. Location: ☐ Not for Publication ☐ Unrestricted a. County *Los Angeles*
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
b. USGS 7.5' Quad Date T ; R ; 1/4 of 1/4 of Sec ; B.M.
c. Address: *965-85 South Seaside Avenue* City *Los Angeles* Zip
d. UTM: (Give more than one for large and/linear resources) ; mE/ mN
e. Other Locational Data (Enter Parcel #, legal description, directions to resource, elevation, etc., as appropriate)

Parcel No. *258*

P3. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

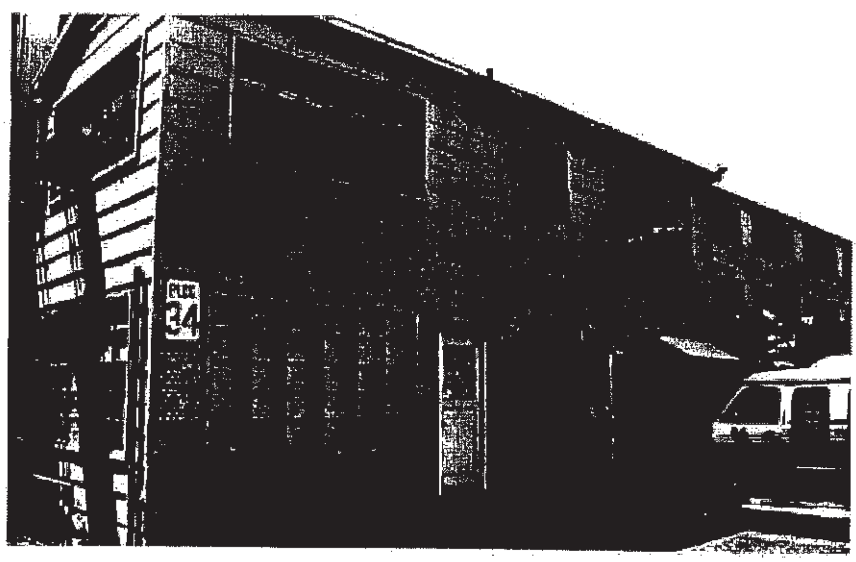
This small, two story office building (38 by 13 feet) is rectangular in plan, wood frame construction clad with horizontal standing-seam corrugated metal siding and rests on a concrete perimeter foundation. The roof is a medium-pitched gable. Windows are steel mullioned three by five with center casement units.

This building was constructed in 1941 for use as field office related to the Anglesmith and Plate shops, located immediately to the the south and east, respectively. The building appears to be unaltered.

P3b. Resource Attributes: (List attributes and codes) *HP8 - Industrial Building*

P4. Resources Present ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects)



P5b. Description of Photo: (View, date, accession #)
Southern and eastern elevations, viewed from southeast (#1013, 6/6/96).

P6. Date Constructed/Age and Sources: ☒ Prehistoric ☒ Historic ☐ Both
1941 F

P7. Owner and Address

P8. Recorded by: (Name, affiliation, and address)
Mitch Stone
San Buenaventura Research Associates
627 East Pleasant Street
Santa Paula CA 93060

P9. Date Recorded: *6/6/96*

P10. Survey Type: (Describe)

P11. Report Citation: (Cite survey report and other sources, or enter "none")

Attachments ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☒ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3d

Other Listings
Review Code ____ Reviewer ____ Date ____

 Resource Name or #: (Assigned by recorder) *Southwest Marine*

P1. Other Identifier: *Hospital & Employment Office*

P2. Location: ☐ Not for Publication ☐ Unrestricted a. County *Los Angeles*
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
b. USGS 7.5' Quad Date T ; R ; 1/4 of 1/4 of Sec ; B.M.
c. Address: *965-85 South Seaside Avenue* City *Los Angeles* Zip
d. UTM: (Give more than one for large and/linear resources) ; mE/ mN
e. Other Locational Data (Enter Parcel #, legal description, directions to resource, elevation, etc., as appropriate)

Parcel No. *258*

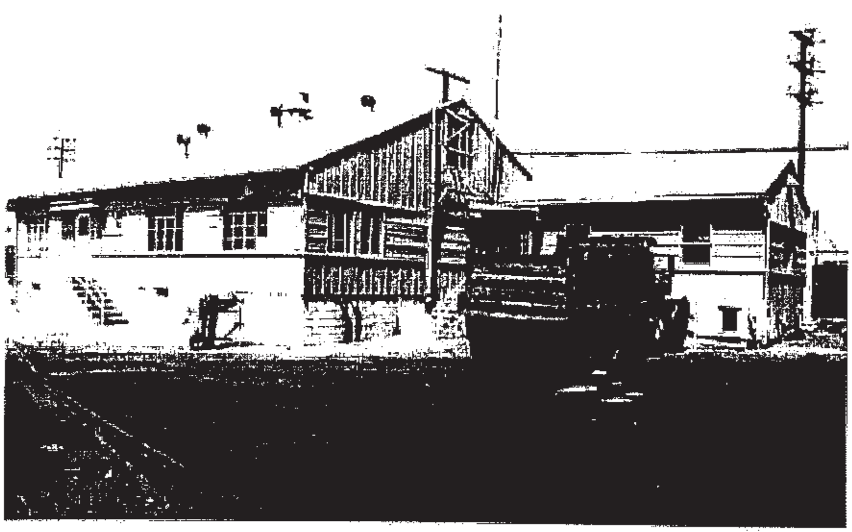
P3. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This one-and-one-half story office building (43 by 75 feet) is L-shaped in plan and clad with horizontal and vertical standing-seam corrugated metal siding and rests on a concrete perimeter foundation. The horizontal metal panel details are employed in a band wrapping around the entire structure, producing a mildly Streamlined Moderne effect. The roof is a medium-pitched gable covered with composition materials. Windows are steel mullioned three by four with center casements units. This building was constructed in 1941 and expanded substantially in 1943. It was used as the yard's employment office and hospital. The building appears to be unaltered since its completion in 1943.

P3b. Resource Attributes: (List attributes and codes) *HP8 - Industrial Building*

P4. Resources Present ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects)



P5b. Description of Photo: (View, date, accession #)
Southern and western elevations, viewed from southwest (#1014, 6/6/96).

P6. Date Constructed/Age and Sources: ☐ Prehistoric ☒ Historic ☐ Both
1941, 1943 F

P7. Owner and Address

P8. Recorded by: (Name, affiliation, and address)
Mitch Stone
San Buenaventura Research Associates
627 East Pleasant Street
Santa Paula CA 93060

P9. Date Recorded: *6/6/96*

P10. Survey Type: (Describe)

P11. Report Citation: (Cite survey report and other sources, or enter "none")

Attachments ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☒ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3d

Other Listings
Review Code ____ Reviewer ____ Date ____

Resource Name or #: (Assigned by recorder) *Southwest Marine*

P1. Other Identifier: *Blacksmith & Anglesmith Shop*

P2. Location: ☐ Not for Publication ☐ Unrestricted **a. County** *Los Angeles*
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
b. USGS 7.5' Quad Date T ; R ; 1/4 of 1/4 of Sec ; B.M.
c. Address: *965-85 South Seaside Avenue* City *Los Angeles* Zip
d. UTM: (Give more than one for large and/linear resources) ; mE/ mN
e. Other Locational Data (Enter Parcel #, legal description, directions to resource, elevation, etc., as appropriate)

Parcel No. *258*

P3. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

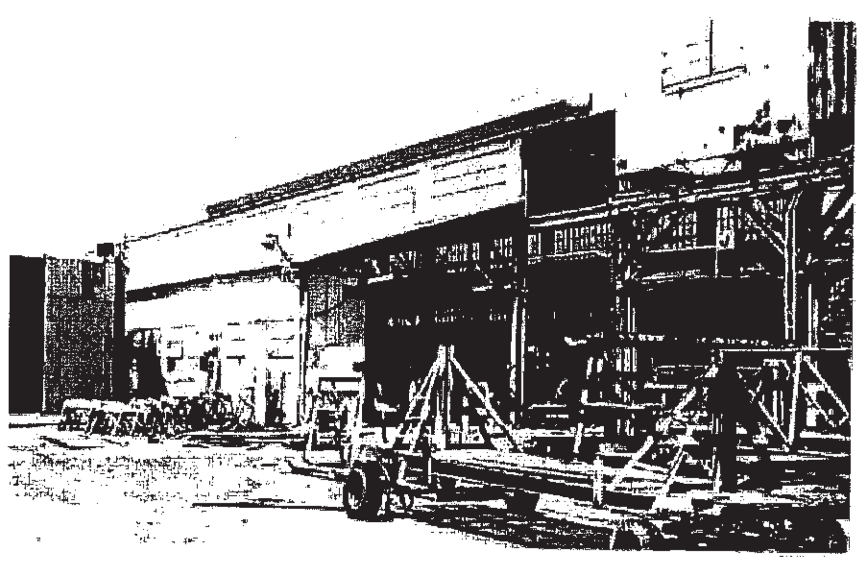
This large, two-and-one-half story industrial building (130 by 42 feet) is rectangular in plan, with the addition of a one-story, shed-roofed lean-to section attached to the western elevation, and is clad with corrugated metal siding and rests on a concrete slab foundation. The roof over the main body of the building is a medium-pitched gable and features an unusual tubular-shaped roof vent extending the entire ridge line. Windows are steel mullioned three by two and three by five multipanes arranged in pairs and triples, some with center pivot units located in a clerestory above the shed roofed section. The building appears to be unaltered.

This building was probably originally constructed in 1918 as the Anglesmith Shop and heavily altered in 1941. It is currently designated as both the Anglesmith and Blacksmith Shop.

P3b. Resource Attributes: (List attributes and codes) *HP8 - Industrial Building*

P4. Resources Present ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects)



P5b. Description of Photo: (View, date, accession #) *Western elevation, viewed from southwest (#1015, 6/6/96).*

P6. Date Constructed/Age and Sources: ☐ Prehistoric ☒ Historic ☐ Both
1918 E, 1941 F

P7. Owner and Address

P8. Recorded by: (Name, affiliation, and address)
Mitch Stone
San Buenaventura Research Associates
627 East Pleasant Street
Santa Paula CA 93060

P9. Date Recorded: *6/6/96*

P10. Survey Type: (Describe)

P11. Report Citation: (Cite survey report and other sources, or enter "none")

Attachments ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☒ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6z

Other Listings
Review Code ____ Reviewer ____ Date ____

 Resource Name or #: (Assigned by recorder) *Southwest Marine*

P1. Other Identifier: *Floating Dry Dock No. 2*

P2. Location: ☐ Not for Publication ☐ Unrestricted a. County *Los Angeles*
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
b. USGS 7.5' Quad Date T ; R ; 1/4 of 1/4 of Sec ; B.M.
c. Address: *965-85 South Seaside Avenue* City *Los Angeles* Zip
d. UTM: (Give more than one for large and/linear resources) ; mE/ mN
e. Other Locational Data (Enter Parcel #, legal description, directions to resource, elevation, etc., as appropriate)

Parcel No. *258*

P3. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Floating Drydock No. 2 is located within Slip No. 2 at the southern end of the site. This massive structure is composed of plywood decking over a steel frame superstructure flanked by tall, hollow wing-wall of steel plates topped by catwalks. These walls are flooded with seawater to submerge the structure, and pumped dry to lift ships above the waterline for repairs. The drydock structure was constructed in 1913 in Vancouver, British Columbia, and used in the Prince Rupert Shipyards until it was moved to this location in 1989. While this structure is of sufficient age, it is not presently considered to be a contributor to a potential NRHP district as it was recently moved to this site, and it is not historically associated with it.

P3b. Resource Attributes: (List attributes and codes) *HP11 - Engineering Structure*

P4. Resources Present ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects)

P5b. Description of Photo: (View, date, accession #)
View or southern wing wall, from east (#1016, 6/6/96).

P6. Date Constructed/Age and Sources: ☐ Prehistoric ☒ Historic ☐ Both
1913 F, 1989 F

P7. Owner and Address

P8. Recorded by: (Name, affiliation, and address)
Mitch Stone
San Buenaventura Research Associates
627 East Pleasant Street
Santa Paula CA 93060

P9. Date Recorded: *6/6/96*

P10. Survey Type: (Describe)

P11. Report Citation: (Cite survey report and other sources, or enter "none")

Attachments ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☒ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3d

Other Listings
Review Code ____ Reviewer ____ Date ____

 Resource Name or #: (Assigned by recorder) *Southwest Marine*

P1. Other Identifier: *Dry Dock No. 1*

P2. Location: ☐ Not for Publication ☐ Unrestricted a. County *Los Angeles*
and (P2b and P2c or P2d. Attach a Location Map as necessary.)
b. USGS 7.5' Quad Date T ; R ; 1/4 of 1/4 of Sec ; B.M.
c. Address: *965-85 South Seaside Avenue* City *Los Angeles* Zip
d. UTM: (Give more than one for large and/linear resources) ; mE/ mN
e. Other Locational Data (Enter Parcel #, legal description, directions to resource, elevation, etc., as appropriate)

Parcel No. *258*

P3. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This 15,000 ton floating dry dock is located on the southern edge of the shipyard site, between pier nos. 1 and 2. It is rectangular in plan, U-shaped in cross-section and constructed of steel superstructure covered with wood decking and concrete on the wing walls. The overall dimensions of the structure are 515 feet in length and126 feet in width. The overall height of the structure is 50 feet 9 inches from the keel to the tops of the wing walls.

According to company records, this dry dock was constructed in 1920, installed in 1922 and reconditioned in 1943. It was moved to its present location in 1961. Its former location was apparently at the northern end of the site. This is one of the oldest, most physically impressive and functionally important features remaining on the shipyard site.

P3b. Resource Attributes: (List attributes and codes) *HP8 - Industrial Building*

P4. Resources Present ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects)

P5b. Description of Photo: (View, date, accession #)
Viewed from southwest (#1018, 6/6/96).

P6. Date Constructed/Age and Sources: ☐ Prehistoric ☒ Historic ☐ Both
1920 F, 1943 F

P7. Owner and Address

P8. Recorded by: (Name, affiliation, and address)
Mitch Stone
San Buenaventura Research Associates
627 East Pleasant Street
Santa Paula CA 93060

P9. Date Recorded: *6/6/96*

P10. Survey Type: (Describe)

P11. Report Citation: (Cite survey report and other sources, or enter "none")

Attachments ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☒ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

CONTINUATION SHEET

Primary #
HRI #
Trinomial

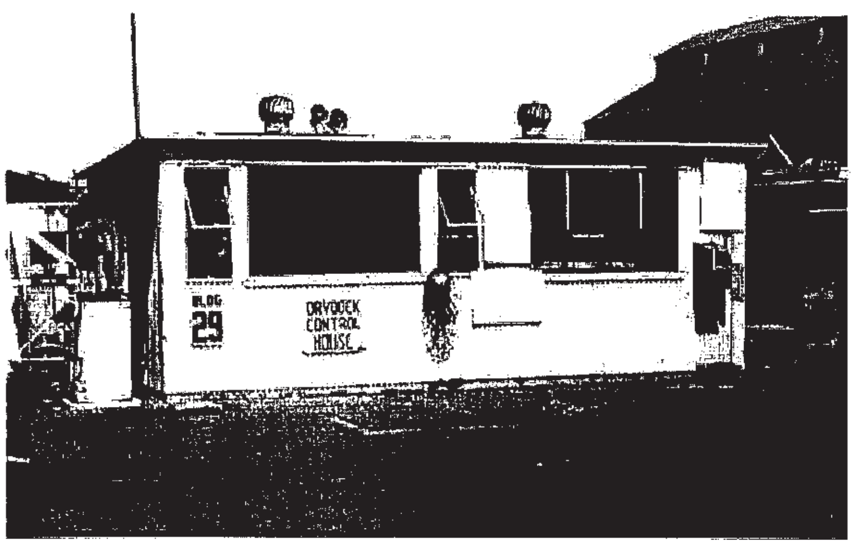
Page 21 **of** 22 **Resource Name or #:** (Assigned by recorder) *Southwest Marine*

Recorded by: *Mitch Stone* **Date** *6/6/96* ☒ Continuation ☐ Update

Dry Dock Control House

This small building located to the rear (east) of Dry Dock No. 2 is rectangular in plan (16 by 24 feet) and clad in vertical corrugated metal panels. The roof is flat. Windows are multipaned steel with center pivots. It contains the control equipment for operating the dry dock evacuation pumps. The style and materials used in this building suggest that it was constructed during the early 1940s, though not in this location. It was apparently moved to this site from the north side of Slip No. 2, probably during the redevelopment of the shipyard occurring during the early 1960s.

