Berths 238–239 [PBF Energy] Marine Oil Terminal Wharf Improvements Project

Draft Initial Study/Mitigated Negative Declaration
APP No. 161208-173

Prepared by:

Environmental Management Division
Los Angeles Harbor Department
425 South Palos Verdes Street
San Pedro, California 90731

With assistance from:

Dudek
March 2018

THE PORT OF LOS ANGELES

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1.0 INTRODUCTION

The Los Angeles Harbor Department (LAHD) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) to address the environmental effects of the proposed Berths 238–239 [PBF Energy] Marine Oil Terminal Wharf Improvements Project (proposed Project) located at 799 South Seaside and 401 Ferry Street/551 South Pilchard on Terminal Island in the Port of Los Angeles (Port). LAHD is the lead agency under the California Environmental Quality Act (CEQA).

The primary objective of the proposed Project is to comply with the Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS) at the PBF Energy Terminal at Berths 283 and 239. The proposed Project also includes issuance of a 30-year lease to PBF Energy Western Region LLC (PBF Energy) for continued operation of the Berth 238–239 marine oil terminal, as well as PBF Energy's tank farm located approximately 3,500 feet northeast of the marine oil terminal.

1.1 CEQA PROCESS

This document was prepared in accordance with CEQA (California Public Resources Code, Section 21000 et seq.), the CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.), and the City of Los Angeles CEQA Guidelines (2006a). 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 IS/MND includes a discussion of the proposed Project's effects on the existing environment, including the identification of avoidance, minimization, and mitigation measures. This document is an IS/MND because all impacts associated with the proposed Project can be mitigated to be below applicable significance thresholds.

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 prepared this environmental document to comply with CEQA. LAHD will consider the information in this document when determining whether to approve the proposed Project.

The preparation of an IS guided by Section 15063 of the CEQA Guidelines, while Sections 15070–15075 of the CEQA Guidelines direct the process for the preparation of a Negative Declaration or an MND (14 CCR 15000, et seq.). Where appropriate and supportive, references will be made to CEQA, the CEQA Guidelines, or appropriate case law.

This IS/MND meets CEQA content requirements by including a project description; a description of the environmental setting, 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 March 2, 2018, and will conclude on April 2, 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 140 notices were sent 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 April 2, 2018.

Please submit written comments to:

Chris Cannon, Director
City of Los Angeles Harbor Department
Environmental Management Division
425 South 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 eight 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 the appropriate mitigation measures and/or permit requirements that would reduce those impacts to a less-than-significant level.

Section 5.0. Proposed Finding. This section presents the proposed finding regarding environmental impacts.

Section 6.0. Preparers and Contributors. This section provides a list of key personnel involved in the preparation of the IS/MND.

Section 7.0. Acronyms and Abbreviations. This section provides a list of acronyms and abbreviations used throughout the IS/MND.

Section 8.0. 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 Initial Study 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 marine oil terminal improvements to allow compliance with MOTEMS at the PBF Energy Terminal at Berths 238 and 239. It also includes issuance of a 30-year lease to PBF Energy for continued operation of the Berth 238–239 marine oil terminal, PBF Energy's tank farm located approximately 3,500 feet northeast of the marine oil terminal, and several underground pipelines.

This section discusses the location, description, background, and objectives of the proposed Project. 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 (Figure 2-1, Regional Map, and Figure 2-2, Vicinity Map). The Port encompasses 7,500 acres and 43 miles of waterfront and features approximately 270 commercial berths and 27 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 LAHD is a proprietary department of the City of Los Angeles (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 Project site consists of two facilities; the marine oil terminal (Southwestern Terminal Area I [SWT-I]) and the Terminal Island Tank Farm (Southwestern Terminal Area II [SWT-II]), as well as several underground pipelines in various locations within the Port of Los Angeles (Figure 2-3, Lease Areas). SWT-I, a short-term storage and transfer facility for petroleum products, includes approximately 20.54

acres of land located at 799 South Seaside that has 19 active tanks with a total shell capacity of 946,344 barrels in refined product service. SWT-II is a tank farm approximately 16.62 acres located approximately 3,500 feet northeast of SWT-I at 401 Ferry Street/551 South Pilchard. Land access to both sites is provided by a network of freeways and arterial routes. The freeway network consists of the Harbor Freeway (Interstate [I] 110), the Long Beach Freeway (I-710), the San Diego Freeway (I-405), and the Terminal Island Freeway (State Route 103/State Route 47).

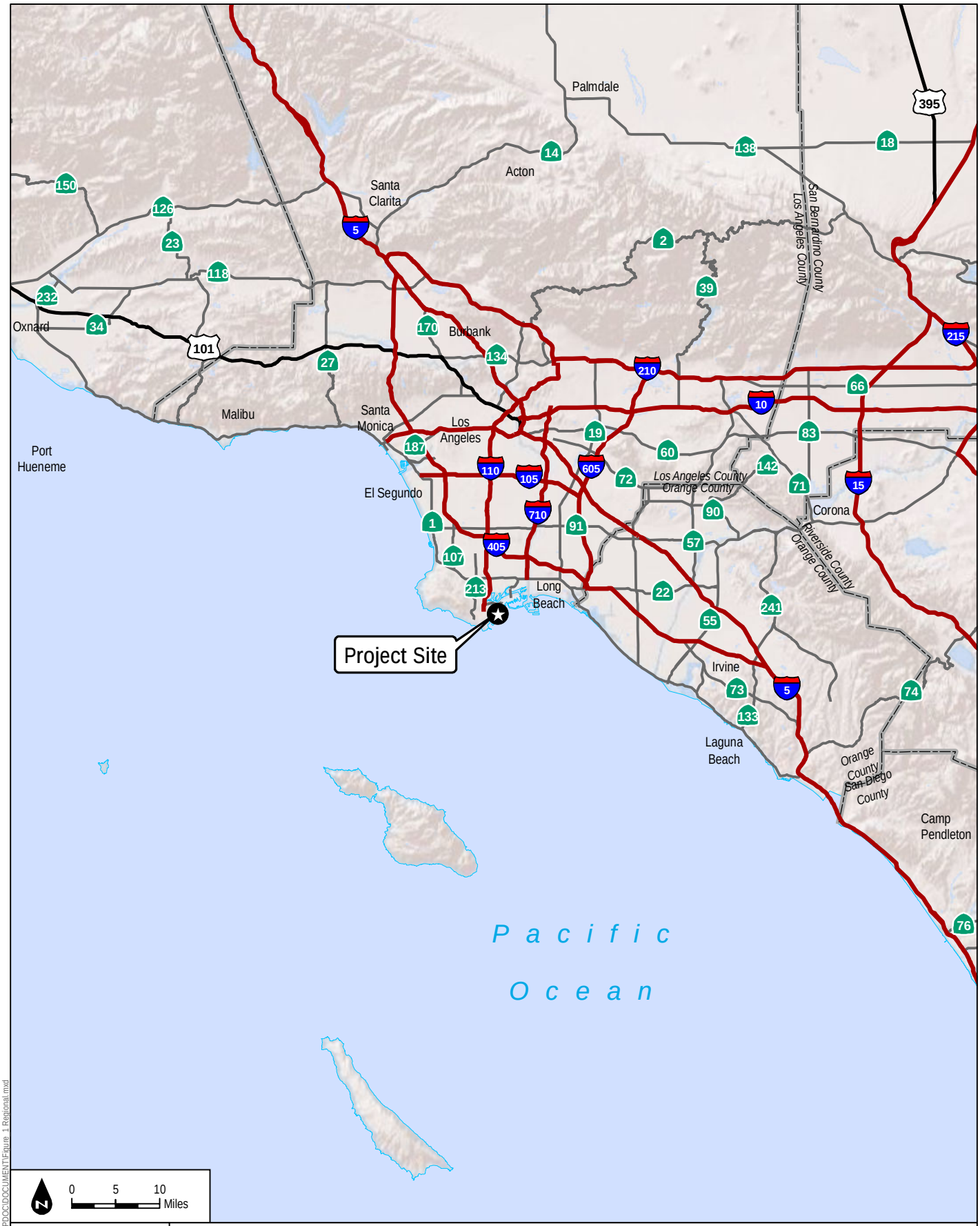
SWT-I is generally bounded by the Main Channel and the San Pedro Public Market to the south and west, the former Southwest Marine Shipyard to the southeast, the Evergreen Container Terminal (Berth 236) to the north, and from the northerly limits of LAHD's jurisdiction between Figueroa Street and Marine Avenue south across the east basin channel into Terminal Island. Local access is provided by Ferry Street and South Seaside Avenue. Access to the Project site is via Wharf Street.

SWT-II is generally bounded by the Evergreen Container Terminal to the north and west, Ferry Street to the east, and the Terminal Island Water Reclamation Plant to the south. Local access is provided by Ferry Street and Earle Street. Access to the Project site is via Pilchard Street.

2.1.3 Land Use and Zoning

The proposed Project is located in the Port of Los Angeles, City of Los Angeles Community Plan Area. The Project site has a General Plan designation of Port of Los Angeles (Maritime Support) (POLA 2014). The Project site is zoned for heavy industrial uses ([Q] M3-1) by the City of Los Angeles Zoning Ordinance for "quasi-heavy industrial" uses (City of Los Angeles 2017a). They are also designated as within the "ZI No. 2130 Harbor Gateway State Enterprise Zone (EZ)." EZs provide economic incentives to stimulate local investment and employment through tax and regulation relief and improvement of public services. The properties adjacent to the Project sites are also zoned as [Q] M3-1. The overall character of the surrounding area is primarily marine cargo handling (liquid, dry bulk, and container).

The Port Master Plan (PMP) (POLA 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 PMP is a comprehensive update and is the 28th Amendment to the 1980 PMP. The updated PMP (POLA 2014) includes five planning areas. SWT-I and SWT-II are located in Planning Area 3, Terminal Island. Planning Area 3 is the largest planning area, consisting of approximately 1,940 acres and more than 9.5 miles of usable waterfront. It consists of all of Terminal Island except Fish Harbor. Of the Port's nine container terminals, six are located in Planning Area 3. SWT-I is designated for liquid bulk uses under the 2014 PMP. Before the PMP Update of 2014, the SWT-II area was designated for liquid bulk uses. After the update, the area was designated for container uses. As an existing operation, the tank farm at SWT-II is allowed to continue operations (grandfathered) under the updated PMP.