Supplemental Photograph or Drawing



Description of Photo: (View, date, accession #)
Western elevation, (#1017, 6/6/96)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code *3d*

Other Listings
Review Code ____ **Reviewer** ____ **Date** ____

Resource Name or #: (Assigned by recorder) *Southwest Marine*

P1. Other Identifier: *Cranes*

P2. Location: ☐ Not for Publication ☐ Unrestricted **a. County** *Los Angeles*

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

b. USGS 7.5' Quad **Date** **T** ; **R** ; **1/4 of** **1/4 of Sec** ; **B.M.**

c. Address: *965-85 South Seaside Avenue* City *Los Angeles* Zip

d. UTM: (Give more than one for large and/linear resources) ; mE/ mN

e. Other Locational Data (Enter Parcel #, legal description, directions to resource, elevation, etc., as appropriate)

Parcel No. *258*

P3. Description (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

A large number and variety of cranes are located on the site. Of the seven extant "whirly" style cranes, six are 22-ton Colby cranes installed in 1941. The crane control houses rest atop tapered, 70-foot steel girder superstructures measuring 24 by 30 feet in width at the base. They are highly mobile, and run along railroad tracks adjacent to the slips and waterfront. The seventh whirly crane is a 60-ton Clyde installed during the 1970s.

A single, 5-ton overhead gantry crane installed in 1941 is located immediately to the south of the Transportation Shop. It was presumably originally associated with the now-removed Mold Loft to the south, and appears to no longer be in use. The several Joshua Hendy gantry cranes ranging from 3 to 8 tons in capacity, and found in various locations on the site, were installed in 1918. One notable example is located on the west side of the Plate Shop.

P3b. Resource Attributes: (List attributes and codes) *HP11 - Engineering Structure*

P4. Resources Present ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects)

P5b. Description of Photo: (View, date, accession #) *Colby crane No. 5, viewed from southwest (#1019, 6/6/96).*

P6. Date Constructed/Age and Sources: ☐ Prehistoric ☒ Historic ☐ Both

1918 F, 1941 F, 1977 E

P7. Owner and Address

P8. Recorded by: (Name, affiliation, and address)
Mitch Stone
San Buenaventura Research Associates
627 East Pleasant Street
Santa Paula CA 93060

P9. Date Recorded: *6/6/96*

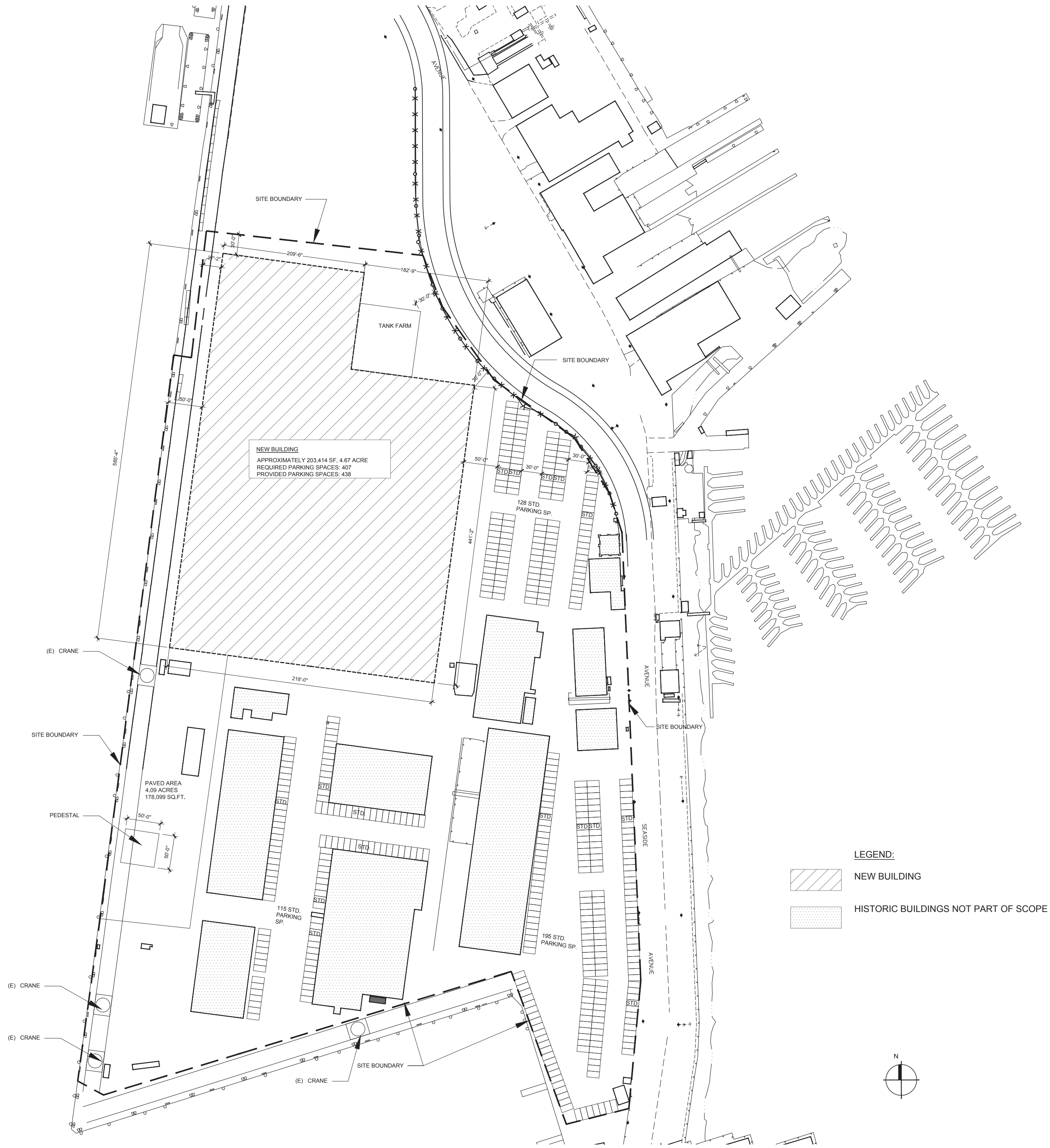
P10. Survey Type: (Describe)

P11. Report Citation: (Cite survey report and other sources, or enter "none")

Attachments ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record ☐ Archaeological Record ☒ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☐ Photograph Record ☐ Other: (List)

APPENDIX D

Project Site Plan, Building Elevations, and Visual Representations



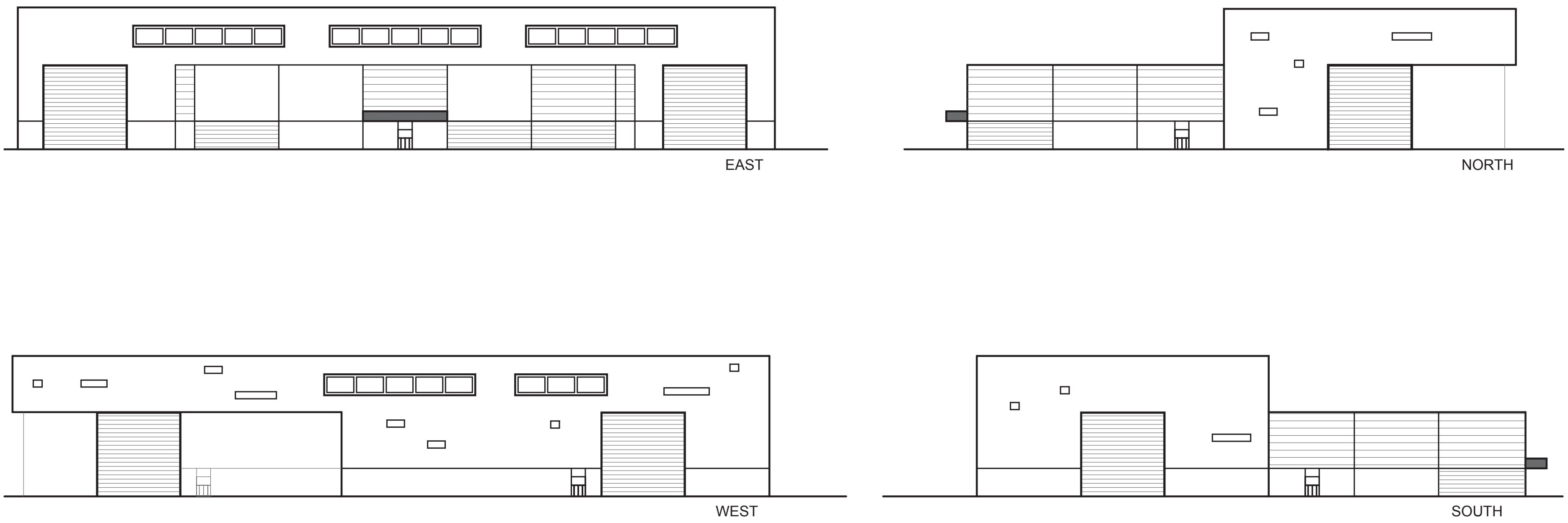
SOURCE: Mulder & Katkov Architecture (2017)

DUDEK

FIGURE 2-4

Proposed Project Site Plan

Transportation Vessel Manufacturing Facility Project Draft IS/MND



SOURCE: Mulder & Katkov Architecture (2017)

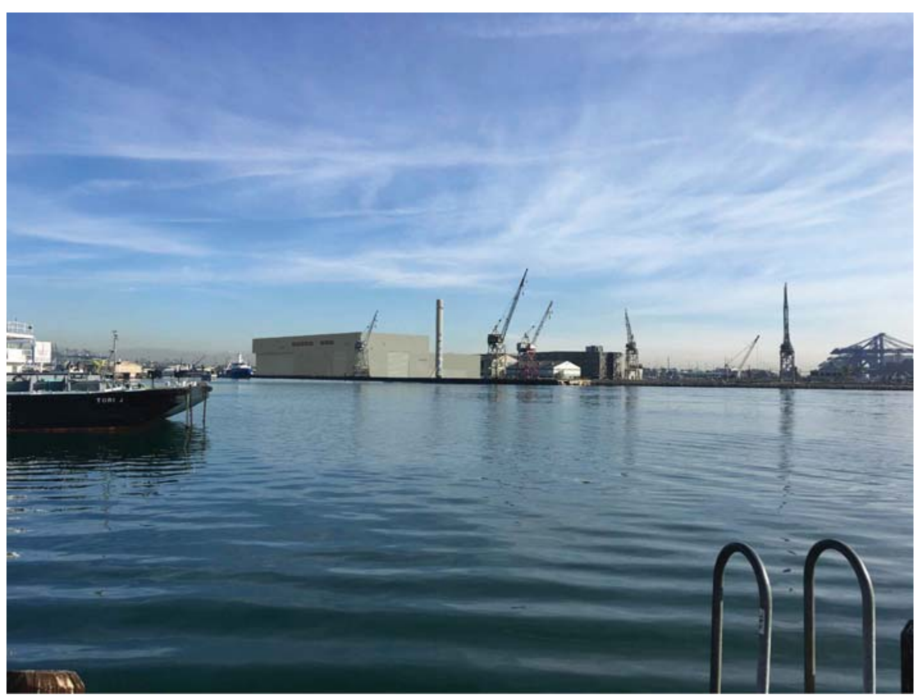
DUDEK

FIGURE 2-5
Proposed Project Elevations

Existing View 1

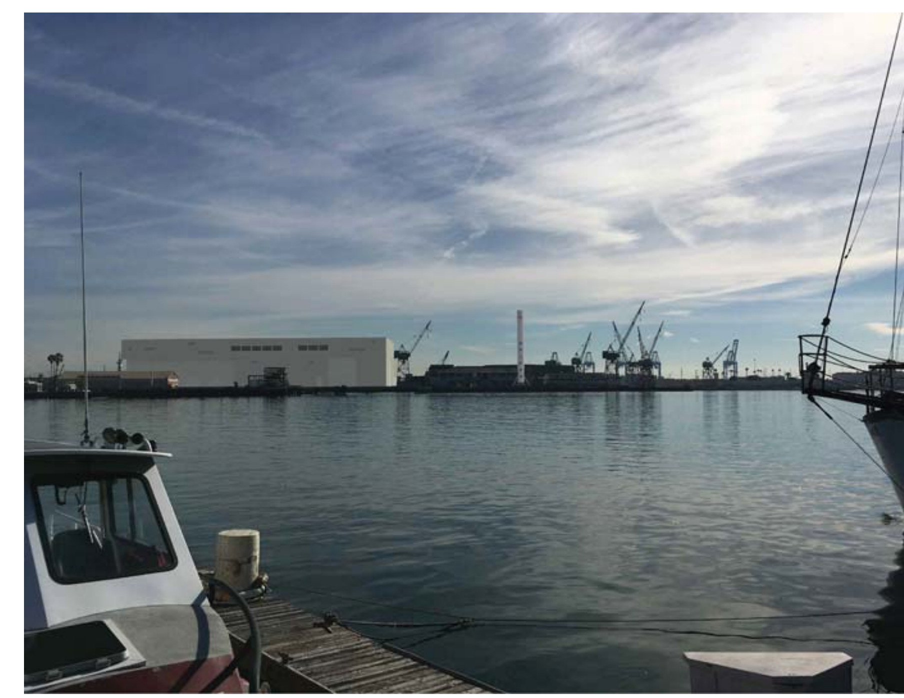
Existing View 2

Existing View 3



3d Simulation View 1

3d Simulation View 2



3d Simulation View 3

DUDEK

Transportation Vessel Manufacturing Facility Project Draft IS/MND
Visual Representations

FIGURE
4.1-1

APPENDIX C
Environmental Hazards Report

Environmental Hazards Report
Southwest Marine Terminal Island Facility
985 Seaside Avenue
Terminal Island, California

Prepared by:

DUDEK
605 Third Street
Encinitas, California 92024
Contact: Nicole Peacock, PE, PG

MARCH 2017

Printed on 30% post-consumer recycled material.

TABLE OF CONTENTS

Section **Page No.**

APPENDICES

TABLE OF CONTENTS (CONTINUED)

Page No.

FIGURES

1 INTRODUCTION

This hazards report summarizes the potential environmental concerns associated with the proposed redevelopment project at the former Southwest Marine Terminal site located on Terminal Island in Los Angeles County (the Site; Figure 1). The proposed project involves the demolition of an existing building and the construction of a new 167,500 square foot prefabricated building and tank farm.

This environmental hazards report is based on a review of prior investigations for the Site obtained from a review of documents obtained from the Department of Toxic Substances Control's (DTSC's) Envirostor online database.

1.1 Site Description

The Site is the former Bethlehem Steel/Southwest Marine Terminal site at 985 Seaside Avenue on Terminal Island in Los Angeles, California (Figure 1). The Site is approximately 18 acres including a large vacant unpaved area and paved parking and storage areas in the northern half of the Site and abandoned industrial buildings in the paved southern half of the Site (Figure 2). The proposed project involves redevelopment of the northern half of the Site with a large manufacturing building, a tank farm, and parking areas (Figure 2). The proposed project also involves demolition of an existing industrial building (the former compressor building), modifications to the western edge of the Site adjacent to the main channel, and the addition of parking areas and access driveways in the southern half of the Site (Figure 2). The modifications to the western edge of the Site will include installation of new cleats, minor grading to level the area, and possible foundations for cranes. The proposed project does not include water work or modifications to the existing seawall.

During the prior investigations (Section 3.1.1), the Site has been divided into three parcels for the purpose of describing where impacts were identified (Figure 3). Parcel 1 is located in the southeastern portion of the Site, south of the area proposed for construction as part of the proposed project. Parcel 2 is located in the southwestern and central-western portions of the Site. Parcel 2 includes a portion of the area proposed for construction as part of the proposed project (the compressor building and a portion of the unpaved land north of the compressor building). Parcel 3 consists of the northern portion of the Site, as well as the area north of the Site. Parcel 3 is further divided into Parcel 3a (the Site and a small area north of the Site) and Parcel 3b (the So Cal Ship Services area located farther north of the Site). The parcels are shown on Figure 3.

1.1.1 Site Buildings

The only existing building on the portion of the Site with proposed modifications as part of the proposed project is the former compressor building (Figure 2). The former compressor building was constructed in 1918 and includes work bays, as well as exhaust stacks.

At least six additional buildings were formerly located on the northern portion of the Site, where the future building will be placed per the proposed project. Most of these buildings were removed between 1980 and 1994. The former substation located just north of the compressor building appears to have been removed in the 2000s.

Other buildings and features located south and east of this area proposed for construction have included the following (these buildings will remain in place; The Source Group 2012a):

- Carpentry and Manufacturing
- Paint Storage and Shop
- Welding
- Machine Shop with Machine Pits
- Sheet Metal Shop
- Abrasive Blast Room and Abrasive Blasting Grit Containment Area
- Electrical Power Substations
- Riggers
- Warehouses
- Tool Room
- Pipe Shop
- Paint Booth
- Plate Shop
- Blacksmith and Anglesmith Shop
- Hazardous Waste Accumulation Area
- Hazardous Materials and Chemical Storage Area
- Storage Tanks
- Sumps
- Cranes

- Staging Areas
- Various Storage Areas
- Administrative Building
- Medical Building
- Transportation Shop

The Site is bordered by Slip 240 and the Los Angeles Harbor Main Channel to the west. The Mobil Southwest Terminal tank farm is also located west of the Site.

The dry docks associated with the former Bethlehem Steel/Southwest Marine facility are located south of the Site. This area (Berths 243-245) is a confined disposal facility for contaminated dredge sediments and the impacted sediments that accumulated in the dry docks.

East of the Site is the Al Larson Boat Shop and Fish Harbor. Other vacant portions of the former Bethlehem Steel/Southwest Marine facility are located north of the Site, as well as the So Cal Ship Services site and the Maxim Petroleum Facility.

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2 ENVIRONMENTAL SETTING

The Site is generally flat land and is surrounding by land of generally the same surface elevation. The elevation of the Site is approximately 10 feet above mean sea level.

The Site is on the western portion of Terminal Island, a largely man-made island in the Los Angeles Harbor/San Pedro Bay. Terminal Island began as natural mudflats; however, dredged material was added to make the space usable. The soils underlying the Site are dredged fill from the harbor channel. According to the Remedial Action Plan for the former Southwest Marine Facility (The Source Group 2016a), the upper 20 feet of soils underlying the Site consist of sand with 5–20% silt and gravel.

The Site is within the West Coast Basin of the Los Angeles Coastal Plain. Groundwater at the Site is first encountered around 10 feet below ground surface. The groundwater flow direction varies due to tidal influence.

Channels of the San Pedro Bay/Los Angeles Harbor border the Site to the east and west. Storm water from the Site discharges to the Main Channel via engineered drainage structures (The Source Group 2016a).

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3 EXISTING CONDITIONS

Information on past and current activities and former chemical use at the project Site was obtained from a review of the prior Site documents obtained from a DTSC and Regional Water Quality Control Board (RWQCB) file review and a review of on-line DTSC Envirostor files. Dudek also conducted a Site visit on February 1, 2017 to observe current conditions and evaluated near-by sites that may impact the Site.

3.1 Previous Site Investigations

3.1.1 Summary of Prior Reports

The following prior Site reports were reviewed as part of this Hazards Assessment.

Unilateral Order 2008, Docket No. HSA-RAO 08/09-056 (DTSC 2008)

DTSC names the Port of Los Angeles (POLO) and BAE Systems Ship Repair, Inc. as "responsible for cleaning up a release of hazardous substances at the Site". This document states the following hazardous substances have been found at the Site: polychlorinated biphenyls (PCBs), metals (antimony, arsenic, chromium, copper, lead, mercury, zinc and others), and total petroleum hydrocarbons (TPH). This document is a court order requiring remedial actions at the Site; it does not contain analytical data or specify the type of remedial action required.

Remedial Investigation Workplan 2010 (The Source Group 2010)

The Remedial Investigation Workplan summarizes previous site investigations and proposes future investigations to close data gaps. The known contaminants of concern (COC) for the Site include PCBs, metals, and TPH. Dioxins, furans, herbicides, and radionuclides were added to the COC list for further investigation based on history of Site use. At the time of this plan, all Site activities had stopped and all manufacturing equipment and supplies, including stored chemicals, had been removed from the Site. Vacant buildings remained on Site and were often used for filming television and movie scenes.

Based on historical data presented in this workplan, Parcel 1 (the southeastern portion of the Site) had elevated concentrations of TPH and metals in soil in the former diesel tank area and Parcel 2 (the southwestern and central-western portions of the Site) had elevated metals in shallow and deep soil in the northern and southern portions of the parcel. Patches of buried debris (bricks, metal, asphalt), elevated levels of TPH and metals, and low levels of PCBs, volatile organic compounds (VOCs), and semivolatile organic compounds (SVOCs) were identified on Parcel 3 (the northern portion of the Site and areas north of the Site) in 1995 -1997.

Brick and other debris were observed in the shallow soils in the area of the proposed construction during Dudek's February 1, 2017 site visit.

A removal action targeting metals-impacted soil was completed in 1999 without involvement from DTSC or the RWQCB. Documentation of the removal was insufficient to discern the locations and extents of the removal action. Backfill soil was imported from the Alameda Corridor project and stockpiled on Site temporarily. Two soil samples from the backfill stockpile contained PCBs (Aroclor 1254 and Aroclor 1260) at concentrations up to 1.1 milligrams per kilogram (mg/kg). The consultant recommended this soil be returned to the generator and not used on Site. However, no documentation was found to confirm final placement of the PCB-containing soil.

In 2000, an investigation on the north portion of Parcel 3 (just north of the Site) concluded that soil used to fill in former slips below 5 feet bgs contained elevated concentrations of metals. Three groundwater samples were also analyzed from this area; they contained low concentrations of lead (up to 17.7 micrograms per liter [µg/L]), mercury (up to 3.32 µg/L), and zinc (up to 139 µg/L). The consultants concluded that lead was present in soils above calculated site-specific remediation goals, and an asphalt cap would be sufficient protect human health.

In 2007, another investigation of Parcel 3 (Parcels 3a and 3b) was completed and results compared to 1995 data to determine if recent activities had impacted the Site. The study concluded that the ship-dismantling operations conducted in 1995 and 1997 had a negative impact on the western portion of Parcel 3. TPH impacts were also identified in the central portion of Parcel 3. Portions of the identified PCB and TPH impact areas overlap with the northern portion of the Site.

Draft Report of Remedial Investigation Methodologies and Analytical Results 2010 to 2011 (The Source Group 2011a)

This report describes the results of soil gas sampling (27 sample points), soil and groundwater sampling (88 temporary locations plus two new wells), and a radiological survey.

Soil gas samples from Parcel 1 and Parcel 2 were analyzed for VOCs. Tetrachloroethene (PCE) was detected in one soil gas sample from each parcel with a maximum concentration of 0.22 µg/L. No other VOCs were detected above laboratory reporting limits in the soil gas samples. VOCs in soil and groundwater from all three parcels were low (generally less than 10 micrograms per kilogram for gasoline-related VOCs) to non-detect. SVOCs were not detected in soil or groundwater samples from Parcel 1 or Parcel 2; they were detected in only 3 of more than 40 samples collected from Parcel 3.

Metals were detected in soil and groundwater samples from all three Parcels. When metals detections in soil were elevated, the samples were also tested for solubility/leachability for comparison to hazardous waste criteria. Hazardous waste criteria exceedances in soil were rare; however, they were reported in one or more sample(s) for the following metals: lead in Parcel 1; lead, mercury, chromium, and arsenic in Parcel 2; and antimony, copper, lead, chromium, arsenic, and nickel in Parcel 3.

TPH was detected in soil and groundwater at all three Parcels. Maximum detections of TPH in soils were 2,000 mg/kg in Parcel 1, 28,000 mg/kg in Parcel 2, and 2,400 mg/kg in Parcel 3. Maximum detections of TPH in groundwater were 520 µg/L in Parcel 1, 22,000 µg/L in Parcel 2, and 2,100 µg/L in Parcel 3.

PCBs were detected in 13 soil samples from Parcel 2 with a maximum detection of 3.9 mg/kg for Aroclor-1248. PCBs were detected in 13 soil samples from Parcel 3 with a maximum detection of 14 mg/kg for Aroclor-1248. PCBs were detected in one groundwater sample from Parcel 3, Aroclor-1254 at a concentration of 1.2 µg/L. No other PCB detections were reported for soil or groundwater in the three parcels.

Persistent pesticides were analyzed in soil and groundwater samples from Parcel 3. One organochlorine insecticide, toxaphene, was detected in a single soil sample at a concentration of 9.4 mg/kg. No herbicides, organophosphorus insecticides, or other organochlorines were detected in the soil or groundwater samples from Parcel 3.

Dioxins and furans were analyzed in soil and groundwater samples from Parcel 3. Toxic equivalents (TEQs) were calculated for comparison to screening levels. Three soil samples had elevated TEQs above human health risk criteria and all groundwater samples from Parcel 3 had TEQs above the screening level for commercial land use.

The radiological survey included only areas of Parcel 3. Gamma radiation levels were consistent with national averages and no indications of buried radium were found.

Workplan for Supplemental Groundwater Sampling and Analysis 2011 (The Source Group 2011b)

This plan for groundwater sampling was written in response to DTSC concerns after publication of the 2011 Remedial Investigation (RI) report, specifically that using the hydropunch™ method combined with field sample preservation methods may have resulted in artificially elevated metals concentrations for those samples. DTSC also asked for lower MDLs so that results can be compared to relevant risk-based standards. Twelve locations were proposed for resampling. Filtration and preservative methods would be systematically altered to enable comparison between methods. The results of the study were presented in the Amended RI Report (Section 3.1.1.5).

Amended Remedial Investigation Report 2012 (The Source Group 2012b)

This report includes a review of historical reports and analytical results dating back to 1995. The data presented here was available in the previous reports with the exception of recent groundwater sampling completed to evaluate accuracy of the hydropunch™ results. The report concluded that hydropunch™ samples were, in fact, artificially elevated compared to Site groundwater due to lack of sufficient filtration. The report concluded that the contaminants of concern for the Site are TPH, PCBs, benzene, toluene, ethylbenzene, xylenes, and metals.

Revised Human Health Risk Assessment and Ecological Screening Level Risk Evaluation 2013 (The Source Group 2013a)

This report evaluated the following hypothetical human receptors: outdoor construction worker, outdoor commercial/industrial worker, and indoor commercial/industrial worker using a conservative reasonable maximum exposure scenario, for Parcel 1, Parcel 2, and Parcel 3a (southern, vacant portion of Parcel 3) and Parcel 3b (off-Site northern SoCal Ship Services area).

This report concludes that the Site has been adequately characterized and evaluated and that contamination at Parcel 1 does not pose an unacceptable human health risk in the three relevant site worker scenarios. Regarding Parcels 2, 3a, and 3b, the report concludes that hypothetical exposure to an indoor commercial/industrial worker at the Site does not pose an unacceptable human health risk. However, the hypothetical exposure to an outdoor worker, construction or commercial/industrial, may pose unacceptable human health risk due to the combined effects of the following:

- Nickel, vanadium, chromium VI, and PCB concentrations in soil on Parcel 2 ($7x10^{-6}$ cancer risk and 10 hazard index),
- PCB, metals, and dioxin/furan concentrations in soil on Parcel 3a (3x10-4 cancer risk and 30 hazard index)

Removal Action Workplan 2013 (The Source Group 2013b)

The Removal Action Workplan detailed the plan to excavate and remove approximately 13,500 tons of contaminated soil from Parcels 2 and 3a, for landfill disposal. The map showing the proposed excavation areas is shown in Appendix A.

A copy of the Interim Removal Action Completion Report was not available for review on Envirostor or at the DTSC office; however, based on a discussion in the October 2016 Groundwater Monitoring and Sampling Report, excavation of approximately 13,000 tons of soil was completed in 2014.

During the February 1, 2017 Site visit, Dudek observed several large excavation pits approximately 2 to 3 feet deep in the area of the proposed building construction and in the western portion of the Site. The pits were not backfilled. Exposed brick and debris was observed in the sidewalls of the excavation.

Groundwater Monitoring Reports 2009 through 2013 (The Source Group)

Eight monitoring wells were installed in 1997, six monitoring wells were installed in 2007, and two additional monitoring wells were installed in 2010. Monitoring wells are located on Parcel 1 of the Site. Wells were previously located on Parcel 2; however, they were removed during the prior soil removal action.

Each monitoring report includes tables of historical analytical results in addition to the most recent event. Results are compared to Groundwater Screening Levels from the RWQCB, San Francisco Bay Region's *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* (revised 2013).

In the 2013 Groundwater Monitoring Report, TPH was detected above laboratory method reporting limits (MRLs) in 10 of the 16 wells. The TPH detections were below the groundwater screening level of 640 µg/L with the exception of groundwater from MW-10R where TPH was detected at 1,300 µg/L. No VOCs were detected above their respective Groundwater Screening Levels; very few VOCs were detected above reporting limits. Dissolved metals detections were below their respective groundwater screening levels with the exception of copper and nickel. Eleven of the 14 copper detections were above the groundwater screening level of 3.1 µg/L, with concentrations ranging from 3.7 µg/L to 34 µg/L. Three dissolved nickel detections were above the groundwater screening level of 8.2 µg/L, with a maximum detection of 11 µg/L. Groundwater samples were also analyzed for fuel oxygenates including MTBE. MTBE was detected in MW-5 at concentrations well below the groundwater screening level during nearly all sampling events from 2008 to 2013. No other fuel oxygenates were detected above the reporting limits throughout the study.