SOURCE: ESRI 2016

FIGURE 2-1

Regional Map

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POLA MOTEMS

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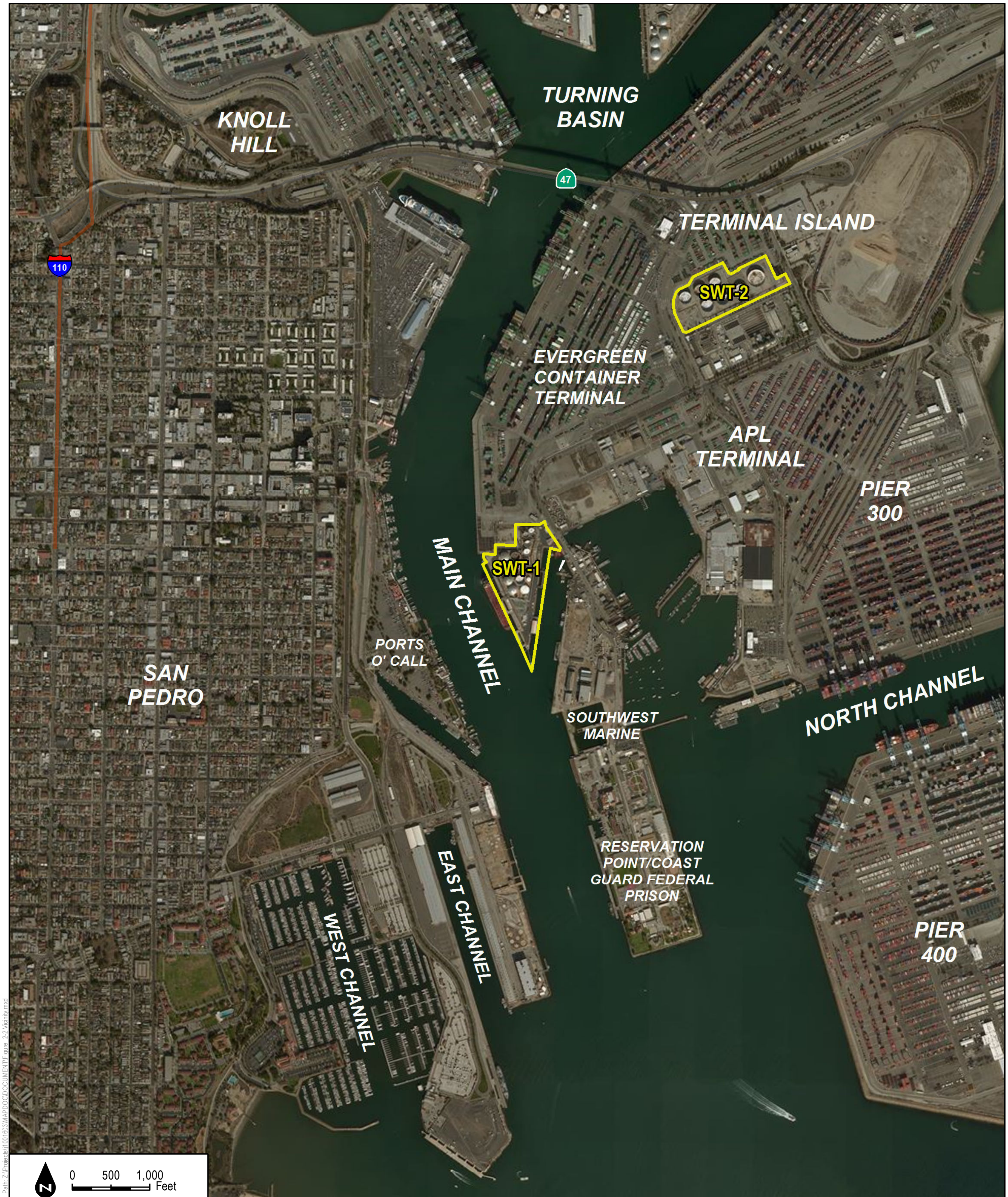

SOURCE: USGS 7.5-Minute Series San Pedro Quadrangle

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FIGURE 2-2
Vicinity Map

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SOURCE: Bing Maps, 2017

FIGURE 2-3
Lease Areas

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2.2 PROJECT BACKGROUND AND OBJECTIVES

2.2.1 Project Background

Entitlement

The Project site consists of two facilities; the marine oil terminal (SWT-I) and the Terminal Island Tank Farm (SWT-II), as well as several subsurface pipelines. SWT-I, a short-term storage and transfer facility for petroleum products, includes approximately 20.54 acres of land located at 799 South Seaside Avenue that has 19 active tanks with a total capacity of 946,344 barrels in refined product service. SWT-II is a tank farm approximately 16.62 acres in size located approximately 3,500 feet northeast of SWT-I at 401 Ferry Street/551 South Pilchard. SWT-I (Berths 238, 239, 240a, 240b, and 240c) has been in operation since 1923 as a marine liquid bulk terminal (unloading and loading of crude oil and petroleum products). SWT-II was constructed in 1961 and has six active storage tanks in crude oil service with a total capacity of 1,018,039 barrels. Both facilities are serviced by approximately 21.98 miles of existing pipelines operated and maintained within LAHD's jurisdiction. Three bi-directional pipelines serve SWT-I: 10-inch-diameter M-54 refined products, 10-inch-diameter M-19 intermediate products pipelines to/from the refinery in Torrance, and 36-inch-diameter M-137 crude oil pipeline to/from SWT-II. Two bi-directional pipelines serve SWT-II: 24-inch-diameter M-146 crude oil pipeline to/from the refinery in Torrance and 36-inch-diameter M-137 crude oil pipeline to/from SWT-I.

SWT-I and SWT-II were operated by ExxonMobil Oil Corporation (ExxonMobil) from January 1, 1991, to May 31, 2016, under Harbor Department Permit No. 704. ExxonMobil also maintained rights to construct, operate, and maintain subsurface pipelines under Permit No. 418 and several Revocable Permits. The various permits were combined into a new 5-year permit (Permit No. 914), effective June 1, 2016. On July 1, 2016, PBF Energy acquired ExxonMobil's California downstream assets including the refinery in Torrance and related logistical assets, including the Project site and related infrastructure (pipelines), which provide access to sources of crude oil and refined products and Permit No. 914 was assigned to PBF Energy at that time.

The proposed Project includes a new 30-year lease between the Port and PBF Energy for continued operation of the facilities currently covered under Permit No. 914.

Marine Oil Terminal Engineering and Maintenance Standards

The primary goal of the proposed Project is to comply with MOTEMS to protect public health, safety, and the environment. The MOTEMS are comprehensive engineering standards for the analysis, design, inspection, and maintenance of existing and new marine oil terminals. The MOTEMS were approved by the California Building Standards Commission on January 19, 2005, and are codified as part of California Code of Regulations Title 24, Part 2, Marine Oil Terminals, Chapter 31F.

These standards apply to all existing marine oil terminals in California and include criteria for inspection, structural analysis and design, mooring and berthing, geotechnical considerations, fire, piping, mechanical and electrical systems. MOTEMS became effective on January 6, 2006 (CSLC 2005). The California State Lands Commission oversees the MOTEMS program. Through ongoing discussions with the California State Lands Commission Marine Facilities Division, the LAHD developed an implementation strategy to complete the necessary MOTEMS requirements. The marine oil terminal at Berths 238–240 is one of the seven existing marine oil terminals at the Port that requires upgrades to its facility.

The MOTEMS require each marine oil terminal to conduct an audit to determine the level of compliance and an evaluation of the continuing fit-for-purpose of the facility. Depending on the results, the terminal owner and/or operators must then determine what actions are required to meet the standards, and provide a schedule for implementation of deficiency corrections and/or rehabilitation. The standards define criteria in the following areas:

- Audit and Inspection
- Structural Loading Criteria
- Seismic Analysis and Structural Performance
- Mooring and Berthing Analysis and Design
- Geotechnical Hazards and Foundations
- Structural Analysis and Design of Components
- Fire Prevention, Detection and Suppression
- Piping and Pipelines
- Mechanical and Electrical Equipment
- Electrical Systems

MOTEMS audits continue through the life of a marine oil terminal. Updated and new analyses and documentation are required for any significant changes to the facility. Based on results of these investigations, marine oil terminal owners and/or operators must then determine what compliance actions are necessary, and provide a schedule for implementation of deficiency corrections and/or rehabilitation.
The Initial MOTEMS Audit performed by ExxonMobil in 2008 for the existing marine oil terminal at active Berths 238 and 239 identified existing infrastructure deficiencies that require upgrading. The structural, mooring, berthing, and piping evaluations all demonstrated the need for upgrades to their respective systems. Berths 240A, 240B, and 240C have been out of service for vessel activity for years, and all associated piping has been drained of product and isolated from onshore piping. PBF Energy has no intention of returning these berths and piping to active service.

MOTEMS regulations require Terminal Operating Limits, which are terminal-specific restrictions that address vessel size, berthing, mooring, gravity loading and other operating limitations. MOTEMS also requires that each marine oil terminal have a Tsunami Plan that includes far-field versus near-field tsunami events, notifications and communications, tsunami warning system and notification details, tsunami response actions, tidal levels, currents and seiche conditions, loss of utilities, tsunami plan accessibility and training, and post-event inspection.

The primary elements of the proposed Project are as follows:

1. Demolition of the existing unloading platform at Berth 238, which measures approximately 225 feet in length and 60 feet in width, berthing and mooring dolphins, and landside mooring anchors
2. Construction of a new MOTEMS compliant unloading platform at Berth 238, including an access ramp, berthing and mooring dolphins, landside mooring anchors, and catwalks
3. Utilization of the existing unloading platform at Berth 239 during the construction of the new Marine Oil Terminal at Berth 238
4. Demolition of the existing unloading platform at Berth 239, which measures approximately 225 feet in length and 60 feet in width, berthing and mooring dolphins following successful commissioning of new Marine Oil Terminal at Berth 238

Improvements associated with the new loading platform at Berth 238 includes an access ramp, berthing and mooring dolphins, landside mooring anchors, catwalks, topside equipment, landside piping, and other necessary utilities to support operations at Berth 238. The proposed Project is described in more detail in Section 2.3.

2.2.2 Existing Conditions

Southwestern Terminal Area I

The existing SWT-I marine terminal occupies a land area of approximately 20.54 acres and has two active dedicated berths (Berths 238 and 239), which are immediately adjacent to the Everport Container Terminal facility. Southwest Marine is on the east side (see Figure 2-4, Existing Condition and Proposed Improvements SWT-1).