Monthly Summary Reports for SWM Terminal Island 2015 – 2017 (Port of Los Angeles)

In 2015, activities included groundwater monitoring, reporting, meetings, and security checks but no excavation or removal of soil. The 2015 reports indicated funding for the remedial action was constrained. As of February 2017, preparations for implementation of the RAP were initiated.

Final Revised Soil and Groundwater Remedial Action Plan 2016 (The Source Group 2016a)

The Remedial Action Plan (RAP) outlines the proposed subsurface soil and groundwater remediation at the Site. The RAP includes on-Site Parcels 1, 2, and 3a. The selected remedy outlined in the RAP included excavation and off-site disposal/recycling of contaminated soils. Groundwater will be left in-place to naturally attenuate with routine monitoring and with institutional controls in place to protect human health. The RAP included a compilation of historical data and a list of site-specific human health risk-based goals for the contaminants of concern. The proposed excavation areas are shown on Figures 4A, 4B, 5A, and 5B. See Section 3.1.2 for additional details obtained from this report.

CEQA Initial Study 2016 (DTSC 2016)

The 2016 CEQA Initial Study details the soil excavation proposed in the RAP. The Initial Study notes the proposed excavation of 15,200 tons of impacted soil. The Initial Study includes maps showing the proposed PCB, metals, and TPH excavation areas (Figures 4A, 4B, 5A, and 5B). The excavation areas are mostly located on-Site; however, some areas are also located north of the Site. The proposed on-Site excavation areas are mostly shallow; however, some small deeper excavations are proposed on-Site.

RWQCB File Review (2017)

Based on a review of online Geotracker database records, the Site reported a release of gasoline to groundwater in 1994. The release case was closed in 1997. No case files are available on-line; however, the RWQCB was listed as the lead agency for this release case. Dudek requested Site files from the RWQCB; however, no leaking tank files were provided. Instead, the RWQCB file for the Site (reviewed at the RWQCB office on January 31, 2017) included an undated chemical inventory and stormwater sampling data. One of the stormwater reports noted the discharge of 2,500 gallons of oily waste three times in 1991 and 1992 (Appendix B).

3.1.2 Site Summary

Site History

The Site was first developed for use as a shipyard in 1917. Southwestern Shipbuilding built large 8,800 ton ships on the Site during the latter part of World War I (Jones & Stokes 2000). In the 1920s, the Site was used for shipbuilding and ship repair. Bethlehem Shipbuilding began operating at the Site in 1922. Bethlehem Shipbuilding constructed the dry dock just south of the Site. Bethlehem Shipbuilding also constructed numerous structures on the Site, including machine shops, pipe shops, plate shops, cranes, and blacksmith shops (Jones & Stokes 2000). Following World War II, Site operations were limited to ship repair and mothballing ships (shipbuilding was no longer conducted). Southwest Marine purchased the Site in 1981 and used the Site for ship repair until 2006 (The Source Group 2016b). The Site has since been vacant, with intermittent uses as a filming location.

Site investigations began in 1995, with collection of soil samples from approximately 100 locations at the Site. In 1996, 38 more soil borings were advanced on the Site. In 1997, soil and groundwater samples were collected. According to the RWQCB's Geotracker website, a case involving the release of gasoline from a leaking underground storage tank was closed in 1997. No information about this closed case or about an open case were available on Geotracker. Dudek contacted the RWQCB on January 12, 2016 requesting files for the Site; however, the files did not include records related to a leaking underground storage tank (Section 3.1.1.12).

In 1998, shallow soil samples were collected for metals analysis. Metals-impacted soil was excavated from the northern half of the Site in 1998 and 1999 (The Source Group 2012b). Further excavation was conducted by Southwest Marine in 1999 and 2000 (The Source Group 2012). Maps of these excavation areas were not provided in the site files on Envirostor or in the DTSC offices. Further soil, soil vapor, and groundwater samples were collected in 2000-2007. The findings of these investigations (1995-2007) were presented in various reports; however, Dudek has not reviewed the reports as they are not available on DTSC's Envirostor database, the RWQCB's Geotracker database, or within the DTSC or RWQCB files reviewed in person on January 11, 2017 or January 31, 2017, respectively.

The DTSC submitted a Remedial Action Order (RAO) to the Port of Los Angeles and to BAE (Southwest Marine) in 2008. The RAO required a Remedial Investigation and Remedial Action Plan to address the PCB, metals, and TPH impacts identified at the Site.

A RI report was prepared in 2012 and a Risk Assessment Report in 2013. In 2013, a Removal Action Workplan was submitted for removal of PCB-impacted soils in the western portion of the Site. Approximately 13,000 tons of soil were removed from the western half of the Site. The majority of the excavation was shallow (0-2 feet), while select locations were excavated to 10 feet depth. Confirmation soil samples were collected and reported in the 2015 Interim Remediation Action Completion Report; however, this report was not available on Enviorstor or during an in-person file review at the DTSC office in Cypress. A RAP for remediation of remaining impacted soils was submitted in 2016.

Groundwater monitoring has been conducted from 2009 until 2016. Elevated metals and TPH have been detected in the Site groundwater. Naphthalene and 2,3,7,8-TCDD have also been detected in the Site groundwater. The 2016 Remedial Action Plan indicated that no active groundwater remediation was recommended. The RAP noted that the seawall that borders the western portion of the Site limits groundwater flow from the Site into the Harbor. The chosen remedy for groundwater, therefore, was continued groundwater monitoring for 2 years following completion of the soil removal.

The data collected to date are summarized in the following sections.

Site Soil Gas Data

Soil gas samples were collected from more than 25 locations on the Site during the 2012 RI. The only VOC detected was PCE, which was detected at two sample locations at concentrations up to 0.22 μg/L. This level is below the DTSC soil vapor screening level (HERO Note 7). Therefore, the 2016 RAP did not identify any contaminants of concern for soil vapor at the Site.

Site Soil Data

The 2012 RI summarizes the soil sampling conducted from 1995 until 2011. Soil samples were collected from throughout the Site.

In the southeastern portion of the Site, referred to as Parcel 1, the metals arsenic, cadmium, and lead exceeded agency soil screening levels (California Human Health Screening Levels) in shallow soils (Figure 4A). Cadmium also exceeded the screening level in one sample at 7.5 feet depth. Only one PCB concentration in the southeastern portion of the Site exceeded the industrial screening level. Shallow TPH impacts were noted throughout the southeastern portion of the Site, while deeper TPH impacts were mostly detected in the central and eastern central portions of the Site (Figures 4A and 5A). No VOC or SVOC impacts were identified.

In the southwestern portion of the Site, referred to as Parcel 2, the metals arsenic, cadmium, lead, nickel (just one sample at 6 feet depth), and vanadium (just one sample at 6 feet depth) exceeded the soil screening levels (Figures 4A and 5A). PCB concentrations in 28 shallow sample locations along the western edge of the Site exceeded screening levels. TPH impacts were also detected along the western edge of the Site, both in shallow and deeper soils. Tributyltin Oxide exceed the Site action level in 2 samples. No VOC or SVOC impacts other than phenol were identified.

In the northern portion of the Site (a portion of Parcel 3), the metals arsenic, antimony (2 samples), cadmium, copper (1 sample), and lead were detected at concentrations exceeding the soil screening levels (Figures 4B and 5B). Shallow PCB exceedances were detected throughout the unpaved, fenced in portion of the Site. TPH exceedances were detected throughout the Site in shallow soils. The SVOCs phenol and benzo(a)pyrene, the pesticide toxaphene, and dioxins/furans were each detected in one shallow soil sample at a concentration exceeding the EPA regional screening levels.

Some impacted soils were excavated in 2014 (13,000 tons). While the Interim Removal Action Completion Report was not available for review, based on the work plan for the Interim Removal Action, the excavated areas area shown in Appendix A. Confirmation soil samples were collected; however, the detected concentrations are not known. The 2016 RAP recommended further soil excavation to remove metals, TPH, and PCB impacts that remain. The proposed removal areas are again focused on the western portion of the Site and the unpaved portion of the

Site, but also include areas in the central and southeastern portion of the Site (mainly for metals impacts). The sample locations with metals, TPH, or PCB concentrations greater than the cleanup criteria and the proposed removal areas, based on the 2016 CEQA Initial Study, are shown on Figures 4A and 4B (shallow soil impacts) and 5A and 5B (deeper soil impacts).

According to Applicant's personnel, the proposed project will start after completion of the removal action outlined in the 2016 RAP (pers. com. Kyle Meade, 2016). The figures show; however, that following removal, there will still be some shallow soil areas with contaminant concentrations greater than the cleanup criteria (Figures 4A and 4B).

Site Groundwater Data

According to the RAP, concentrations of metals (arsenic, copper, cobalt, barium, lead, mercury, molybdenum, and nickel), VOCs (1,1-dichloroethane, cis-1,2-dichloroethylene, and naphthalene), and dioxins/furans exceeded groundwater screening levels (maximum contaminant levels, RWQCB Environmental Screening Levels, or California Toxics Rule levels).

The most recent groundwater sampling data (from August 2016) indicate the presence of low concentrations of TPH (less than 100 μg/L), concentrations of cis-1,2-DCE up to 6 μg/L and 1,1-DCA up to 9.9 μg/L, and concentrations of metals up to 74 μg/L arsenic, 8.2 μg/L chromium, 3.6 μg/L lead, and 16 μg/L nickel, among other metals.

The remedial alternative chosen for groundwater in the RAP was continued short-term monitoring.

Hazardous Building Materials

Based on the age of the building to be demolished (compressor building), it is likely that there are hazardous building materials present that need to be abated prior to demolition. Hazardous building materials could include asbestos, lead-based paint, PCBs, and mercury.

Land Use Restrictions

According to Sara Michael, the current DTSC remedial project manager for the Southwest Marine Terminal Island project, there are currently no contamination-related land use restrictions in place. The 2016 RAP notes that upon implementation of the proposed remedy (soil remediation and groundwater monitoring), institutional controls will be adopted for the Site. The institutional controls will limit the land use at the Site to commercial or industrial land uses and require that future soil disturbance or removal would require a permit from the Harbor Department. The Harbor Department would require certain soil handling procedures and require agency notification of the proposed work. The institutional controls will also note the requirement to remediate Parcel 3B (north of the Site) in the future.

Adjacent Channel Sediment Data

The proposed project does not involve disturbance of Harbor channel sediment; however, work is proposed for the western edge of the Site. Based on the 2009 Weston Summary of Sediment Quality Conditions in the Port of Los Angeles report, channel sediments in the immediate vicinity of the Site include elevated concentrations (more than 8 times the total maximum daily load numeric target concentration) of copper, lead, mercury, zinc, chlordane, DDT, and phenanthrene.

Contaminated sediments and contaminated dredge material are present in the adjacent dry dock (now a confined disposal facility) located immediately south of the Site.

3.2 Regional Conditions

To assess environmental conditions in the vicinity of the project Site, Dudek reviewed the Geotracker and EnviroStor online databases.

The following sites were identified as being located within a ½-mile radius of the project Site and as having a record of use or release of hazardous chemicals with a potential to impact the Site.

- The Maxum Petroleum Facility is located at 1028 South Seaside Avenue, approximately 150 feet northeast of the Site. This facility operated as a marine fueling station since the 1940s, storing fuel and lubricating oils. In 2012-2013, five former fuel ASTs, a fuel dispenser island, associated piping and containment structures were demolished and removed from the property. Approximately 3,000 tons of petroleum impacted soil were also removed for disposal. Some petroleum impacted soils were left in place to avoid compromising integrity of site structures. Three lubricating oil ASTs have been drained and moved but remain onsite. In 2015, this facility began a venting and sparging plan to promote in-situ bioremediation of petroleum contamination in groundwater, soil, and soil vapor. Based on a 2016 progress report, current levels of diesel range organics in groundwater range from non-detect to 10,000 micrograms per liter (µg/L). Based on the known diesel contamination and close proximity to the Site, this property may have contributed to TPH impacts in groundwater at the Site.
- The Mobil Southwest Terminal is located at 799 Seaside Ave, approximately 625 feet northwest of the Site, separated from the Site by a 400-foot wide slip. This is a 16.2-acre petroleum bulk storage and transfer facility that has been in operation since 1923. Soil and groundwater beneath the Mobil site are contaminated with multiple petroleum and solvent chemicals due to site operations. Remedial activities at the Mobil site include free product removal and placement of sheet pile and slurry wall obstructions to minimize movement of groundwater into the adjacent harbor. From 1996 to 2016 a reported

430,000 gallons of floating hydrocarbon product were removed from groundwater at this site. The case remains open with remediation efforts ongoing. Based on the close proximity to the Site, the high levels of petroleum contamination, and the uncompleted cleanup, it is possible this property has impacted the environmental condition of the Site.

- Terminal Island Prison is located at 1299 Seaside Avenue, approximately 400 feet south-southeast of the Site. In 1995, five USTs were removed from the Prison property with a combined capacity of 41,000 gallons of diesel and 550 gallons of waste oil. Soil and groundwater contamination with gasoline, diesel, benzene, and methyl tertiary-butyl ether (MTBE) was discovered following the tank removals. The Prison has monitored groundwater and attempted to remove free product, however, free product was encountered in one well (MW-3) as recently as 2013. The RWQCB denied a request for site closure in 2014 and no data from 2015 to 2016 was available in the database. Based on the incomplete cleanup, the presence of free product, the close proximity to the Site, and the tidal influence of groundwater movement, it is possible for contamination from this property to have impacted the environmental condition of the Site.

The following sites were identified as being located within a ½-mile radius of the project site and as having a record of use or release of hazardous chemicals but are considered unlikely to have impacted the Site.

- The Former Unocal Marine Station No 0692 is located at Berth 78, Nagoya Way, approximately 0.35 miles west of the Site, on the opposite side of the Main Channel. This facility operated as a marine bulk diesel fuel station for tugboats and fishing vessels from approximately 1950 to 1999. The facility included three diesel USTs, one lube oil UST, and one waste oil UST. By 2000, all five USTs had been removed and petroleum-impacted soil was excavated to the extent practicable including removal of 2,700 tons of impacted soil. Although residual petroleum contamination is likely to exist at this facility and it has the potential to impact the adjacent Main Channel, it is unlikely for it to cross the channel and penetrate into Site soil resulting in significant levels of contamination below the Site. Therefore, it is unlikely that this facility has had a significant impact on the environmental condition of the Site.
- Pan Pacific Fisheries is located at 1000 Seaside Avenue, approximately 150 feet northeast of the Site. This facility had a diesel release to soil for which cleanup was completed in 1990. Based on the completed cleanup at this property, it is unlikely to have had a significant impact on the environmental condition of the Site.
- The GATX Annex Terminal is located at 208 East 22nd Street, approximately 0.4 miles southwest of the Site, on the opposite side of Main Channel. The GATX site operated as a bulk oil storage and transfer facility from 1923 to 1968 and as a bulk liquid chemical

storage and transfer facility from 1968 to 1983 with up to 59 above ground storage tanks (ASTs) used to contain solvents, adhesives, paint additives, coatings, and plasticizers. In 1972, a fire destroyed 17 of the ASTs resulting in substantial releases of chemicals to the ground. From approximately 1987 to 1990, in-situ hot air stripping was used for groundwater remediation. As of 2016, the site remains vacant and groundwater monitoring is ongoing. GATX site use is restricted to commercial/industrial use with no residential or school uses allowed. Groundwater monitoring at the site continues to show concentrations of benzene, carbon disulfide, chlorobenzene, 1,1-dichloroethane, methylene chloride, tetrahydrofuran, 1,4-dioxane, and other VOCs, typically below 300 µg/L. The reported groundwater gradient at this site is typically towards the east-northeast with some variations due to tidal influence. Based on the available groundwater data and site history, it possible that some VOC contamination has migrated off the GATX site and into the adjacent property or the Main Channel. However, it is unlikely for significant contamination to cross the channel and impact the Site. Therefore, it is unlikely that this facility has had a significant impact on the environmental condition of the Site.