The existing marine terminal also includes 19 active storage tanks of various sizes with a total capacity of 946,344 barrels, parking, and several ancillary buildings. Typically, the existing marine terminal operates 24 hours a day, 7 days a week, with 12 employees working on site during the day shift and a smaller crew working the evening and night shifts.

The existing Berths 238 and 239 have a design width of approximately 60 feet and a length of approximately 225 feet, allowing for the berthing of vessels of up to 70,000 deadweight tons (DWT), which is the maximum size that currently calls at the terminal.

Each berth has a concrete pile, concrete-decked, offshore wharf. Each wharf has a 57-foot by 227-foot concrete loading platform and a 30-foot by 27-foot concrete approach to each end of the wharf with an adjacent breasting dolphin (BD). Due to its location adjacent to Slip 240, Berth 239 has an exterior waterside mooring dolphin (MD). The two wharves are spaced approximately 238 feet apart. The terminal has been in operation since the 1920s, and the existing wharves at Berths 238 and 239 were upgraded in the 1960s.

The marine oil terminal includes a vehicle access road, piping and manifolds to convey product to and from the shoreside tanks, and minor ancillary equipment for handling ship-to-shore connection apparatus and on-water oil spill containment gear. Each wharf has one steel tower supporting the pipeline-manifold connections, hoses and electric hoists for handling hoses.

The existing wharves at Berths 238 and 239 can only accommodate one vessel at a time at each berth, whether it is a barge or a tanker. The terminal primarily handles petroleum products, including crude, marine diesel, alkylates, gasoline, naphtha, and vacuum gas oils. While the marine terminal had not handled crude oil for approximately 10 years, crude vessel activity resumed in 2017 and is expected to continue in future years.

In 2016, there were 36 tanker calls and 363 barge calls. Nearly all barge calls were harbor barges originating in or near the Port of Los Angeles. The terminal's operation consists of importing and exporting crude, feed stock and refined product. In 2016, approximately 2 million barrels of product were unloaded and 7.5 million barrels reloaded (i.e., exported). The terminal does not currently handle rail traffic or load trucks.

For purposes of this analysis, 2016 vessel calls and throughput is the baseline for evaluations herein. Table 2-1 shows the actual vessel calls and projected vessel calls for future years (2032 and 2048).

Table 2-1
Summary of Terminal Vessel Activity Number of Vessel Calls

Year	Barges	Ships	Total
2016	363[1]	36	399
2032	429[2]	59	488
2048	429[2]	59	488

Source: PBF Energy 2017. Ship call totals include loading and unloading.

Notes:

1 Number includes 306 in Port barges used as mobile fuelers

2 Number includes 365 in Port barges used as mobile fuelers

Marine terminal operations have fluctuated through the years depending on the refinery's operations at the time. The proposed Project would not affect those operations, and it is expected that marine terminal operations would continue to fluctuate commensurate with refinery operations and market conditions.

2.2.3 Project Objectives

The proposed Project would address the Project objectives, as summarized below:

- Comply with MOTEMS requirements, which would ensure better resistance to earthquakes, reduce the potential for an oil spill, and consequently maintain the operation and viability of the marine oil terminal facility (primary objective).
- Optimize the use of existing land at the terminal and associated waterways in a manner that is consistent with LAHD's Tidelands Trust obligations by maintaining the existing facility's throughput capabilities and operational parameters through a new, 30-year lease.
- Ensure continued reliability and availability of fuel supplies to help meet Southern California's energy needs given evolving market conditions and business cycle variability.

2.3 PROJECT DESCRIPTION

2.3.1 Overview

The proposed Project involves the construction and operation of a new, MOTEMS-compliant wharf structure (herein referred to as a loading platform) at Berth 238. The proposed Project would consist of the demolishing and removing the existing Berth 238 platform, construction of a new marine platform and associated mooring and breasting dolphins at Berth 238, construction of a new marine oil terminal platform at Berth 238, construction of two new breasting dolphins and four new upland mooring dolphins, installation of tenant topside improvements, and demolition of the concrete platform at Berth 239. The new loading platform at Berth 238 would have an approximate 740-foot-long berth area (approximate dimensions 130 feet long by 60 feet wide) to accommodate Panamax class vessels along with various barges at its existing fender line elevation. Figure 2-4 shows the existing conditions and proposed improvements at the Project site, SWT-1, and Figure 2-5 shows existing conditions at SWT-2. Figure 2-6 presents the plan view of the proposed improvements. In addition, the proposed Project also includes renewed rights under a long-term (30-year) lease between the LAHD and PBF Energy. The proposed Project is described in more detail below.

2.3.2 Construction

Demolition and construction activities of the proposed Project are expected to take approximately 21 months. Due to the nature of the proposed Project, the primary construction work front will be marine-based with smaller secondary work front used for the land work. The schedule is based on working five 8-hour days per week. The maximum number of workers on site during construction at any time will be dependent upon the number of concurrent work fronts. Up to 50 workers would be required at the site at any given time, depending on the construction phase.

The basic elements of the new MOT at Berth 238 will consist of an unloading platform flanked by breasting/mooring dolphins, access ramp, catwalks, and landside mooring dolphins. The terminal will continue

to receive marine vessels throughout the entire demolition and construction period. During this time, Berth 238 would be out of commission, and all vessel would be diverted to Berth 239. After the topside equipment and upland components (e.g., piping, hose rack) are supplied, installed and the new MOT at Berth 238 is successfully commissioned by the tenant, the unloading platform, access ramp, catwalks, and the associated berthing and mooring dolphins at Berth 239 will be demolished. For additional information regarding construction phasing and equipment, please refer to the Appendix A.

The following seven construction phases would occur:

- Phase I: Demolition at Berth 238
- Phase II: Pile Driving for New Marine Platform and Associated Mooring and Breasting Dolphins at Berth 238
- Phase III: Marine Oil Terminal Platform Construction at Berth 238
- Phase IV: Breasting Dolphin Construction at Berth 238
- Phase V: Mooring Dolphin Construction at Berth 238
- Phase VI: Tenant Topside Improvements and commissioning of new MOT at Berth 238
- Phase VII: Demolition at Berth 239 with no replacement

SOURCE: Bing Maps, 2017

FIGURE 2-4

Existing Condition and Proposed Improvements SWT-1

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SOURCE: Bing Maps, 2017

FIGURE 2-5
Existing Conditions SWT-2

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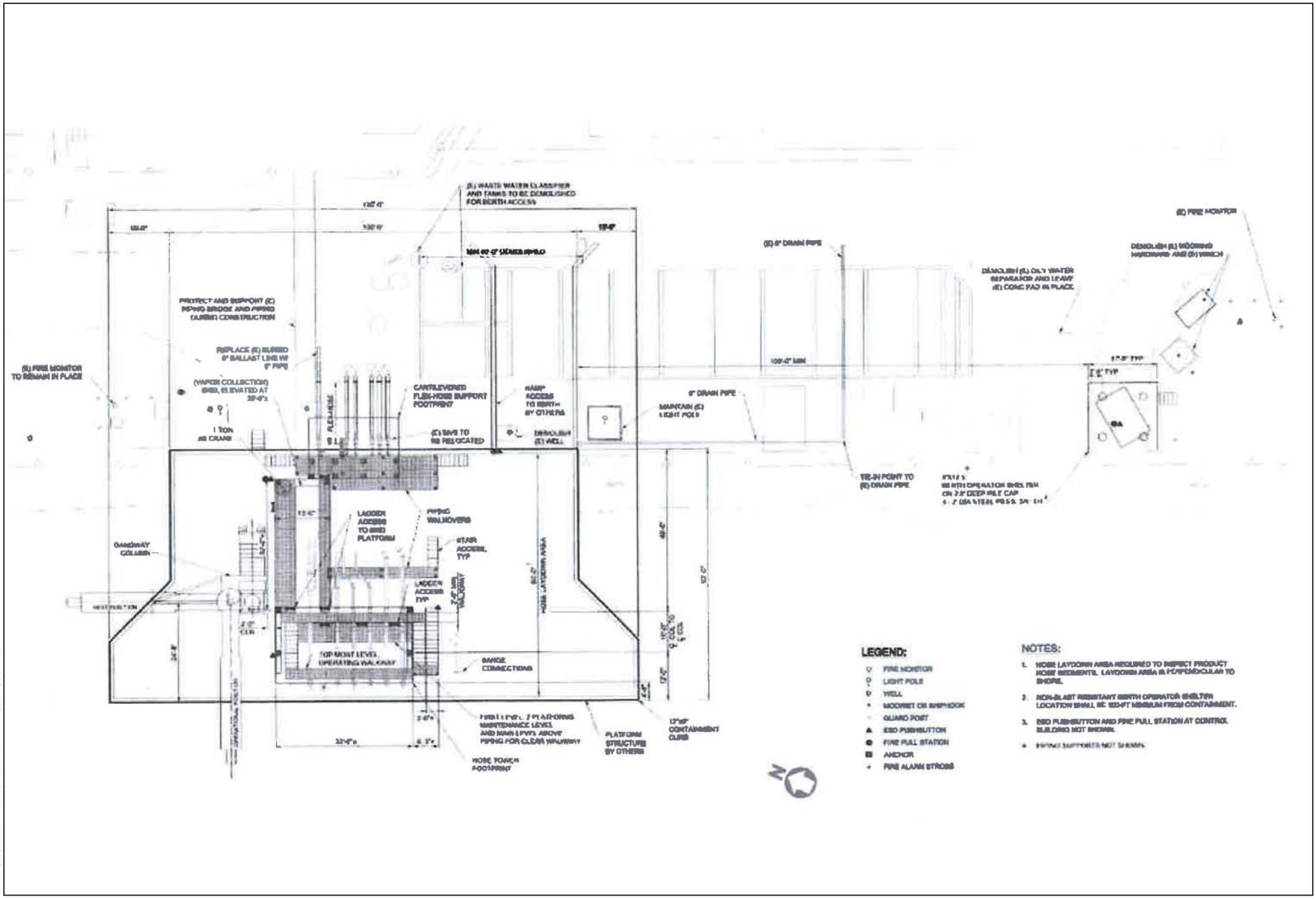

SOURCE: The Port of Los Angeles, 2016

FIGURE 2-6

Plan View of Proposed Improvements

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2.3.3 Operation

The proposed Project is required in order to bring the existing terminal into compliance with MOTEMS. Although the proposed Project would allow the terminal to remain in operation during the term of the renewed rights under a long-term (30-year) lease, operational activity would continue to remain similar to that experienced under existing conditions. Thus, to assess peak operational activity over the 2016 baseline year, the analysis will rely on an estimate of future potential vessel calls.

Vessels expected to call on this facility range in size, from small barges (5,000 DWT) up to Panamax (70,000 DWT) sized tankers. The terminal would only be able to accommodate one vessel at a time and would no longer be capable of simultaneously handling liquid bulk cargo from two vessels at a time via secondary use of Berth 239. The berthing fender and layout would be designed to accommodate the large range of vessels. Mooring of smaller barges would be accommodated by supplemental barge cleats on the deck of the loading platform.

Since the proposed Project would not increase the existing terminal's capacity to handle petroleum products or affect the types of products handled, the proposed Project would not require installation of any other pipeline, storage, or refining projects. The proposed Project, therefore, would not affect the operations of any other facilities, including those that are connected via pipelines (e.g., the Torrance Refining Company LLC).

The proposed Project would continue to have both land-based and in-water operational activities. In-water operational activities would include ocean-going vessels (OGV) such as articulated and integrated ocean tugs, and tankers. These vessels transport product to and from the facility. OGV activity is anticipated to increase by approximately 23 vessels per year as compared to the baseline, and remain at 2032 levels through the end of the 2048 lease. Re-fueling barges are loaded with fuel at the facility and are used to distribute the fuel to other OGVs in the Port. Re-fueling barge activity is expected to increase from approximately 306 activities per year to 365 activities per year. Tugboats are used to assist barges and OGVs. Tugboat activity is expected to increase proportionate to the increase in tanker activity. Product unloading from incoming vessels is anticipated to increase by approximately 11,400,000 barrels per year compared to Baseline, and remain at 2032 levels through 2048. Loading of product onto vessels is anticipated to decrease by approximately 2,000,000 barrels per year compared to baseline, and remain at 2032 levels through 2048. The proposed Project is not anticipated to affect the activity of landside equipment used to operate the terminal. Future operational activities would require the same number of staff as existing operational activities.

2.4 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 include but are not limited to those found below:

- U.S. Army Corps of Engineers
- Los Angeles Regional Water Quality Control Board (LARWQCB) Section 401 (Clean Water Act) Water Quality Certificate
- LARWQCB Storm Water Pollution Prevention Plan (SWPPP)
- LARWQCB National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Industrial Activities
- SCAQMD Permit to Construct/Operate
- California State Lands Commission
- City of Los Angeles Fire Department
- City of Los Angeles Building Permit
- City of Los Angeles Grading Permit
- City of Los Angeles Electrical Permit
- LAHD 30-Year Permit
- LAHD Harbor Engineer Permit
- LAHD Coastal Development Permit

3.0 INITIAL STUDY CHECKLIST

1.	**Project Title:**	Berth 238–239 [PBF Energy] Marine Oil Terminal Wharf Improvements Project
2.	**Lead Agency Name and Address:**	Los Angeles Harbor Department (LAHD) Environmental Management Division 425 South Palos Verdes Street San Pedro, California 90731
3.	**Contact Person and Phone Number:**	Tara Tisopulos 310.732.7713
4.	**Project Location:**	Berth 238–239 (Terminal Island), Port of Los Angeles 799 South Seaside Avenue San Pedro, California 90731
5.	**Project Sponsor's Name and Address**	LAHD Engineering Division 425 South Palos Verdes Street San Pedro, California 90731
6.	**Port Master Plan Designation:**	Liquid Bulk Cargo (SWT-I)
7.	**Zoning:**	[Q] M3-1
8.	**Description of Project:**	The proposed Project consists of various wharf improvements to Berth 238 on Terminal Island, in order to comply with MOTEMS. In general, the proposed Project would demolish the existing concrete wharves at Berth 238 and 239 and replace the structures at Berth 238 with a new MOTEMS-compliant loading platform, access trestle (to the platform), fendering and breasting dolphins, landside mooring anchors, catwalks, and topside equipment replacement and construction. The proposed Project would also include a new long-term (30-year) lease to PBF Energy for the marine oil terminal as well as an existing tank farm and various pipelines.
9.	**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 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 0.4 miles 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.
10.	**Other Public Agencies Whose Approval Is Required:**	• United States Army Corps of Engineers • Regional Water Quality Control Board • South Coast Air Quality Management District • City of Los Angeles

3.1 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology and Soils	☐ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials
☐ Hydrology and Water Quality	☐ Land Use and Planning	☐ Mineral Resources
☐ Noise	☐ Population and 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 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. ☐

02-22-18

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 which 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. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. 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 (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				x

	Potentially Significant Impact	*Less-than-Significant Impact After Mitigation Incorporated*	*Less-than-Significant Impact*	*No Impact*
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 which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				x
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 or clean air programs?			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, regulations or by the California Department of Fish and Game 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 Game or U.S. Fish and Wildlife Service?			x	

	Potentially Significant Impact	*Less-than-Significant Impact After Mitigation Incorporated*	*Less-than-Significant Impact*	*No Impact*
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	
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 Section 15064.5?				x
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to 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 dedicated cemeteries?				x
6. ENERGY. Would the project:				
a. Conflict with adopted energy conservation plans?			x	
b. Use non-renewable resources in a wasteful and inefficient manner?			x	
c. Result in a need for new systems, or substantial alterations to power or natural gas?				x

	Potentially Significant Impact	*Less-than-Significant Impact After Mitigation Incorporated*	*Less-than-Significant Impact*	*No Impact*
7. 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:			x	
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 or the loss of topsoil?				x
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?			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 waste water disposal systems where sewers are not available for the disposal of waste water?				x
8. 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	
9. 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	

	Potentially Significant Impact	*Less-than-Significant Impact After Mitigation Incorporated*	*Less-than-Significant Impact*	*No Impact*
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 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?			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
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
10. 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

	Potentially Significant Impact	*Less-than-Significant Impact After Mitigation Incorporated*	*Less-than-Significant Impact*	*No Impact*
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 which 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 which 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
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	
11. 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
12. MINERAL RESOURCES. Would the project:				

	Potentially Significant Impact	*Less-than-Significant Impact After Mitigation Incorporated*	*Less-than-Significant Impact*	*No Impact*
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
13. 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	
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
14. 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

	Potentially Significant Impact	*Less-than-Significant Impact After Mitigation Incorporated*	*Less-than-Significant Impact*	*No Impact*
15. 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	
16. 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 which might have an adverse physical effect on the environment?				x
17. 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	

	Potentially Significant Impact	*Less-than-Significant Impact After Mitigation Incorporated*	*Less-than-Significant Impact*	*No Impact*
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 marine 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
18. 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, 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), or			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 Resources Code 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.				x
19. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			x	

	Potentially Significant Impact	*Less-than-Significant Impact After Mitigation Incorporated*	*Less-than-Significant Impact*	*No Impact*
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 storm water 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 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?				x
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	
20. 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 which will cause substantial adverse effects on human beings, either directly or indirectly?			x	

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4.0 IMPACTS AND MITIGATION MEASURES

4.1 AESTHETICS

Would the Project:

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

Less-than-Significant Impact. The Project site is industrial, is located inside a working port, and is not within or near any protected or designated scenic vistas. The Project site consists of two concrete wharves that are surrounding by a number of large storage tanks, and low-profile buildings. The Project site is surrounded by other port uses, including container terminals and other industrial facilities. All site improvements and alterations would be at the same location as the existing features on Berth 238 and would be similar in appearance and height; thus, the Project improvements would not result in a substantive change in the visual character or quality of the site. In addition, due to topography and intervening development, visibility of the Project site is limited from many public viewing areas or from higher locations.

There is a Key Observation Point (KOP) visible to the Project site from the Ports O' Call Village. The Ports O' Call Village commercial and recreational complex, approximately less than 0.5 miles west of the Project site across the Main Channel, includes 15 acres of shops, restaurants, and recreational attractions.

Viewers from these vantage points are generally tourists, Village staff and people enjoying recreation. These groups would potentially be sensitive to substantial visual changes at the Project site.

The view from the Ports O' Call Village while looking west across the Main Channel provides a direct view of the Project site, which is in the foreground where the existing concrete wharves currently exist. The large storage tanks are situated directly behind the Project site and can easily be seen from the Ports O' Call Village. The Project site is largely indistinguishable from other Port facilities in this viewshed.

Construction activities and heavy construction equipment (cranes and barges) would be partially visible from Ports O' Call Village. However, these views would only be temporarily altered and would be consistent with industrial activities within the Port.

In the operational stage, there would be fewer structures due to the demolition of the structures at Berth 239 (e.g., removal of the concrete platform and associated structures). The installation and operation of a dock house and other infrastructure on the new loading platform at Berth 238 would be similar in height and appearance to the existing gangway towers and will not obstruct views or alter views from the Ports O' Call Village. In addition, the terminal would not

accommodate larger vessels than those that are currently accommodated under baseline conditions (vessels up to a Panamax-class tanker).

The proposed Project would allow the terminal to operate for 30 years and would accommodate an increase in vessel calls at the terminal. However, operation of the proposed Project would occur at Berth 238 with a maximum of only one vessel at the terminal at one time, whether it is a barge or a tanker. These vessels would be consistent in height, length and scale as those that currently berth at the PBF Energy terminal. Since any additional vessels that visit the terminal would be consistent with existing terminal operations and a working port, increased vessel calls would not result in a significant impact to views of the site or any scenic vista.

In summary, the proposed Project would not introduce new visual elements that could alter or obstruct recognized and valued views and would not have a substantial adverse effect on a scenic vista. Any increase in vessel calls, would include vessels of a similar height, length and scale as those currently calling on this facility. Therefore, impacts to scenic vistas from the proposed Project would be less than significant. 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 Impact. The Project site is not located near an eligible or designated state scenic highway, nor are there scenic resources located at the Project site; therefore, the proposed Project activities would not have the potential to damage scenic resources within a state scenic highway. The California Department of Transportation (Caltrans) is responsible for the official nomination and designation of eligible scenic highways. The nearest officially designated state scenic highway is located approximately 32 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) (Caltrans 2013a). The nearest eligible state scenic highway is approximately 8 miles northeast of the proposed Project (State Highway 1, from State Highway 19 near Long Beach to I-5 south of San Juan Capistrano) (Caltrans 2013a). The Project site is not visible from either of these locations; therefore, proposed Project activities would not affect the quality of the scenic views from these locations.