- The former Warehouse 12 facility is located at 260 East 22nd Street, approximately 0.3 miles southwest of the Site, across the Main Channel. The Warehouse 12 property lies between the GATX Annex Terminal and the Main Channel. In 1967, this property contained a UST storing Bunker C fuel oil for boiler room operation. When the Warehouse and UST were demolished in 1991 to 1993, petroleum contamination was discovered in the soil and groundwater below. During subsequent subsurface investigations, VOCs were detected at low levels in groundwater. As there is no known source of the detected VOCs on this property, they are believed to have originated from the adjacent GATX Annex Terminal. The extent of VOC contamination is currently under investigation. Presently, the site has been redeveloped into a paved parking lot. Based on the known soil and groundwater contamination at this property, it is likely to have impacted the adjacent Main Channel. However, it is unlikely for significant contamination to cross the channel and impact the Site. Therefore, it is unlikely that this facility has had a significant impact on the environmental condition of the Site.
- The GATX San Pedro Terminal is located on Signal Street, Berths 70 to 71, approximately 0.3 miles southwest of the Site, across the Main Channel. This site was constructed on a man-made peninsula in the late 1800's and in 1916 became Warehouse No. 1 used by the Navy as a submarine base and training camp. Since that time, it has contained tank farms including up to 146 ASTs holding primarily petroleum products but occasionally other chemicals such as benzene, acetone, methyl ethyl ketone, methylene chloride, toluene, sodium hydroxide, PCE, TCE, etc. Multiple releases have been reported and attempts have been made to characterize and remediate site soil and groundwater since 2003. In 2015, a Draft Supplemental Sediment Characterization Work

Plan was submitted to the RWQCB to address sediment contamination in the Main Channel, adjacent to the terminal. Based on the ongoing cleanup status and anticipated sediment contamination, this site appears to have impacted sediments within the Main Channel. However, it is unlikely for significant contamination to cross the channel and penetrate into Site soil resulting in significant levels of contamination below the Site. Therefore, it is unlikely that this facility has had a significant impact on the environmental condition of the Site.

- The Hy "C" Tane facility is located at 2300 Signal Street, approximately 0.33 miles southwest of the Site, across the Main Channel. This site operated as a petroleum bulk fuel storage facility beginning in 1950. Soil and groundwater contamination was encountered in 1994 and compounded by an accidental 3,000-gallon diesel release to site soil later that year. Efforts to extract free product and monitor groundwater are ongoing at this site. Based on the available data, this site has likely impacted the environmental condition of the Main Channel. However, it is unlikely for significant contamination to cross the channel and impact the Site. Therefore, it is unlikely that this facility has had a significant impact on the environmental condition of the Site.
- The former Pazco Facility is located at 991 Barracuda Street, approximately 0.43 miles northeast of the Site. This facility reported a gasoline release from a UST during a tank removal project in 2002. Based on the low levels of contamination and absence of MTBE, the release was allowed to naturally attenuate. After 14 years of attenuation, soil sampling, and groundwater monitoring, the RWQCB determined the cleanup was complete and issued a No Further Action Determination. Based on the completed cleanup status of this facility and distance from the Site, it is not likely to have affected the environmental condition of the Site.
- BP Oil Company site is located at 100 South Seaside Ave, approximately 0.34 miles north of the Site. The records indicate this site completed a cleanup in 1999 and that the site has obtained closure. No details about the release, cleanup, or soil and groundwater conditions were available. Based on the completed cleanup status of this site, it is unlikely to have had a significant impact on the environmental condition of the Site.
- The Canners steam-generating facility (Canners) is located at 249 Cannery Street, approximately 0.44 miles north-northeast of the Site. It is on the opposite side of Fish Harbor and about 0.1 miles inland from the harbor edge. Canners was built in 1951 and had four boilers, a UST, and two 120,000-gallon fuel ASTs. Soil and groundwater at Canners was contaminated with fuel, oil, and VOCs. In 2008, Canners began a remediation project including removal and disposal of contaminated soil and application of Oxygen Release Compound (ORC®) to the excavation floor to facilitate oxidation of remaining contamination. Canners later conducted groundwater extraction and ORC®

injection to further treat site groundwater, and continues to monitor groundwater conditions. According to the 2015 annual groundwater report, oil and gasoline-range TPH, BTEX, and MTBE were not detected in the 15 wells sampled. Diesel-range TPH was detected in 5 of the 10 samples with a maximum concentration of 13,000 µg/L. Based on the location of Canners relative to the Site, the extensive cleanup efforts, and the most recent groundwater data, the Canners property does not appear to have had a significant impact on the environmental condition of the Site.

3.3 Existing Conditions Summary

3.3.1 Site History

The Site was used for ship building and/or ship repair from 1918 until 2006. The Site has since sat vacant, with occasional uses as a filming location.

3.3.2 Potential On-Site Use or Release of Hazardous Chemicals

Based on the extensive investigations conducted to date, elevated concentrations of metals, PCBs, and TPH have been found throughout the Site. Much of the soil with the highest PCB concentrations has been removed; however, another extensive excavation (15,200 tons) is planned to further remove metals, PCB, and TPH impacts in soil. This further excavation will be completed prior to the start of the proposed project. Groundwater impacts on-Site appear to be contained on-Site due to the presence of a seawall on the western side of the Site (The Source Group 2016a). The chosen remedy for groundwater, which contains TPH, metals, and a few slightly elevated concentrations of VOCs (less than 10 µg/L), is continued monitoring for two years after the soil removal.

3.3.3 Regional Groundwater Contamination

The Site is located on Terminal Island, which is developed with industrial uses. Three near-by sites, along with several across the Main Channel, have impacted groundwater with petroleum and VOCs. Petroleum releases from the three near-by sites (Maxum Petroleum, Mobil Southwest, and the Terminal Island Prison) may have impacted the Site groundwater. However, extensive sampling has been conducted at the Site and active groundwater remediation has been deemed unnecessary at this time (The Source Group 2016a).

4 PROPOSED PROJECT

The proposed Project consists of constructing a facility to manufacture transportation vessels, at Berth 240 on Terminal Island off S. Seaside Avenue. The Site is the former Southwest Marine shipyard that is currently vacant. This facility is intended to be a state of the art Research and Development center serving to prototype new ideas and technologies needed to advance specialized transportation vessels.

The proposed Project site is approximately 10 acres (of the larger 18 acre Site) and already disturbed with approximately one third (four acres) paved. Construction activities would consist of site preparation, access improvements, foundations for the building and ancillary tank farm, utility hooks ups and prefabricated building construction, paving, landscaping and wharf surface repairs. Construction would last approximately 16-18 months, operating between 7:00 a.m. and 7:00 p.m. There is no anticipated work to be performed on or over the water, any necessary repair to the existing dock at the facility would be minor and to surface areas atop the wharf, not directly in or over the water. The proposed Project would construct an approximately 203,450 square feet prefabricated building that would be approximately 90 feet tall. Approximately 10,000 cubic yards of soil would be stockpiled and/or exported.

The proposed Project consists of constructing a facility to manufacture transportation vessels, intended to be a state of the art Research and Development center serving to prototype new ideas and technologies needed to advance modern space travel. The proposed facility would be on an approximately 10-acre site, and would involve development and manufacture of prototypes and first generation vessels. The facility would also establish the development processes prior to implementing production on a larger scale, which would not be accommodated in the proposed facility.

Most materials necessary for manufacturing would be delivered via truck and approximately 10 truck trips per day would be expected with deliveries. For oversized components, deliveries would be via barge delivering directly to the new facility from Seattle. It is anticipated that there would be an average of one delivery by barge per month, with peak periods of a vessels manufacturing necessitating up to three deliveries by barge. Finished products would be transported by water for either testing or delivery, which necessitates location of the facility within the Port's complex. A barge would depart for transportation of products for testing or delivery up to three times a month. In addition, existing operations currently taking place within the port would be relocated to this location. These operations are included within the projected barge transportation of three times per month.

A single large building would house and ensure correct conditions for each step of the manufacturing process are maintained. The structure would be approximately 167,500 square-feet in area and up to 90 feet tall. The production would likely include general manufacturing procedures such as welding, composite curing, cleaning, sand blasting, painting, and assembly operations. Operational emissions would primarily be fugitive volatile organic compound (VOC) emissions related to solvent cleaning. Additional emissions would come from South Coast Air Quality Management District (SCAQMD) permitted sources such as ovens and paint booths. These sources would have relatively low VOC emissions and meet SCAQMD Best Available Control Technology (BACT) requirements. The majority of operations would take place inside the facility, with exterior operations limited to transit vehicles, forklift traffic, and mobilization of manufactured products onto barge at the dockside. The existing Compressor Building, currently located in this area, would need to be demolished as part of the proposed project.

The proposed Project would include up to 4 tanks (approximately 12,000 gallons each, or equivalent) as part of an ancillary tank farm to store materials needed for the manufacturing process that will be used and maintained in accordance with applicable regulations (NFPA). The tanks will store liquid argon, nitrogen, and helium, and possibly liquid oxygen.

The proposed Project would also include an unknown number of 55 gallon drums of fuels and oils, storage of solvents in containers smaller than 55 gallons, and the possible use of a 200 gallon diesel aboveground storage tank.

4.1 Significance Thresholds

The following are used as criteria for determining the significance of an impact. The project is considered to have a significant impact if it would do one or more of the following:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (see Sections 4.2.1–4.2.3 and 4.2.5).
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (see Sections 4.2.1–4.2.4).
- Create a significant hazard to the public or the environment from existing hazardous materials contamination by exposing future occupants or users of the site to contamination (see Section 4.2.4).
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment (see Section 4.2.3).

4.2 Findings

4.2.1 Potential Concerns During Construction

A variety of hazardous substances and wastes would be stored, used, and generated on the project Site during construction of the proposed project. These would include fuels for machinery and vehicles, new and used motor oils, cleaning solvents, paints, and storage containers and applicators containing such materials. Accidental spills, leaks, fires, explosions or pressure releases involving hazardous materials represent a potential threat to human health and the environment if not properly treated. Accident prevention and containment are the responsibility of the construction contractors, and provisions to properly manage hazardous substances and wastes are typically included in construction specifications. The developer will monitor all contractors for compliance with applicable regulations, including regulations regarding hazardous materials and hazardous wastes, including disposal. Adherence to the construction specifications and applicable regulations regarding hazardous materials and hazardous waste, including disposal, would ensure that construction of the proposed project would not create a significant hazard to the public or the environment.

Hazardous materials shall not be disposed of or released onto the ground, the underlying groundwater, or any surface water. Totally enclosed containment shall be provided for all trash. All construction waste, including trash and litter, garbage, other solid waste, petroleum products and other potentially hazardous materials, shall be removed to a waste facility permitted to treat, store, or dispose of such materials.

A Site Mitigation Plan (SMP) should be developed and followed during construction activities. The SMP will outline strategies for managing contaminated soil and possible groundwater encountered during project construction and will discuss:

- Results of previous environmental investigations at the Site
- Anticipated COCs and levels of contamination to be encountered
- Development plans
- Likely disposal fate of excavated material based on excavation plan and contaminants of concern (COCs) identified, if any
- Dewatering contingency options
- Stormwater management options
- Regulatory considerations
- Planned procedures, notifications and mitigation measures

Copies of the SMP should be maintained on-Site during demolition, excavation and construction of the proposed project. All workers on the project Site should be familiarized with the document.

A hazardous substance management, handling, storage, disposal, and emergency response plan shall be prepared and implemented, or included in the SMP. Hazardous materials spill kits shall be maintained on-Site for small spills.

4.2.2 Potential Concerns During Demolition

While Dudek did not review a Hazardous Building Materials Survey for the compressor building, which will be demolished, Dudek assumes that hazardous building materials (asbestos, lead-based paint, and possibly PCBs and mercury) are present. The hazardous building materials will need to be properly managed prior to and during demolition of the building.

If not already conducted, a survey for asbestos-containing materials (ACM) and lead-based paint is required prior to building demolition.

If asbestos is identified, a scope of work for asbestos abatement and guidelines for proper asbestos removal should be prepared following local, state and federal regulations for any necessary removal of asbestos. Monitoring during abatement should be conducted to ensure regulatory compliance. Following asbestos abatement and removal, a final visual inspection and clearance air monitoring should be performed to certify that industry clearance standards are met.

Any demolition activities likely to disturb lead-based paint/coatings should be carried out by a contractor trained and qualified to conduct lead-related construction work. Lead-based paint abatement shall include removal of any lead hazard, which according to Title 17 of the California Code of Regulations, includes both deteriorated lead-based paint and lead-contaminated soil (soil contaminated with lead paint chips). The California OSHA lead standard for construction activities is implemented under Title 8 of the California Code of Regulations. The standard applies to any construction activity that may release lead dust or fumes, including manual scraping, manual sanding, heat gun applications, power tool cleaning, rivet busting, abrasive blasting, welding, cutting, or torch burning of lead-based coatings. ACM and lead paint/coatings must be disposed of properly. Every contractor/employer who performs work at project Site will need to assess California Division of Occupational Safety and Health (Cal/OSHA) worker protection rules, California Department of Public Health (CDPH) certification requirements, US EPA standards and state and federal disposal requirements.

In addition to asbestos and lead-related precautions, a qualified environmental specialist shall inspect the Site buildings for the presence of polychlorinated biphenyls (PCBs), mercury, and other hazardous building materials prior to demolition. If found, these materials shall be managed in accordance with the Metallic Discards Act and other state and federal guidelines and regulations. Demolition plans and contract specifications shall incorporate any necessary abatement measures in compliance with the Metallic Discards Act of 1991 (Public Resource Sections 42160-42185), particularly Section 42175, Materials Requiring Special Handling for the removal of mercury switches, PCB-containing ballasts, and refrigerants.

Additionally, under California law, fluorescent lamps cannot be disposed of as municipal waste. Fluorescent tubes and bulbs may be managed as universal wastes under Title 22, Chapter 23 of the California Code of Regulations and are typically recycled.

4.2.3 Potential Concerns During Excavation

Various releases on the Site have resulted in impacted soil and groundwater at the Site. The Site is included in the list of sites compiled pursuant to Government Code Section 65962.5 (due to both the Envirostor [Hazardous Waste and Substances Sites] and Geotracker [Leaking Underground Storage Tank] listings). The impacts are discussed in detail in Sections 3.1.1 and 3.1.2.

According to Applicant's personnel, excavation associated with the proposed project will start after completion of the removal action outlined in the 2016 RAP (pers. com. Kyle Meade, 2016). However, as shown on Figures 4A and 4B, it appears that a few areas of metals-impacted soils (and a couple areas of TPH- or PCB-impacted soils) will still be present in the shallow Site soils.