The City of Los Angeles has City-designated scenic highways that are considered during local planning and development decisions, several of which are in the vicinity of the proposed Project (City of Los Angeles 1999). John S. Gibson Boulevard, Pacific Avenue (from Crescent Avenue to Paseo del Mar), Front Street, and Harbor Boulevard (between Front Street and Crescent Avenue) are City-designated scenic highways because they afford views of the Port and the Vincent Thomas Bridge. However, views of the Project site from the City-designated scenic highways are either very limited or non-existent due to topography and/or intervening development, including buildings, gantry cranes, and stacked containers. Harbor Boulevard is the closest scenic highway to the Project site. Harbor Boulevard is heavily landscaped in the vicinity of the Port to encourage pedestrian use.

The Project site is either partially or fully obscured depending on the viewing angle and is not distinguishable from the other surrounding facilities within the viewscape.

In addition, future years could result in an increase in vessel calls to the terminal above baseline conditions due to business fluctuation. However, the proposed Project would have no effect on the size of vessels calling at these berths. The additional vessels would not have an impact on the fleeting views from the Vincent Thomas Bridge or City-designated scenic highways. To be conservative, this increase was calculated for future year operational impacts.

The Project site is an existing marine oil terminal. No scenic trees or rock outcroppings exist at the Project site. Improvements associated with the proposed Project, including the loading platform, catwalks, and topside equipment would look almost identical to the existing facilities, would be consistent with the existing visual context of a working port and would not alter scenic resources visible from a City-designated scenic highway. Therefore, impacts to scenic resources from the proposed Project 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 landscape at the Port is highly engineered as required to support Port operations. The appearance of many Port operations is functional in nature and is characterized by exposed infrastructure, open storage, the use of unfinished or unadorned building materials, and the use of safety-conscious, high-visibility colors for mobile equipment such as cranes, containers, and railcars.

The existing visual quality at and in the vicinity of Berths 238 and 239 is low due to the dominance of equipment and facilities used in marine oil terminal activities. The existing features of the Project site include the existing concrete wharves, aboveground oil and product storage tanks, warehouse building and other associated infrastructure. Construction activities associated with the proposed Project would be temporary, are common within the harbor environment, and would generally resemble the existing setting in character; thus, construction of the proposed Project would not be incompatible with the general character of the surrounding areas.

The proposed Project would demolish the wharf, catwalks and topside equipment at Berth 239, and the features at Berth 238 would be at the same location as the existing features, would be similar in appearance, and would not result in a substantive change in the visual character or quality of the site. Other project elements, such as the breasting dolphins, would not be visually prominent and would not affect the site's visual character.

Future operational years could result in an increase in vessel calls to the terminal beyond baseline conditions; however, those additional vessels would be consistent in height, length and scale as those that currently moor at the terminal wharf. Because the additional vessels that visit the terminal would be consistent with existing terminal operations and a working port, there would be no significant

impact to the visual character of the site or its surroundings. Further, the proposed Project would be aesthetically consistent with the existing visual context of the working Port.

The proposed features at Berth 238 would be at the same location as the existing features, would be similar in appearance, and would not result in a substantive change in the visual character or quality of the site. Therefore, the proposed Project would not degrade or otherwise significantly impact the existing visual character or quality of the sites and surroundings. Therefore, impacts to existing visual character or quality from the proposed Project would be less than significant. No mitigation is required.

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. The Project site has on-site lighting and operates during nighttime hours; however, the illumination level is lower compared to the brightly illuminated Port landscape.

The Project site has existing security and general nighttime lighting on the property and along the wharf, but lighting levels are generally lower than in nearby container terminals. Mobile light sources at the Project site include ships berthed at the wharf, trucks, and cars on the site and on the access road leading to the site. Proposed Project construction would not occur during nighttime hours, and thus, no construction lighting would be required.

Under the proposed Project, existing wharf lighting would be removed from the wharf facility at Berth 239 and replaced with new lighting at Berth 238. At Berth 238, lights would be placed along the new loading platform, the catwalks, and on some topside equipment. The overall new lighting levels would be slightly less than existing levels because of the removal of the facility at Berth 239. Further, the new lighting would comply with the standards of the Port of Los Angeles Terminal Lighting Design Guidelines and Port of Los Angeles Energy Management Action Plan (POLA 2012, 2014), including the requirement to direct light toward the interior to minimize off-site spillover. Thus, the proposed Project would not result in a substantive increase in light.

Future operational years could result in an increase in vessel calls to the terminal above baseline conditions; however, the additional vessels would have safety lighting, would be similar to that on existing vessels, and would not represent a substantial new light source. Further, the vessels would be consistent with existing terminal operations and a working port.

The proposed Project would not include elements that can cause glare, such as windows, light-color building surfaces, or metal or other reflective surfaces. Therefore, the proposed Project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Therefore, impacts to nighttime or daytime views from 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. The proposed Project involves the demolition of the two existing wharf structures at Berths 238 and 239 and the construction of a new loading platform at Berth 238. The project components would be consistent with existing terminal features (topside improvements), and would not create a new source of substantial shade or shadow that would impact daytime views in the area. Therefore, impacts to daytime shade or shadow from the proposed Project would be less than significant. No mitigation is required.

4.2 AGRICULTURE AND FORESTRY RESOURCES

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 develops maps and statistical data to be used for analyzing impacts on California's agricultural resources. The Farmland Mapping and Monitoring Program categorizes agricultural land according to soil quality and irrigation status; the best quality land is identified as Prime Farmland. According to the Farmland Mapping and Monitoring Program, the Project site is an area designated as Urban and Built-Up Land, which is defined as land occupied by structures that have a variety of uses including industrial, commercial, institutional facilities, railroad or other transportation yards (California Department of Conservation 2011a, 2013). There is no Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Farmland of Local Importance in the Project vicinity or on the Project site. Therefore, the proposed Project 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 Project site is zoned for heavy industrial uses ([Q] M3-1), and there are no agricultural zoning designations or agricultural uses within the Project limits or adjacent areas. The Williamson Act applies to parcels consisting of at least 20 acres of Prime Farmland or at least 40 acres of land not designated as Prime Farmland. The Project site is not located within a Prime Farmland designation, nor does it consist of more than 40 acres of farmland (California Department of Conservation 2011a, 2013). No Williamson Act contracts apply to the Project site. As such, 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 (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

No Impact. The Project site is currently designated as Heavy Industrial Zone (M3) and ZI-2130 Harbor Gateway State Enterprise Zone. The Project site does not support timberland or forest land. Therefore, the proposed Project 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. The proposed improvements would occur at an existing marine oil terminal, which has no forest land. The proposed Project would not result in the loss of forest land or conversion of forest land to non-forest use. No impact 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 or conversion of forest land to non-forest use?

No Impact. As discussed above, no farmland or forest land is located within the surrounding area or at the Project site. The proposed Project would not involve the disruption or damage of the existing environment that would result in the loss of Farmland to non-agricultural use or conversion of forest land to non-forest use. No impact would occur and no mitigation is required.

4.3 AIR QUALITY

Would the Project:

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

Less-than-Significant Impact.

Air Quality Management Plan. 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 Project site and the South Coast Air Basin (Basin), which includes Orange County and portions of Los Angeles, Riverside, and San Bernardino Counties. The Basin is bounded by the Pacific Ocean to the west; the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east; and the San Diego County line to the south. For regions that do not attain the NAAQS, the CAA requires the preparation of a State Implementation Plan.

The 2016 Air Quality Management Plan (AQMP) focuses on attainment of the ozone and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) NAAQS through the reduction of ozone and $PM_{2.5}$ precursor nitrogen oxides (NOx), as well as through direct control of $PM_{2.5}$.

The 2016 AQMP reported that although the population in the Southern California Association of Governments 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 ozone levels have been reduced by more than 40%, 1-hour ozone levels by close to 60%, and annual $PM_{2.5}$ levels by close to 55% since 1990 (SCAQMD 2016a).

The AQMP proposes emission-reduction measures that are designed to bring the Basin into attainment of the national and state AAQS. 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. As a result, the proposed Project construction and operational activities would be required to comply with these regulations as they are developed. Compliance with AQMP 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 State Implementation Plan, and the CAA. Impacts would be less than significant, and no mitigation is required.

Clean Air Action Plan. The LAHD, with the cooperation of SCAQMD, CARB, and EPA, adopted the Clean Air Action Plan (CAAP) on November 20, 2006 (LAHD 2006), and adopted an updated CAAP in November 2010 (LAHD 2010). The CAAP is a plan designed to reduce the health risks posed by air pollution from all port-related emissions sources, including ships, trains, trucks, terminal equipment, and harbor craft.

In 2016, the Ports began the process of updating the CAAP. The scope and framework of the draft 2017 CAAP Update provides new and updated strategies and emission-reduction targets to cut emissions from sources operating in and around the Ports (LAHD 2017a), setting the Ports firmly on the path toward zero-emissions goods movement. The CAAP 2017 Update contains strategies to reduce emissions from sources in and around the Ports, plan for zero-emissions infrastructure, encourage freight efficiency, and address energy resources.

The Final CAAP 2017 Update was approved by the Boards of Harbor Commissioners for both the Port of Long Beach and the Port of Los Angeles on November 2, 2017. While the proposed Project is a less-than-significant impact for obstructing the implementation of applicable air quality plan or clean air programs, LAHD has included Lease Measure AQ-1 to allow for feasibility testing of At-Berth Control Technologies. The following Lease Measure is consistent with the CAAP 2017 Update, as it would ensure additional technologies are tested for feasibility within the Port complex.

LM AQ-1: At-Berth Vessel Emissions Capture and Control System
The Tenant shall begin to evaluate the financial, technical, and operational feasibility of operating barge and land-based vessel emissions capture and control systems and any other systems associated with emission reductions (hereinafter "Control Systems") that are available within three (3) months after the Effective Date of the Lease. The City of Los Angeles (City) and Tenant will decide jointly which systems should be considered for the reduction of emissions from all vessels calling at the premises. The evaluation of feasibility shall consider any potential impacts upon navigation, safety, and emission reductions. Cost Effectiveness (as defined below), and any other factors reasonably determined by Tenant and the City to be relevant shall also be considered. For purposes of the feasibility evaluation, "Cost Effectiveness" shall be defined as the annualized cost (in Dollars per year) of the Control Systems ("Annualized Cost") based on an agreed time period (the duration of such period determined with reasonable consideration of the Carl Moyer grant guidelines), divided by the annual net emission reductions (unweighted aggregate of net emissions reduction in tons per year of VOC, NOx, and PM_{10}) over the same time period during use of the Control Systems ("Net Annual Emission Reductions"). Annualized Cost shall include all costs associated with the Control Systems, including without limitation, all capital costs associated with design, permitting and construction of the Control Systems and all

costs associated with system evaluation, operations and maintenance. Cost Effectiveness (dollars per ton) may be calculated pursuant to the formulas below.