Therefore, impacted soils may still be encountered during excavation. Special handling and disposal of the excavated/graded soil will be required, as will be discussed in the SMP. The SMP discussed in Section 4.2.1 shall be adhered to during all excavation activities.

Although the Site construction will be conducted after the remedial action, DTSC should still be informed of the proposed project activities. This notification can be accomplished through coordination with the Port Environmental Management Division. Additionally, in accordance with the future institutional controls noted in the 2016 RAP, a permit from the Harbor Department will be required for the proposed Site excavations. The Harbor Department would require certain soil handling procedures and require agency notification of the proposed work.

Based on the proposed project description, it is possible that groundwater will be encountered during construction activities (during excavation for building footings). Therefore, the SMP should include provisions for managing groundwater during excavation.

4.2.4 Potential Concerns During Operation

Federal, state and local regulations control the transportation, use, storage, generation and disposal of hazardous materials to minimize potential health and environmental hazards that could occur through accidental spills or leakage. The Los Angeles Fire Department regulates storage of chemicals through its Business Emergency Plan (BEP) program. As the quantity of hazardous materials to be stored at the Site will be greater than 55 gallons, a BEP will be required for the proposed project.

Additionally, if fuel and oil storage exceeds 1,320 gallons, then a Spill Prevention, Control, and Countermeasure plan will be required per the Code of Federal Regulations Title 40 Part 112.

4.2.5 Potential Concerns During Delivery

The chemicals stored on the Site during the project operation would be transported to the Site via trucks. The main chemicals to be stored on-Site are liquid argon, helium, and nitrogen, and possibly liquid oxygen. These chemicals are classified as oxidizing and inert gases (hazard class 2.2 and 5.1). The travel route for delivery from Highway 710 to the Site is via the Seaside Freeway (Highway 47; approximately 3 miles) and then Terminal Way and Seaside Avenue (2 miles). This route is in an entirely industrial area.

According to the report, “Comparative Risks of Hazardous and Non-Hazardous Materials Truck Shipment Accidents/Incidents,” (Battelle 2001), the hazardous materials transport accident/incident risk per mile is estimated at 0.507 in a million for all types of hazardous materials, including leak en route incidents. The hazardous materials transport accident/incident risk per mile specific to hazard class 2.2 (inert gases) is 0.144 in a million. The route from the Highway 47 to the subject property is approximately 2 miles each way, thus the probability of hazardous material incident occurring on this route is 0.288 in a million for each delivery based on hazard class 2.2 or 1.1 in a million based on hazard class 5.1.

The majority of the liquefied gas to be stored on-Site is hazard class 2.2, which indicates a low risk of hazardous material incident during transport. Additionally, as the travel route is in an entirely industrial area, it is considered *de minimus* and is not a potential impact.

Transportation of hazardous materials will comply with all DOT, California Department of Transportation (Caltrans), US EPA, DTSC, California Highway Patrol, and California State Fire Marshal regulations.

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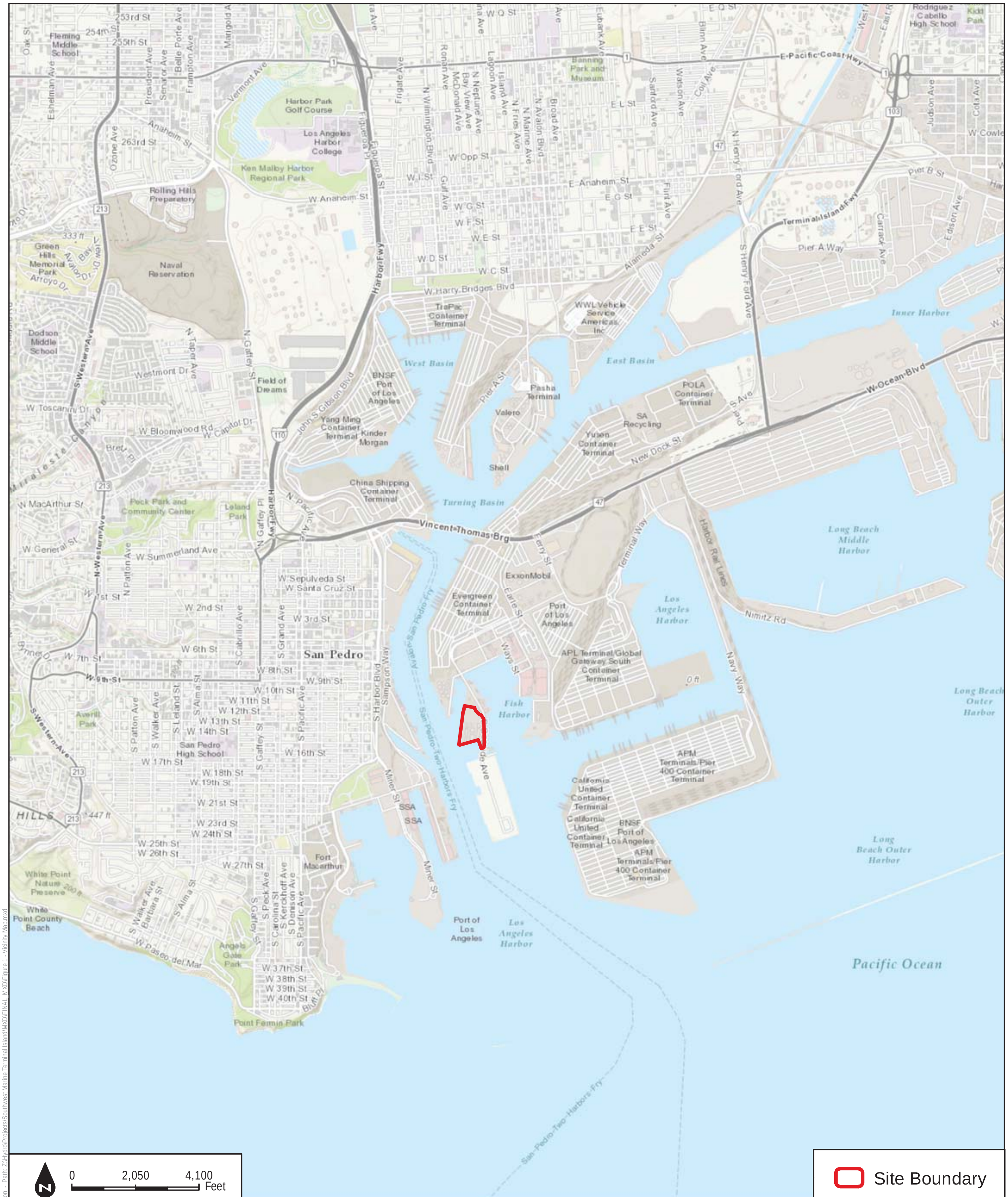

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Site Boundary

Date: 3/16/2017 - Last saved by: kblackmon - Path: Z:\Hydro\Projects\Southwest Marine Terminal Island\MXD\FINAL_MXD\Figure 1 - Vicinity Map.mxd

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SOURCE: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

FIGURE 1
Vicinity Map

Southwest Marine Terminal Island

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SOURCE: Sourcing Information

FIGURE 2

Site Map and Proposed Project

Southwest Marine Terminal Island

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SOURCE: Bing Maps

FIGURE 3

Site Area

Southwest Marine Terminal Island

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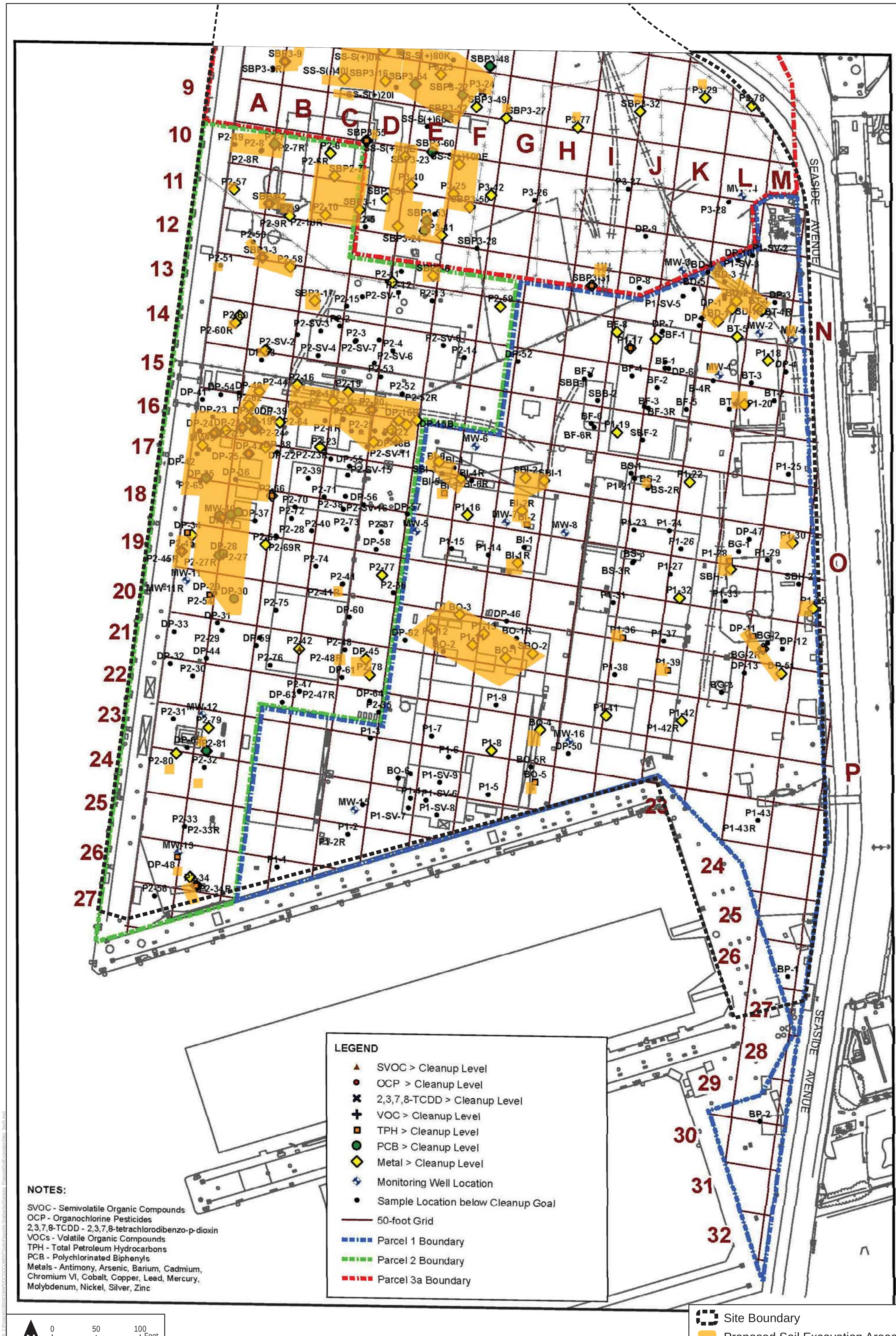

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SOURCE: The Sirce Group, Inc., 2016; Mulder Katkov Architecture 2017

FIGURE 4A

Shallow Soil Samples Exceeding Cleanup Goals and Proposed Soil Excavation Sites - South

Southwest Marine Terminal Island

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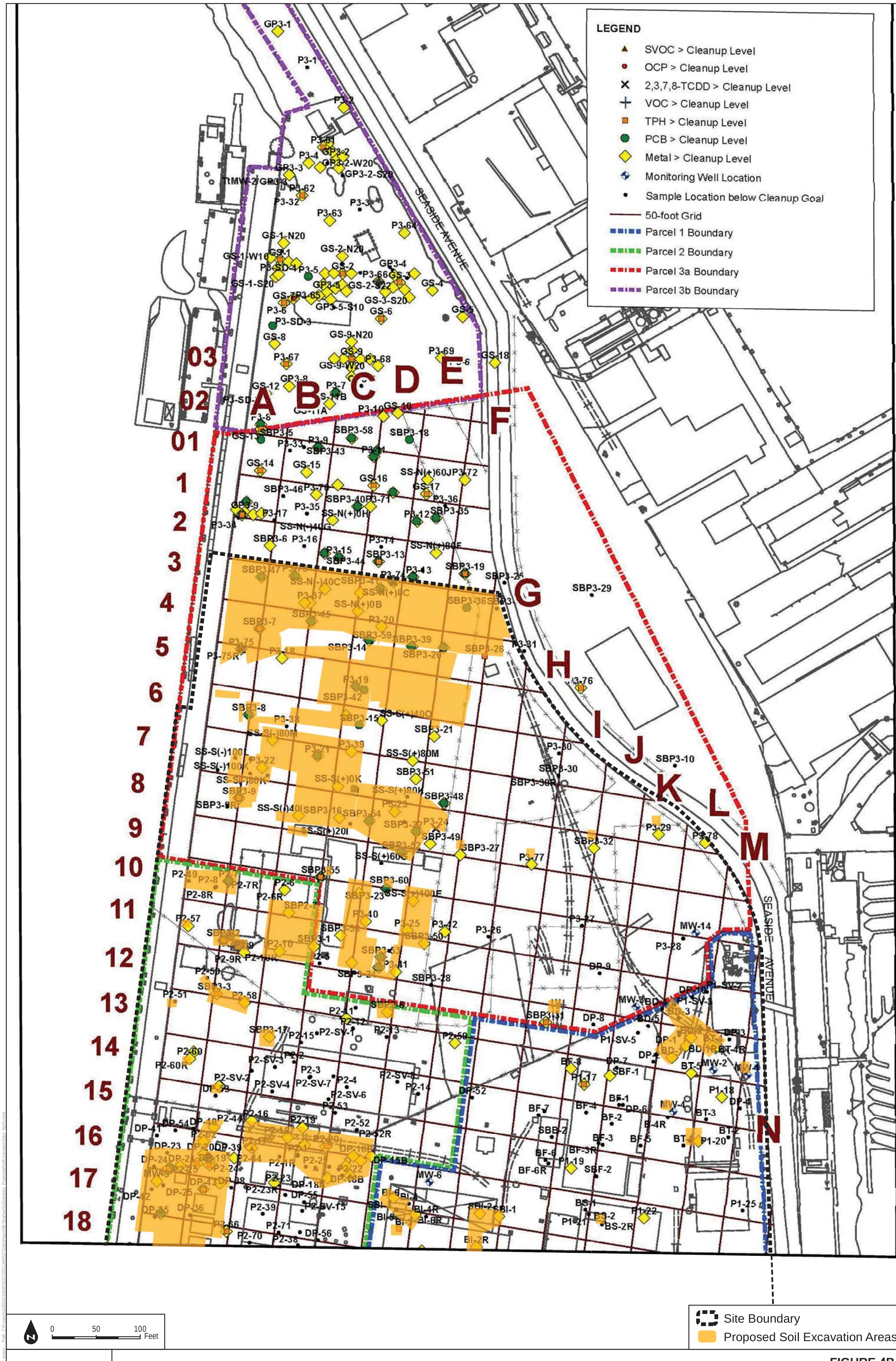

SOURCE: The Sirurce Group, Inc., 2016; Mulder Katkov Architecture 2017

FIGURE 4B

Shallow Soil Samples Exceeding Cleanup Goals and Proposed Soil Excavation Sites - North