- Cost Effectiveness ($/ton) = Annualized Cost ($/year) / Net Annual Emission Reductions (tons/year)
- Net Annual Emission Reductions = Annual Vessel Emission Reductions – Annual Emissions Generated by Control System and Associated Equipment Operations

If Cost Effectiveness is greater than $18,262/ton (based on Appendix G of the Carl Moyer grant guidelines in effect as of the Effective Date), then implementation of the Control Systems shall not be considered feasible.

Tenant shall provide the Director of Environmental Management Division for the Harbor Department with a written report (the "Report") documenting the findings and conclusions of the feasibility analysis within one year of the Effective Date of the Lease. The Report's feasibility conclusion shall include but not be limited to specific findings in the following areas: (1) size constraints, (2) allowance for articulation of the recovery crane/device to service a variety of ship sizes that may reasonably call at the premises during the term of the proposed permit, (3) navigation for terminal operations as well as those of adjacent terminals, (4) compliance with Marine Oil Terminal Engineering and Maintenance Standards, (5) operational safety issues, and (6) compliance with the rules and orders of any applicable regulatory agency. The deadline for Tenant to submit the Report may be extended with the approval of the Board of Harbor Commissioners (Board), provided that such approval shall not be unreasonably withheld. City shall have 1 year to review and comment on the Report unless the Board reasonably determines that additional time is needed as a result of unanticipated events or any events beyond the reasonable control of the City. The Report and any associated staff comments from the City will be presented by the City to the Board at a public meeting. If the City's review of the Report is delayed beyond one year, then the City shall present this information to the Board at a public meeting along with a proposed new comment deadline for the City.

If the Board and Tenant agree that implementation of a Control System(s) is/are feasible, then Tenant shall complete a pilot study ("Pilot Study") within 3 years of the later of (i) receiving all approvals and permits required by Applicable Laws for such study, (ii) receiving any and all licenses and other intellectual property rights required by Applicable Laws to conduct such study, (iii) commencing with terminal operations upon the completion of all New Improvements and Tenant Constructed Improvements, and (iv) Board providing Tenant with approval to proceed. The deadline for Tenant to complete the Pilot Study may be extended with approval by the Board, provided that such approval shall not be unreasonably withheld. The Pilot Study shall consist of (i) installation of a test control system (the "Test System") for purposes of testing the performance of a Control System, and (ii) testing of the Test System and the collection of data therefrom. At the conclusion of testing, the Tenant shall submit a report (the "Pilot Study Report") to the Board. The Pilot Study Report shall include the following information: vessels

tested, operation and maintenance costs, emission reductions, operational considerations, and any other information Tenant reasonably determines to be relevant. The results of the Pilot Study, and any intellectual property rights therein, shall be owned by Tenant. The City and the Board shall use the results and Pilot Study Report only for the evaluation of the Pilot Study. City shall not issue any press releases or make any written public disclosures with respect to the Report or the Pilot Study Report without first providing Tenant with a reasonable opportunity to review such releases or disclosure for accuracy and to ensure that no technical information is disclosed where such public disclosure is not necessary (Tenant understands that nothing herein shall be interpreted to supersede the California Public Records Act and the City's responsibilities thereto).

If, based on the results of the Pilot Study set forth in the Pilot Study Report, the City and Tenant determine that all of the issues relating to feasibility and regulatory requirements of the Control System were adequately addressed, then Tenant shall, as soon as reasonably practicable after such determination, implement the Control System(s) into its operations throughout the remainder of the permit.

All capitalized terms not otherwise defined herein shall have the meaning ascribed to them in the tenant's permit.

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

Less-than-Significant Impact. SCAQMD 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 Significance Thresholds
for Daily Emissions and Ambient Pollutant Concentrations

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
Ambient Pollutant Concentration Thresholds		
Air Pollutant	**Ambient Concentration Thresholds**	
Nitrogen dioxide (NO_2) [a] 1-hour average	0.18 ppm (339 μg/m^3) (State)	

Table 4.3-1
SCAQMD Significance Thresholds
for Daily Emissions and Ambient Pollutant Concentrations

Daily Emission Thresholds	
1-hour average Annual average	0.100 ppm (188 µg/m^3)[b] (Federal) 0.03 ppm (57 µg/m^3) (State)
Particulate matter (PM_{10})[b] 24-hour average 24-hour average Annual average	 10.4 µg/m^3 (construction) 2.5 µg/m^3 (operation) 1.0 µg/m^3
Particulate matter ($PM_{2.5}$)[b] 24-hour average 24-hour average	 10.4 µg/m^3 (construction) 2.5 µg/m^3 (operation)
Sulfur Oxide (SOx) 1-hour average 24-hour average	 0.25 ppm (state) and 0.075 ppm (Federal – 99th percentile) 0.04 ppm (State)
Carbon monoxide (CO) [a] 1-hour average 8-hour average	 20 ppm (23,000 µg/m^3) (State) 9.0 ppm (10,000 µg/m^3) (State/Federal)
Toxic Air Contaminant and Odor Thresholds	
Toxic air contaminants (including carcinogens and non-carcinogens)	Maximum Incremental Risk ≥ 10 in 1 million Hazard Index ≥ 1.0 (project increment)
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402

Source: SCAQMD 2015.

[a] The nitrogen dioxide and carbon monoxide thresholds are absolute concentration thresholds, meaning that the maximum predicted Project incremental concentration relative to baseline is added to the background concentration for the Project vicinity, and the total concentration is compared to the threshold.

[b] The PM10 and PM2.5 thresholds are incremental concentration thresholds, meaning that the maximum predicted Project incremental concentration relative to baseline is directly compared to the threshold without adding the background concentration.

Construction Impacts

Project construction emissions were estimated for each construction year, starting in 2018 through 2019, in accordance with the anticipated Project construction schedule that can be found in the air quality technical appendix. The actual construction schedule may differ from the one used in the analysis, depending on requirements of the project proponent and construction contractor. The schedule used in the analysis is anticipated to result in conservative emission estimates because assumptions reflect an accelerated schedule and early construction years; postponement of construction activities would likely result in lower impacts as increasingly stringent regulatory requirements are implemented than those assumed in the analysis years.

The proposed Project would include both land-based and in-water construction activities. Land-based construction activities would require the use of off-road construction equipment and on-road vehicles. In-water construction activities would require the use of tugboats. These emission sources would primarily use diesel fuel, resulting in combustion exhaust emissions in the form of volatile organic compounds (VOCs), carbon monoxide (CO), NOx, SOx, and particulate matter. Earth-disturbance activities, such as excavation/grading and driving over unpaved surfaces, would also generate PM emissions in the form of fugitive dust. Paving and architectural coating activities could generate VOC emissions.

Land-based construction-related emissions were quantified using the California Air Pollution Control Officers Association's California Emissions Estimator Model (CalEEMod). CalEEMod calculates emissions associated with each construction phase; overlapping phases are added in calculating peak day emissions for each pollutant (CAPCOA 2013) (Appendix B).

Marine (tugboat) emissions were quantified using CARB's harbor craft emissions inventory and EPA's marine engine standards. CARB's tugboat emission factors were used to calculate tugboat emissions. Emission calculations for both construction and operational activities are included in Appendix A, Air Quality Supporting Documentation.

Construction activities would generate approximately 6,000 tons of debris from the demolition of Berths 238 and 239. This debris would be trucked to a local landfill. Concrete and building materials would be delivered during pile driving, platform construction, dolphin construction, and topside construction. All vehicle trips included in the analysis are summarized in Appendix A.

The analysis conservatively assumes the following Best Management Practices (BMPs) in accordance with LAHD's Sustainable Construction Guidelines:

- Construction equipment would be equipped with Tier 4 or equivalent engines.
- Exposed construction areas would be watered three times per day.

Criteria pollutant impacts were based on the proposed Project's peak day emissions that would occur within the Air Basin's borders and compared to SCAQMD's peak day regional emission thresholds for determination of significance. Table 4.3-2 summarizes construction emissions results. The table shows that all pollutant emissions would be below the significance thresholds.

Table 4.3-2
Construction Emissions (pounds per day)

Source Category	PM_{10}	$PM_{2.5}$	NO_x	SO_x	CO	VOC
2018						
Construction Equipment and On-Road Vehicles	3.5	2.3	56.1	0.1	36.2	4.9
Marine Sources	1	1	30	0	17	2
Total	4.5	3.3	86.1	0.1	53.2	6.9
Threshold	150	55	100	150	550	75
Above CEQA Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
2019						
Construction Equipment and On-Road Vehicles	2.4	1.5	38	0	23.4	3.0
Marine Sources	1	1	15	0	8	1
Total	3.4	1	53	0	31.4	4
Threshold	150	55	100	150	550	75
Above CEQA Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Notes:
2018 peak day occurs during overlap of pile driving deck and dolphins and platform deck construction.
2019 peak day occurs during demolition of Berth 239.

In addition to regional emissions presented above, localized impacts were analyzed using the SCAQMD's Localized Significance Threshold (LST). The LST methodology is based on maximum daily allowable emissions, the area of the emissions source, the ambient air quality in each source receptor area (SRA), and the distance to the nearest exposed individual. The LST is set up as a series of look-up tables for emissions of NOx, CO, particulate matter less than or equal to 10 microns in diameter (PM_{10}), and $PM_{2.5}$. If anticipated emissions are below the LST look-up table emission levels then the proposed activity is considered not to violate or substantially contribute to an existing or projected air quality standard.

The following parameters were selected in determining localized air quality impacts using the LST methodology. These parameters were selected because they would result in conservative (overstating of) impacts:

- Five-acre site (or greater).
- The closest residential receptor is over 500 meters to the west of the Project construction area, in San Pedro. Receptors located farther than 500 meters would experience lower impacts.
- The closest off-site work receptor would be within 25 meters of the Project construction area. Off-site work receptors located farther than 25 meters would experience lower impacts.
- The proposed Project is located in SRA 4, South Coastal LA County.

Table 4.3-3 summarizes the on-site peak daily emissions associated with construction of the proposed Project. The table shows that all pollutant emissions would be below the significance thresholds without mitigation.