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Southwest Marine Terminal Island

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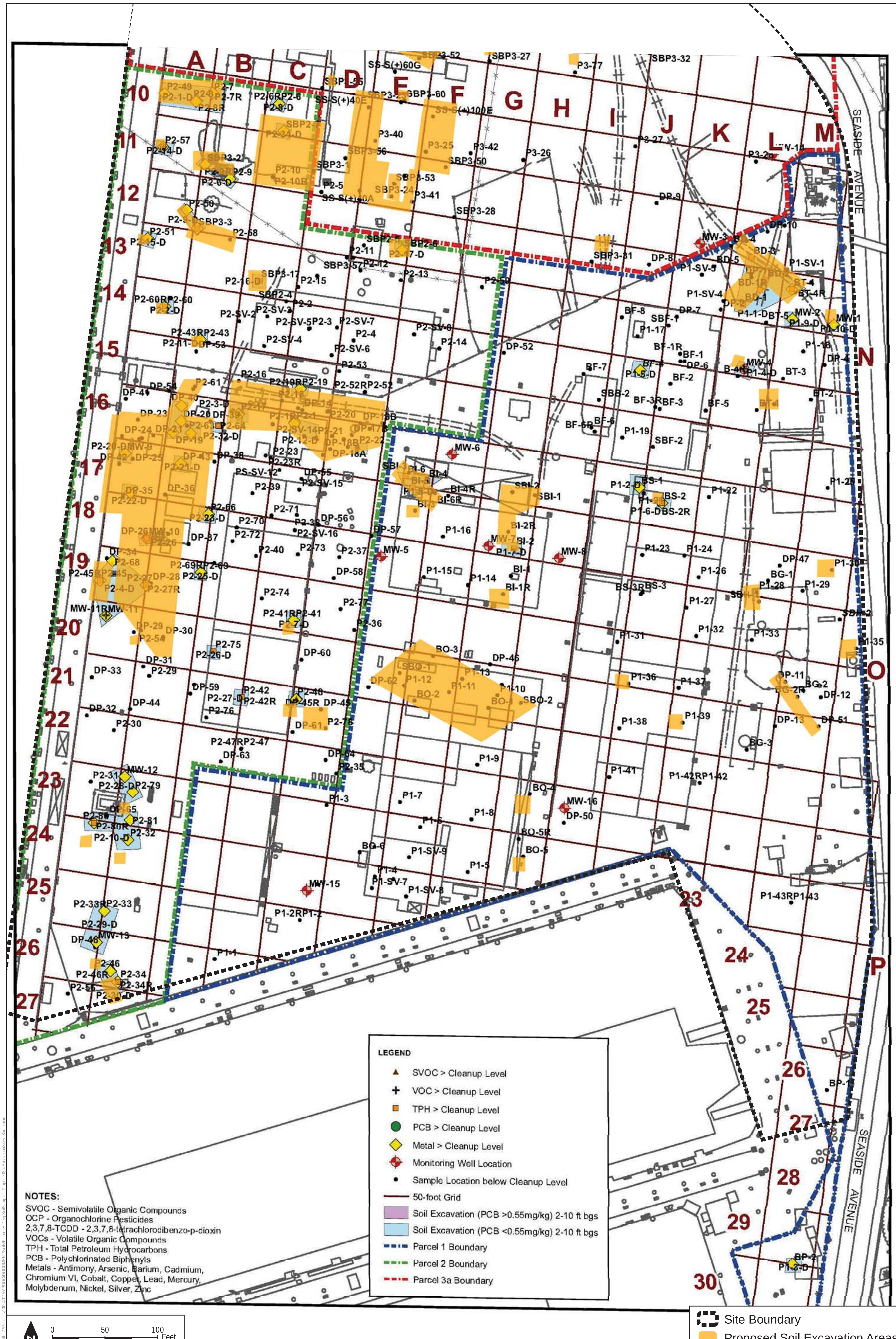

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SOURCE: The Sirce Group, Inc., 2016; Mulder Katkov Architecture 2017

FIGURE 5A

Deep Soil Samples Exceeding Cleanup Goals and Proposed Soil Excavation Sites - South

Southwest Marine Terminal Island

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APPENDIX D
Traffic Technical Memorandum

213.488.0345
iteris.com
801 South Grand Avenue, Suite 530
Los Angeles, CA 90017

TECHNICAL MEMORANDUM

To:	Matthew Valerio, Dudek	**From:**	Sean Daly, Iteris, Inc.
Date:	September 26, 2017		
RE:	Berth 240 Traffic Analysis		

This memorandum is intended to provide California Environmental Quality Act (CEQA) traffic analysis for the proposed construction of a facility to manufacture transportation vessels. The proposed project is located at Berth 240 on Terminal Island off South Seaside Avenue and is adjacent to the former Southwest Marine shipyard that is currently vacant. This memorandum describes the existing ground transportation within the Port and surrounding area, and addresses the reasonably foreseeable and potentially significant adverse impacts that could result from implementation of the Project. The ground transportation analysis is how the Project is forecasted to impact key locations in the roadway system. The site will generate truck and employee trips to the project site, thereby potentially increasing vehicle trips on area roadways.

Environmental Setting

The Project site is located on Terminal Island, within an industrial area of the Port of Los Angeles. The site is within the Port of Los Angeles Community Plan area in the City of Los Angeles, which is adjacent to the communities of San Pedro and Wilmington, and approximately 20 miles south of downtown Los Angeles. South Seaside Avenue is located immediately north and east of the proposed Project site. Fish Harbor is located further eastward of the proposed Project. South of the proposed Project site lies the former Southwest Marine shipyard, and beyond that a US Coast Guard facility. The Port's Main Channel is located west of the proposed Project site, across from which is Ports o' Call. The Project site can be accessed from a driveway along South Seaside Avenue.

A network of freeways and arterial routes provides regional access to the Project site. The freeway network consists of the Terminal Island Freeway (SR-47/SR-103) which is also called Seaside Freeway, and the north-south freeways: the Harbor Freeway (I-110) to the west and the Long Beach Freeway (I-710) to the east. The closest highway interchanges serving the Project site are the Seaside Freeway (SR-47) Westbound Ramps and Ferry Street intersection and the Seaside Freeway (SR-47) and Navy Way intersection.

The arterial street network that serves the Project area includes South Seaside Avenue, Ferry Street, Terminal Way, Earle Street, Cannery Street, and Navy Way. The following is a description of Project area roadways.

Seaside/Terminal Island Freeway (SR-47) is a four- to six-lane street that bisects Terminal Island and connects San Pedro to Long Beach via the Vincent Thomas and Gerald Desmond bridges.

Ocean Boulevard, a six-lane street, is designated as SR-710 between I-710 and the Terminal Island Freeway. Seaside Freeway is designated SR-47 between I-110 and the Terminal Island Freeway.

South Seaside Avenue is four-lane road south of Terminal Way and a two-lane road south of Wharf Street. S. Seaside Avenue is unclassified in the Port of Los Angeles Community Plan.

Ferry Street is a four-lane street between the SR-47 Westbound Ramps and Terminal Way. North of the SR-47 Westbound Ramps Ferry Street turns east-west and has two westbound lanes and one eastbound lane to the SR-47 Eastbound Ramps. It is classified as a secondary street in the Port of Los Angeles Community Plan.

Terminal Way is a four-lane street between South Seaside Avenue and Ferry Street, where it turns as a four-lane street to Navy Way. Terminal Way is unclassified in the Port of Los Angeles Community Plan.

Earle Street is a four-lane roadway between Pilchard Street and Marina Street. Earle Street is unclassified in the Port of Los Angeles Community Plan.

Cannery Street is a two-lane roadway between Terminal Way and South Seaside Avenue. Cannery Street is unclassified in the Port of Los Angeles Community Plan.

Navy Way is an internal Port roadway that provides local access to Pier 300 and Pier 400 from Seaside Freeway/Ocean Boulevard and the Terminal Island Freeway (SR-47/SR-103). Navy Way is generally a four-lane north-south roadway, although south of the Terminal Way intersection, the southbound lanes turn into a single lane until the Seaside Way/Ocean Boulevard westbound off-ramp merges to form two southbound lanes. Navy Way is unclassified in the Port of Los Angeles Community Plan.

Traffic Analysis Methodology

Traffic analysis was conducted by forecasting the vehicle trips associated with the operations of the proposed Project on the following study area intersection and freeway locations:

Study intersection locations:

- Navy Way at SR-47 (Terminal Island Freeway)/Seaside Freeway
- Ferry Street at SR-47 (Terminal Island Freeway)/Seaside Freeway Ramps
- Ferry Street at Terminal Way
- Earle Street at Terminal Way

Study freeway locations:

- SR-47 - Vincent Thomas Bridge
- SR-47/SR-103 - Commodore Schuyler Heim Bridge
- I-110 - South of C Street (CMP monitoring station—south of C Street)
- I-710 - North of PCH (CMP monitoring station—north of the junction of SR-1 [PCH], Willow Street)
- I-710 - North of I-405 (CMP monitoring station—north of the junction of I-405, south of Del Amo)
- I-405 - Between I-110 and I-710 (CMP monitoring station—Santa Fe Avenue)
- SR-91 - West of I-710 (CMP monitoring station—east of Alameda Street/Santa Fe Avenue interchange)

Level of service (LOS) is a qualitative indication of an intersection's operating conditions as represented by the volume to capacity (V/C) ratio traffic congestion. For intersections, it is measured from LOS A (excellent conditions) to LOS F (very poor conditions), with LOS D (V/C of less than 0.900, fair conditions, for signalized intersections; delay of less than 35.0 seconds, fair conditions, for unsignalized intersections) typically considered to be the threshold of acceptability. The relationship between V/C ratio and LOS for signalized intersections is shown in **Table 1**.

Table 1: Intersection Level of Service Definitions

Signalized Intersections (V/C Ratio)	LOS	Traffic Conditions
0 to 0.600	A	Excellent. Little or no delay/congestion. No vehicle waits longer than one red light, and no approach phase is fully used.
>0.601 to 0.700	B	Very Good. Slight congestion/delay. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
>0.701 to 0.800	C	Good. Moderate delay/congestion. Occasionally, drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
>0.801 to 0.900	D	Fair. Significant delay/congestion. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
>0.901 to 1.000	E	Poor. Extreme congestion/delay. Represents the most vehicles that the intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
> 1.000	F	Failure. Intersection failure/gridlock. Backups from nearby locations or cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.

Intersection levels of service were assessed using the LADOT Critical Movement Analysis (CMA) method as published in the *Los Angeles Department of Transportation Traffic Study Policies and Procedures* (LADOT, 2013). For signalized intersections, LOS values were determined by using CMA methodology contained in *the Transportation Research Board's Circular No. 212 – Interim Materials on Highway Capacity* (TRB, 1980).

In the City of Los Angeles, Project operations would have a significant impact under CEQA on transportation/circulation if it increases an intersection's V/C ratio in accordance with the following guidelines:

- V/C ratio increase greater than or equal to 0.04 if final LOS is C;
- V/C ratio increase greater than or equal to 0.02 if final LOS is D; or
- V/C ratio increase greater than or equal to 0.01 if final LOS is E or F.

For this analysis, it is assumed that trucks use more roadway capacity than automobiles because of their size, weight, and acceleration capabilities when compared to autos. The concept of passenger car equivalent (PCE)[1] is used in the study to adjust for the effect of trucks in the traffic stream. A PCE factor of 1.1 was applied to tractors (bobtails), and a PCE factor of 2.0 was applied to chassis and to the container truck volumes for the LOS calculations. This means tractors are calculated as using 10 percent more roadway capacity than autos, and chassis and container trucks are calculated as using 100 percent more roadway capacity than autos. These factors are consistent with factors applied in previous port studies, including the *Draft Port of Los Angeles Baseline Transportation Study (Baseline Transportation Study)* (POLA, 2004). They are also consistent with subsequent work conducted for various environmental studies in the Port area.

Many of the methodologies employed in this CEQA technical traffic analysis are based on, and consistent with, the methodologies developed for the *Baseline Transportation Study*. This includes a computerized traffic analysis tool called the PortTAM Model, the trip generation methodology, and the intersection analysis methodologies. However, the *Baseline Transportation Study* was not conducted specifically for this Project, and the precise assumptions and figures used in preparation of this analysis are Project-specific. The PortTAM Model was updated to integrate with the Southern California Association of Governments (SCAG) 2012-2035 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) model and was used to develop non-project traffic volume for the Future Year 2019, 2027, and 2037 analysis.

In accordance with the California Department of Transportation's (Caltrans') "Guide for the Preparation of Traffic Impact Studies" (Caltrans, 2002), several freeway mainline segments were analyzed for potential impacts. The locations analyzed were over and above those prescribed by the Metro CMP Traffic Impact Analysis (TIA) Guidelines, which are as follows:

[1] PCE is defined as the amount of capacity in terms of passenger cars used by a single heavy vehicle of a particular type under specified roadway, traffic, and control conditions.

- CMP arterial monitoring intersections, including freeway on-ramp or off-ramp, where the proposed Project would add 50 or more trips to the intersection during either the A.M. or P.M. weekday peak hours. (none located in the study area)

- CMP freeway monitoring locations where the proposed Project would add 150 or more trips, in either direction, during either the A.M. or P.M. weekday peak hours.

Pursuant to Caltrans' traffic study requirements, freeway roadway segments were also analyzed using the operational analysis methodology provided in the Highway Capacity Manual (2010 HCM). For those locations projected to be operating at LOS F, the freeway segments were also analyzed in compliance with the County of Los Angeles CMP (Metro, 2010) to utilize D/C ratio to determine LOS.

The 2010 HCM is a fundamental reference document that incorporates the latest research on highway capacity and quality of service. The 2010 HCM uses density (in passenger cars per mile per lane) to define LOS. The relationship between density and LOS for freeway segments is shown **Table 2**.

Table 2: Freeway HCM Level of Service Criteria

Freeway Level of Service (LOS)	Density in passenger cars/mile/lane
A	< = 11
B	> 11–18
C	> 18–26
D	> 26–35
E	> 35–45
F	> 45

Source: TRB, 2010

Existing Area Traffic Conditions

Existing truck and automobile traffic along study roadways and intersections, including automobiles, Port trucks, and other truck and regional traffic not related to the Port, was determined by collecting vehicle turning movement counts classified by vehicle type at the study locations. These weekday A.M. (7:00 to 9:00 A.M.) and P.M. (4:00 to 6:00 P.M.) traffic counts were collected in February of 2015 at the five study area intersections with the resulting intersection levels of service shown in **Table 3**.

Table 3: CEQA Baseline Intersection Level of Service

Int. #	Analysis Intersection	CEQA Baseline			
		A.M.		P.M.	
		LOS	V/C	LOS	V/C
1	Navy Way at SR-47	A	0.433	B	0.606

2	Ferry Street at SR-47 Ramps	A	0.409	A	0.551
3	Ferry Street at Terminal Way	A	0.351	A	0.311
4	Earle Street at Terminal Way	A	0.195	A	0.254

*V/C = volume to capacity ratio

The baseline volumes at the CMP monitoring stations and other freeway segments in the study area were obtained from Caltrans traffic counts of average daily traffic and peak hour. The baseline freeway volumes, density, and LOS are shown in **Table 4**.

Table 4: CEQA Baseline Freeway Level of Service

Freeway	Location	Northbound / Westbound						Southbound / Eastbound					
		A.M. Peak Hour			P.M. Peak Hour			A.M. Peak Hour			P.M. Peak Hour		
		Demand or Volume	Density (pc/mi/ln)	LOS	Demand or Volume	Density (pc/mi/ln)	LOS	Demand or Volume	Density (pc/mi/ln)	LOS	Demand or Volume	Density (pc/mi/ln)	LOS
SR-47	At Vincent Thomas Bridge	1,876	17.9	B	2,764	26.5	D	2,235	21.4	C	2,759	26.4	D
SR-47/SR-103	At Commodore Schuyler Heim Bridge	1,119	7.1	A	1,173	7.5	A	922	5.9	A	997	6.4	A
I-110 [1]	South of C Street	3,771	15.3	B	4,678	18.9	C	5,096	20.6	C	3,302	13.4	B
I-710 [1]	North of PCH	6,442	45.4	**F**	5,819	38.1	E	6,545	46.9	**F**	5,659	36.7	E
I-710 [1]	North of I-405	7,998	39.9	E	6,785	32.5	D	7,617	37.1	E	7,526	36.6	E
I-405 [1]	Between I-110 and I-710	6,587	21.3	C	10,127	37.1	E	9,895	35.7	E	8,669	29.2	D
SR-91 [1]	West of I-710	6,619	17.9	B	7,780	21.0	C	8,384	22.7	C	6,032	16.3	B

Note: Freeway operation conditions based on the methodology in the 2010 HCM where level of service is based on density (passenger car per mile per lane [pc/mi/ln]).

[1] CMP location

BOLD = LOS F

Future Area Traffic Conditions

Cumulative analysis for Future Year 2027, Future Year 2037 and Future Year 2047 are shown in **Tables 7** to **9**. As

Many of the methodologies employed in this CEQA technical traffic analysis are based on, and consistent with, the methodologies developed for the *Baseline Transportation Study*. This includes a computerized traffic analysis tool called the PortTAM Model, the trip generation methodology, and the intersection analysis methodologies. However, the *Baseline Transportation Study* was not conducted specifically for this Project, and the precise assumptions and figures used in preparation of this analysis are Project-specific. The PortTAM Model was updated to integrate with the Southern California Association of Governments (SCAG) 2012-2035 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) model and was used to develop non-project traffic volume for the Future Year 2027, 2037, and 2047 analysis.

Navy Way/Seaside Freeway Interchange: Construction of a new flyover connector from northbound Navy Way to Westbound Seaside Freeway would eliminate the need for a traffic signal at this location. The flyover improvement would provide direct ramp connections for existing left-turn movements, thereby eliminating conflicts between left-turn and through traffic that normally occurs at a traditional intersection. The Project analysis assumes that this new connector will be completed after 2030.

Significance Determination

A project in the Port is considered to have a significant transportation/circulation impact if the project would result in one or more of the following occurrences. These criteria are based on the *L.A. CEQA Thresholds Guide* (City of Los Angeles, 2006) and other criteria applied to Port projects, and are used as the basis for determining the impacts of the Project under CEQA.

Would the Project construction result in a short-term temporary increase in truck and auto traffic?

The proposed Project site is approximately 10 acres and already disturbed with approximately one third (four acres) paved. Construction activities would consist of site preparation, access improvements, foundations for building and ancillary tank farm, utility hooks ups and prefabricated building construction, paving, landscaping and wharf surface repairs. Construction would last approximately 16-18 months, operating between 7:00 a.m. and 7:00 p.m. There is no anticipated work to be performed on or over the water, any necessary repair to the existing dock at the facility would be minor and to surface areas atop the wharf, not directly in or over the water. The proposed Project would construct an approximately 203,450 square feet prefabricated building that would be approximately 90 feet tall. Approximately 10,000 cubic yards of soil would be stockpiled and/or exported.

Since the construction will occur from 7:00 a.m. and 7:00 p.m., trips to and from the site by construction workers will occur before and after peak hours of travel. Truck trips and deliveries will occur at a frequency of less than 25 passenger car equivalent (PCE) trips (truck trips are 2.0 PCEs). Since the construction trips would occur throughout the day, the level of construction trips occurring in the peak hours is negligible and would not meet the LADOT minimum threshold of intersection analysis—25 trips in a peak hour.

Would the long-term vehicular traffic associated with the Project significantly impact at least one study location's volume/capacity ratios or level of service?

The proposed Project consists of constructing a facility to manufacture transportation vessels, operations would include up to 750 workers daily, working in shifts with up to 500 workers at a time (two shifts would be 9 A.M. – 5 P.M. and 5 P.M. – 10 P.M.) to develop and manufacture proto-type and first generation vessels. Workers would be from the local greater Los Angeles area workforce with commuting distances expected to average approximately 20 miles. Up to 50 customers or visitors daily are anticipated. Most materials necessary for manufacturing would be delivered via truck and approximately ten truck trips per day would be expected with deliveries.

A total of 438 parking spaces would be provided within the lease area including areas adjacent to adjacent vacant lease around the former Southwest Marine shipyard buildings. There is one existing access point from S. Seaside Avenue, which would be used in conjunction with two new additional access driveways from S. Seaside Avenue.

The LAHD would issue a Harbor Development Permit and 10-year Lease, with up to two 10-year lease extension/renewal options for operation of the proposed Project. Therefore, traffic conditions with the Project were estimated by adding traffic resulting from the proposed Project under CEQA Baseline (2017) conditions, Future Year 2027, Future Year 2037, and Future Year 2047.

Based on the project description and conservative assumptions of site activity, the following peak hour trips for the proposed Project operational traffic are used in this analysis:

- Shift One (9 A.M. – 5 P.M.):
  - 90 percent of 500 workers (with a 10 percent carpool rate) arrive during AM peak hour 8 A.M. to 9 A.M. (405 total vehicle trips)
  - 10 percent of 500 workers (with a 10 percent carpool rate) leave during PM peak hour 4 P.M. to 5 P.M. (45 total vehicle trips)
- Shift Two (5 P.M. – 10 P.M.):

- 90 percent of 250 workers (with a 10 percent carpool rate) arrive during PM peak hour 4 P.M. to 5 P.M. (203 total vehicle trips)

Table 5 summarizes the peak hour trip generation assumptions for the operation of the proposed Project.

Table 5: Project Trip Generation

Time Period	Vehicle Type	Proposed Project Operations		
		In	Out	Total
A.M. Peak Hour	Auto	405	0	405
P.M. Peak Hour	Auto	203	45	248

These volumes were distributed through the transportation network at the analysis locations based on the following distribution: 60 percent via I-110, 30 percent via I-710 and 10 percent via SR-47/Heim Bridge—which are the three means of entering and leaving Terminal Island. The results of these project-related trips on the level of service on CEQA Baseline conditions are shown in **Table 6**. As shown, no significant intersection operation impacts are forecasted for the Project under CEQA.

Table 6: CEQA Impact Determination of Study Area Intersections

Analysis Intersection	CEQA Baseline				CEQA Baseline Plus Project				Significance Determination			
	A.M.		P.M.		A.M.		P.M.		Change in V/C		Exceeds Threshold	
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	A.M.	P.M.	A.M.	P.M.
Navy Way at SR-47	A	0.433	B	0.606	A	0.433	B	0.607	0.000	0.001	No	No
Ferry Street at SR-47 Ramps	A	0.409	A	0.551	B	0.607	B	0.669	0.198	0.118	No	No
Ferry Street at Terminal Way	A	0.351	A	0.311	B	0.621	A	0.447	0.270	0.136	No	No
Earle Street at Terminal Way	A	0.195	A	0.254	A	0.256	A	0.271	0.061	0.017	No	No

*V/C = volume to capacity ratio

Cumulative analysis for Future Year 2027, Future Year 2037 and Future Year 2047 are shown in **Tables 7** to **9**. As shown, there is a cumulatively considerable impact at Ferry Street at the SR-47 Ramps for all future years. In the analysis years 2037 and 2047, the intersection LOS in the A.M. peak hour at Ferry Street at Terminal Way and Earle Street at Terminal Way exceeds the change in volume to capacity ration threshold established by the City of Los Angeles. However, since both intersections are forecasted to operate at an acceptable LOS C no mitigation measures are recommended. LAHD will continue to monitor the operating conditions of the two intersections and if the intersection LOS is measured as LOS D or worse as a result of cumulative traffic to which the proposed Project would contribute, a mitigation measure will be developed with the concurrence of LADOT and a fair share contribution of the proposed Project required.

Table 7: Cumulative CEQA Impact Determination of Study Area Intersections – Opening Year 2027

Analysis Intersection	Future Year 2027				Future Year 2027 Plus Project				Significance Determination			
	A.M.		P.M.		A.M.		P.M.		Change in V/C		Exceeds Threshold	
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	A.M.	P.M.	A.M.	P.M.
Navy Way at SR-47	F	1.161	C	0.752	F	1.161	C	0.759	0.000	0.007	No	No
Ferry Street at SR-47 Ramps	F	1.152	C	0.789	F	1.351	E	0.908	0.199	0.119	Yes	Yes
Ferry Street at Terminal Way	A	0.404	A	0.043	B	0.674	A	0.078	0.270	0.035	No	No
Earle Street at Terminal Way	A	0.553	A	0.198	B	0.695	A	0.269	0.142	0.071	No	No

*V/C = volume to capacity ratio

Table 8: Cumulative CEQA Impact Determination of Study Area Intersections – Future Year 2037

Analysis Intersection	Future Year 2037				Future Year 2037 Plus Project				Significance Determination			
	A.M.		P.M.		A.M.		P.M.		Change in V/C		Exceeds Threshold	
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	A.M.	P.M.	A.M.	P.M.
Navy Way at SR-47	Not an intersection: cumulative Navy Way / SR-47 Interchange project											
Ferry Street at SR-47 Ramps	F	1.441	E	0.978	F	1.640	F	1.096	0.199	0.118	Yes	Yes
Ferry Street at Terminal Way	A	0.496	A	0.067	C	0.766	A	0.090	0.270	0.023	Yes**	No
Earle Street at Terminal Way	B	0.607	A	0.225	C	0.748	A	0.296	0.141	0.071	Yes**	No

*V/C = volume to capacity ratio

**Final Intersection LOS operates better than LOS “D”

Table 9: Cumulative CEQA Impact Determination of Study Area Intersections – Future Year 2047

Analysis Intersection	Future Year 2047				Future Year 2047 Plus Project				Significance Determination			
	A.M.		P.M.		A.M.		P.M.		Change in V/C		Exceeds Threshold	
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	A.M.	P.M.	A.M.	P.M.
Navy Way at SR-47	Not an intersection: cumulative Navy Way / SR-47 Interchange project											
Ferry Street at SR-47 Ramps	F	1.433	F	1.002	F	1.632	F	1.120	0.199	0.118	Yes	Yes
Ferry Street at Terminal Way	A	0.503	A	0.069	C	0.773	A	0.091	0.270	.022	Yes**	No
Earle Street at Terminal Way	B	0.605	A	0.226	C	0.747	A	0.297	0.142	0.071	Yes**	No

*V/C = volume to capacity ratio

**Final Intersection LOS operates better than LOS "D"

In order to mitigate the significant impact at this location, the westbound leg of the intersection of Ferry Street at the SR-47 ramps could be restriped from a left-turn and a right-turn under baseline conditions to a left-turn and shared left- and right-turn lane. It is noted that this potential mitigation was the configuration of this intersection leg prior to the traffic light synchronization program ATSAC/ATCS improvement of the intersection which occurred between 2009 and 2011. Since the west leg of the intersection is located on Caltrans right-of-way and not owned by the City of Los Angeles, no mitigation within the Port's jurisdictional control that could reduce the intersection impact to a less than significant level.

Therefore, in order to mitigate the peak hour intersection significant impact at this location, as a condition of the lease and/Coastal Development Permit, the Applicant shall be required to establish early shift start times outside of the evaluated a.m. peak hours [either starting 7 a.m. or earlier, or no earlier than 10 a.m.], and early shift end and late shift start times outside of the p.m. peak hour [either early shift ending and late shift starting at 3 p.m., or after 6 p.m.]

The average daily vehicle miles traveled (VMT) from the proposed project site would be for the 750 workers and 10 truck deliveries per day under operational conditions. The average commute distance in Los Angeles county is 13 miles, therefore 750 workers with a ten percent carpool rate would have a daily VMT of 13 miles x 675 vehicles x 2 trips = 17,550 miles. The truck trips were estimated to average 23 miles based on PortTAM estimates for average port terminal truck trip distance, and would therefore be 23 miles x 10 trucks x 2 trips = 460 miles. Therefore, the total project average daily VMT would be 18,010 miles.

Would an increase in on-site employees due to Project operations result in a significant increase in related public transit use?

The only transit service operated near the project site is the LADOT Commuter Express Line 142, which traverses Terminal Island without stops. Given the lack of stops within the project study area, on-site employees would not access the Project using public transportation. Therefore, the Project will not significantly impact public transit use.

Would Project operations result in increases considered significant related to freeway congestion?

As stated in the intersection analysis section, the project trip volumes were distributed through the transportation network at the analysis locations based on the following distribution: 60 percent via I-110, 30 percent via I-710 and 10 percent via SR-47/Heim Bridge—which are the three means of entering and leaving Terminal Island. The analysis locations where this traffic was distributed to determine potential impacts of the Project on study area freeways are:

- SR-47 - Vincent Thomas Bridge
- SR-47/SR-103 - Commodore Schuyler Heim Bridge
- I-110 - South of C Street (CMP monitoring station—south of C Street)
- I-710 - North of PCH (CMP monitoring station—north of the junction of SR-1 [PCH], Willow Street)
- I-710 - North of I-405 (CMP monitoring station—north of the junction of I-405, south of Del Amo)
- I-405 - Between I-110 and I-710 (CMP monitoring station—Santa Fe Avenue)
- SR-91 - West of I-710 (CMP monitoring station—east of Alameda Street/Santa Fe Avenue interchange)

Based on the forecasted project trip generation and distribution, the most project trips in either direction, during either the A.M. or P.M. weekday peak hours would be 135 trips in the AM peak hour southbound along I-110 and the SR-47 freeway at the Vincent Thomas Bridge. Therefore, Project does not meet the minimum study requirements for the Los Angeles County Metropolitan Transportation Authority (Metro) Congestion Management Program (CMP) as described in Appendix D of the CMP guidelines (Metro, 2010). Therefore, the project has less than a significant impact on freeway facilities.

Would the Project cause an increase in rail activity and/or delays in regional highway traffic due to an increase in rail activity?

The Project will not involve increases in rail activity and there are no at-grade rail crossings in the Project analysis area, therefore the Project will not significantly impact rail activity or delay in regional highway traffic due to rail activity.

Would the Project substantially increase transportation hazards due to a design feature?

The Project would not create a substantial transportation hazard such as creating sharp turns in roadways or dangerous intersections. The Project would add two new additional access driveways from S. Seaside Avenue. Therefore, the Project would not have a significant impact from a design feature.

Would the Project result in inadequate emergency access?

The Project would not alter or change existing emergency access therefore the Project is not expected to have a significant impact on emergency access.

Would the Project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

The Project does not include any modifications to existing roadways on Terminal Island that support current or future bike lanes or bus stops. The Project itself would not include visitor-serving uses that would benefit from alternative modes of transportation. The Project is therefore expected to have no impact on alternative transportation policies or facilities.