Table 4.3-3
Peak Daily Construction Emissions

	Peak Day Emissions (lbs/day) – Residential Receptors			
Year	**PM_{10}**	**$PM_{2.5}$**	**NO_2**	**CO**
Total On-Site Emissions	4.5	3.3	86.1	53.2
Localized Significance Threshold	191	120	179	10,198
Significant?	**No**	**No**	**No**	**No**

Operational Impacts

Product throughput is anticipated to increase by approximately 95% in 2032, compared to baseline, and remain at 2032 levels through 2048. This increase would occur regardless of the proposed Project but was included in air quality calculations to present a conservative analysis.

Project operational emissions were estimated for the 2016 baseline, the 2032 buildout, and the 2048 future year. In-water emission sources would include ocean-going vessels (OGVs) (i.e., tankers and articulated and integrated ocean tugs, re-fueling barges, and assist tugboats. Land-based sources would include the use of terminal equipment, product loading, and storage tanks.

The following summarizes emission sources addressed in the analysis, general source characteristics, fuel, and emissions. For all source categories described below, Appendix A presents product throughput, activity, source characteristics, and emission factors:

- **OGVs:** Articulated and integrated ocean tugs, chemical tankers, handysize tankers, and Panamax tankers transport product to and from the facility. OGV activity is anticipated to increase by approximately 64% in 2032 compared to baseline and to remain at 2032 levels through 2048.

  Criteria pollutant and DPM emissions from OGV sources result during transit, anchorage, and hoteling activities.
- **Re-Fueling Barges:** Re-fueling barges are loaded with fuel at the facility and are used to distribute the fuel to other OGVs in the Port. Re-fueling barge activity is expected to increase by approximately 19% in 2032 compared to baseline, and remain at 2032 levels through 2048.

  Re-fueling barges are not equipped with engines and criteria pollutant and DPM emissions associated with these sources would result primarily from tugboats used to assist the barges. Emissions were quantified taking into consideration activity (i.e., one tugboat per re-fueling

barge), tugboat engine characteristics, transit distances, transit speeds, fueling times, tugboat EPA engine standards, and CARB harbor craft requirements.

- **Tugboats:** Tugboats are used to assist OGVs. Tugboat activity is expected to increase proportionate to the increase in tanker activity.
- **Product Loading and Unloading:** Unloading of product from incoming vessels is anticipated to increase five-fold compared to baseline, and remain at 2032 levels through 2048. Loading of product onto vessels is anticipated to decrease by approximately 30% compared to baseline, and remain at 2032 levels through 2048.

  Product loading onto vessels generates VOC emissions as loaded product displaces vapors in the vessel cargo hold. An SCAQMD-permitted vapor destruction unit (VDU) was used to destroy VOC emissions associated, as applicable, with product loading during baseline and would be used in future years. SCAQMD requires that the VDU controls VOC emissions such that emissions do not exceed 2 pounds per 1,000 barrels of loaded product.
- **Terminal Equipment:** The VDU used to destroy vapors associated with loading of product onto vessels is fueled by natural gas. Criteria pollutant emissions were also calculated as a result of this combustion process.
- **Storage Tanks:** Loading, unloading and storage of product in on-site storage tanks results in VOC emissions associated with product evaporation.

Significance determination of regional impacts is determined by comparing the proposed Project's reasonable, peak day emissions to the SCAQMD thresholds. A reasonable peak day for the baseline and the proposed Project would consist of a vessel at anchorage, a vessel discharging at berth and leaving, and another vessel arriving. For calculation purposes, peak day emissions were calculated for one vessel discharging at berth and one vessel transiting. The emission rate was calculated to be higher at berth, during product discharge, than during transit. Therefore, it was conservatively assumed that on a peak day, a vessel would spend 24 hours discharging at berth while another vessel would transit.

Criteria pollutant impacts were based on the proposed Project's peak day emissions that would occur within the Basin's borders and compared against SCAQMD's peak day regional emission thresholds for determination of significance. Table 4.3-4 summarizes operational emissions. The table shows that all pollutant emissions would be below the SCAQMD significance thresholds and would be less than baseline emissions. Projected emission reductions would be due to CARB's requirements for cleaner tugboat engines in future years.

Table 4.3-4
Peak Daily Operational Emissions – Proposed Project (Pounds per Day)

Source Category	PM_{10}	$PM_{2.5}$	NO_X	SO_X	CO	VOC
2016 Baseline						
Ships – at Berth	33	31	751	121	71	32
Ships – at Anchorage	10	10	401	26	37	15
Ships – Transit	17	16	1,018	28	92	42
Tugboats	2	1	33	0	19	2
Fugitives	—	—	—	—	—	—
Marine Loading	—	—	—	—	—	313
Tanks	—	—	—	—	—	56
Terminal Equipment	33	33	578	3	156	31
2016 Baseline Total	**96**	**91**	**2,781**	**177**	**374**	**491**
Year 2032						
Ships – at Berth	33	31	751	121	71	32
Ships – at Anchorage	10	10	401	26	37	15
Ships – Transit	17	16	1,018	28	92	42
Tugboats	0	0	9	0	19	1
Fugitives						
Marine Loading	—	—	—	—	—	313
Tanks	—	—	—	—	—	56
Terminal Equipment	33	33	578	3	156	31
2032 Total	**94**	**90**	**2,757**	**177**	**374**	**490**
CEQA Impacts						
CEQA Baseline Emissions	96	91	2,781	177	374	491
Project Minus CEQA Baseline	(1)	(1)	(24)	0	0	(1)
Significance Threshold	150	55	55	150	550	55
Significant?	**No**	**No**	**No**	**No**	**No**	**No**
Year 2048						
Ships – at Berth	33	31	751	121	71	32
Ships – at Anchorage	10	10	401	26	37	15
Ships – Transit	17	16	1,018	28	92	42
Tugboats	0	0	9	0	19	1
Fugitives						
Marine Loading	—	—	—	—	—	313
Tanks	—	—	—	—	—	56

Table 4.3-4
Peak Daily Operational Emissions – Proposed Project (Pounds per Day)

Source Category	PM_{10}	$PM_{2.5}$	NO_X	SO_X	CO	VOC
Terminal Equipment	33	33	578	3	156	31
2048 Total	**94**	**90**	**2,757**	**177**	**374**	**490**
CEQA Impacts						
CEQA Baseline Emissions	96	91	2,781	177	374	491
Project Minus CEQA Baseline	(1)	(1)	(24)	0	0	(1)
Significance Threshold	150	55	55	150	550	55
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Because proposed Project peak day regional emissions were calculated to be below baseline emissions, localized impacts would also be below baseline emissions. No further analysis of criteria pollutant localized impacts was deemed necessary. Localized criteria pollutant impacts would be below baseline and therefore below thresholds of significance.

Impacts related to air quality standards violations do not exceed significance thresholds; therefore, impacts would be less than significant, and no mitigation is required.

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, nitrogen dioxide, 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 federal AAQS is determined by CARB. The County is designated as a federal nonattainment area for ozone and $PM_{2.5}$ and state nonattainment area for ozone, PM_{10}, and $PM_{2.5}$.[1]

Air quality in the Basin has improved over the last several decades. The improvement in air quality is attributed to emission reductions from industrial sources, introduction of low-emission fuels used in on-road motor vehicles (e.g., low-sulfur fuels, reformulated gasoline, and low-

[1] 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 this proposed Project.

carbon fuel standards), and implementation of the AQMPs, which identify emission reductions 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." 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."

The proposed Project was evaluated against SCAQMD's cumulative impacts policy (SCAQMD 2003), and no significant cumulative air quality impacts were identified for either construction activities or operational activities. No mitigation is required.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less-than-Significant Impact. Sensitive receptors include residences, hospitals, or convalescent facilities. The nearest sensitive receptors would be residences located approximately 0.4 miles west of the Project site. The closest off-site workers would be located to the north and east within the Port. Impacts to sensitive receptors are typically evaluated in terms of exposure to toxic air contaminants, in accordance with the 2015 EPA's Office of Environmental Health Hazard Assessment (OEHHA) Guidelines (OEHHA 2015).

Proposed Project construction activities would occur over a period of 21 months and would result in short-term emissions of DPM from the combustion of diesel fuel in off-road construction equipment engines and on-road vehicles.

Although, as shown in Table 4.3-4, proposed Project operation activities would result in peak daily emissions below baseline emissions, the increase in annual vessel activity would increase annual DPM emissions above baseline emissions from such sources as vessels hoteling at berth and tugboats assisting in vessel maneuvering. Vessels at anchorage and transiting vessels would also result in DPM emissions; however, these sources would be sufficiently distant from sensitive receptors such that their impact contribution would not be considerable. SCAQMD has determined that toxic air contaminant impacts are localized in nature and that exposure from toxic air contaminants decline by approximately 90% at 300 to 500 feet from the emissions source (SCAQMD 2005). The nearest sensitive receptors are more than 1,640 feet from the Project site and calculated emissions would not exceed the health-protective, significance thresholds for sensitive receptors.

Proposed Project construction and operational activities would not expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant, and no mitigation is required.

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

Less-than-Significant Impact. Short-term odors from the use of diesel-powered, heavy-duty equipment and tugs may occur during construction. Odors from operation of the proposed Project would be similar to any odors produced from existing marine oil terminal operations and related activity, and would be primarily associated with vessels berthed at the terminal. For export of refined petroleum products, air displaced from tankers would be processed through a vapor control unit, as required by SCAQMD. Emissions of VOC from sealed piping components (e.g., valves and flanges) would be minimal and generally consistent with existing, as such also unlikely to cause changes in the odors around the facility.

Diesel exhaust from hoteling vessels and barges would be the highest mobile source of odor and generate the most obvious odors. The mobile nature of most Project emission sources would help to disperse proposed Project emissions. Additionally, the distances between proposed Project emission sources and the nearest sensitive receptors (San Pedro residences approximately 0.4 miles to the west) is far enough to allow for adequate dispersion of these emissions to below objectionable odor levels. No new odor sources are anticipated at Berth 238 upon final buildout.

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

4.4 BIOLOGICAL RESOURCES

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 San Pedro Bay Port 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. No candidate, sensitive, or special-status species are known to occur on the Project site, and there is no federally designated critical habitat in the harbor. There are several state or federally listed and other sensitive species that have been observed in the Harbor. These include 3 endangered and 1 threatened bird species (California least tern), 14 other bird species with state and/or federal protection or designation, and 2 pinnipeds protected by the Marine Mammal Protection Act (California sea lion and Pacific harbor seal) (MBC 2016).

Due to the heavy industrial use within the Project area and the developed nature of the existing terminal, the Project site is not a likely nesting area for the listed bird species. Based on the site's distance (1.7 miles) from the designated California least tern nesting site on Pier 400, and the fact that no suitable potential nesting habitat (bare ground, such as sand/soil) (Shuford and Gardali 2008) exists at the Project site, no impact on least tern or other bird nesting is anticipated as a result of the proposed Project.

The proposed Project also has the potential to introduce invasive species under operational conditions as a result of organisms attached to the hulls and anchors or living in the ballast water of vessels arriving from outside the U.S. Exclusive Economic Zone (EEZ) or other regions of the Pacific Coast. The potential for such an introduction of invasive species exists because the facility could accommodate an increase in vessel calls by 2032, which will remain constant through 2048. However, there are numerous regulations in place to regulate ballast water discharges, including the following: the federal Ballast Water Management Program (enforced by the U.S. Coast Guard), EPA's Vessel General Permit and California's Marine Invasive Species Act (enforced by the California State Lands Commission). In addition, vessel hulls are generally coated with antifouling paints and cleaned at intervals to reduce the frictional drag from growths of organisms on the hull, which would reduce the potential for transport of exotic species. California also has regulations regarding hull husbandry, including cleaning of niche areas and anchor chains. In addition, by 2032, all ships should be meeting performance standards enforced by U.S. Coast Guard and California State Lands Commission. For these reason, the proposed Project has a low potential to increase the introduction of non-native species into the Harbor that could substantially disrupt local biological communities.

The invasive algae *Caulerpa* (*C. taxifolia*) is listed as a federal noxious weed under the U.S. Plant Protection Act. In areas outside its native range it can grow very rapidly, causing ecological devastation by overwhelming local seaweed species and altering fish distributions. Although this species has never been observed in the Port Complex, it is a threat in Southern California, having been found in two Southern California coastal lagoons in 2000. This has prompted regulatory control measures, including the requirement to complete a *Caulerpa* survey in accordance with the *Caulerpa* Control Protocol prior to specific underwater construction activities such as bulkhead repair, dredging, and placement of navigational aids (NOAA Fisheries 2008). Therefore, a *Caulerpa* survey will be conducted at the Project site prior to the start of construction activities.

Marine mammals, including dolphins, seals, and sea lions, are protected by the Marine Mammal Protection Act of 1972. California sea lions have been observed in the harbor, especially adjacent to the municipal fish market in the Main Channel and in Fish Harbor. Marine mammals may forage in the harbor but do not breed there. Sightings of marine mammals were recorded during the 2013–2014 biological surveys of the Port Complex (MBC 2016). During the survey timeframe, California sea lions (*Zalophus californianus*) were observed throughout the Los Angeles–Long Beach Harbor, including near the Project site, while harbor seals (*Phoca vitulina*)

were limited to Outer Harbor waters. Neither of these pinniped species is endangered, and there are no designated significant ecological areas for either species within the Port Complex. Pile installation at the Project could result in disturbance to marine mammals in the vicinity of construction operations, and could potentially result in Level A harassment during impact driving of sheet piles and king piles at very close range. As a result of this, mitigation measure MM-BIO-1 has been proposed to reduce the potential for impacts to marine mammals.

Mitigation Measures

Impacts on marine mammals resulting from noise associated with pile driving would be reduced with implementation of MM-BIO-1. This measure would ensure that marine mammals would be readily able to avoid pile driving areas, and no injury to marine mammals from pile driving sounds would be expected.

> **MM-BIO-1 Protect Marine Mammals.** Although it is expected that marine mammals will voluntarily move away from the area at the commencement of the vibratory or "soft start" of pile driving activities, as a precautionary measure, pile driving activities occurring as part of the pile installation will include establishment of a safety zone, by a qualified marine mammal professional, and the area surrounding the operations (including the safety zones) will be monitored for marine mammals by a qualified marine mammal observer.[2]
>
> The pile driving site will move with each new pile; therefore, the safety zones will move accordingly.

Installation of piles required to support the unloading platform, access trestles, catwalks, and breasting dolphins would cause underwater sound levels that could also adversely affect fish. MM-BIO-1 has been proposed to reduce the potential for pile driving impacts to marine mammals, and its implementation would also reduce the likelihood of any impacts to fish as a result of pile driving.

Therefore, with the inclusion of MM-BIO-1, impacts associated with listed and other sensitive species would be less than significant.

[2] Marine mammal professional qualifications shall be identified based on criteria established by LAHD during the construction bid specification process. Upon selection as part of the construction award winning team, the qualified marine mammal professional shall develop site specific pile driving safety zone requirements, which shall follow NOAA Fisheries Technical Guidance Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (NOAA Fisheries 2016) in consultation with the Acoustic Threshold White Paper prepared for this purpose by LAHD (LAHD 2017c). Final pile driving safety zone requirements developed by the selected marine mammal professional shall be submitted to LAHD Construction and Environmental Management Divisions.

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 Impact. There is no riparian habitat at the Project site or in the vicinity. The proposed Project would replace the two existing 13,749 square feet concrete wharf structures and access trestles (a total of 27,498 square feet) at Berth 238 and 239 with a new approximately 13,500-square-foot steel-reinforced concrete loading platform at Berth 238, thus reducing the amount of wharf structure and corresponding overwater coverage by a total of 13,998 square feet. This would result in a positive benefit of the Project, as a decrease in overwater coverage results in a decreased amount of shading.

Wharf demolition and replacement activities would temporarily impact marine biota through resuspension of sediments and disturbance of benthic communities. However, the impact would be limited in extent and duration. After construction, the soft-bottom benthic communities would begin recolonizing the substrate. Therefore, impacts associated with riparian habitat or any other sensitive natural community that could result from implementation of the proposed Project would be less than significant, and no mitigation is required.

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?

No Impact. The proposed Project would not affect federally protected wetlands (as defined by Section 404 of the Clean Water Act) during in-water construction activities (i.e., wharf demolition and replacement) because there are no federally protected wetlands in the Project area. The only federally protected wetlands in the Los Angeles Harbor are the Anchorage Road Salt Marsh and the Cabrillo Salt Marsh, approximately 1.5 and 2.9 miles from the Project site, respectively. Neither of these wetlands would be affected or otherwise disturbed by the proposed Project. Therefore, no impacts would be associated with federally protected wetlands as defined by Section 404 of the Clean Water Act. 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. There are no known terrestrial migration corridors within the Port Complex, including the Project site because the Port is not located between natural resource areas that terrestrial wildlife would need to traverse. In addition, no fish migratory corridors are located in the Port. While fish nursery habitat exists in shallow water areas within the harbor, none is located in the project vicinity.

Construction activities could temporarily affect marine mammal and fish movement patterns in the vicinity of the Project; however, this impact would be short term in nature (also refer to discussion in Section 4.4(a)). Therefore, impacts associated with movement of any native resident or migratory fish or wildlife species would be less than significant. No mitigation is required.

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 City of Los Angeles ordinance (City of Los Angeles 2006b) pertain to certain tree species. These species include the Valley Oak (*Quercus lobata*) and California Live Oak (*Quercus agrifolia*), or 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*), and California Bay (*Umbellularia californica*), none of which exists on the Project site. Therefore, 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. The Project site is not located within an adopted Natural Communities Conservation Plan or Habitat Conservation Plan (HCP). There is only one Natural Communities Conservation Plan approved near the Port, located approximately 4 miles to the west of the proposed Project in the City of Rancho Palos Verdes, and it was designed to protect coastal scrub habitat (CDFW 2015).

There are no HCPs in place for the Port. A Memorandum of Understanding is in place for the LAHD, CDFW, USFWS, and the U.S. Army Corps of Engineers to protect the California least tern, and requires a 15-acre nesting site to be protected during the annual nesting season (May through October). The nesting site is on Pier 400 and is designated as a Significant Ecological Area by the County of Los Angeles (County of Los Angeles, Department of Regional Planning 2015). The Project site is located approximately 1.9 miles northwest from the California least tern nesting site and does not contain nesting habitat or foraging habitat. The proposed Project would have no impact on HCPs, Natural Communities Conservation Plans, the Memorandum of Understanding, or the Significant Ecological Area for California least tern. Therefore, no impact would occur, and no mitigation is required.

4.5 CULTURAL RESOURCES

This section addresses potential impacts on cultural resources that could result from implementation of the proposed Project. Cultural resources customarily include archaeological resources, ethnographic resources, and those of the built environment (architectural resources). Though not specifically a cultural resource, paleontological resources (fossils predating human occupation) are also considered in this evaluation, as they are discussed in Appendix G of the State CEQA Guidelines (Environmental Checklist Form).

Would the Project:

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

No Impact. The proposed Project involves demolishing two existing concrete wharves and replacing them with one new steel and concrete loading platform at Berth 238. In May 2010, a historic resources evaluation report recorded and evaluated the wharves for eligibility for the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR) and for designation as a Historic-Cultural Monument. The 2010 report found that Berths 238 and 239 had been used continuously for the transshipment of oil since their original construction in the mid-1920s by the General Petroleum Corporation. Since this period helped to establish the City as a major economic force in the region, Berths 238 and 239 may have been eligible for listing at a point in time. However, while the original 1920s-era concrete wharf structures were found to be generally intact, they were also found to have undergone various alterations over the years that reduced their historic integrity. Therefore, since the integrity of the wharves at Berths 238 and 239 and their setting had been compromised to the extent that the facility no longer appeared similar to when it was operated during the period of significance, no historical district could be formed. Thus, the wharves were not considered eligible for listing in the NRHP, in the CRHR, or as a City Monument.

In May 2017, the concrete wharfs were reevaluated as part of an update to a prior historic resources evaluation report for Berths 238 and 239 (Appendix C, Historic Resources Evaluation). The report concluded that there had been no significant changes to the site since the 2010 historic evaluation report was completed and that the description and evaluation of the site in the 2010 report remains accurate.

In summary, the 2010 historic resources evaluation report and the 2017 update to that report found that the wharves were not considered eligible for listing in the NRHP, in the CRHR, or as a City Monument. Therefore, there are no impacts to historical resources and no mitigation is required.

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

No Impact. The proposed Project is located on artificial fill material on Terminal Island that was constructed in the early twentieth century. The proposed Project would result in minor amounts of ground-disturbing activities (i.e., installation of topside equipment). However, the site is disturbed, and archaeological resources are not likely present.

Given the absence of known archaeological resources in the Project area and the limited ground-disturbing activities that would be done, adverse change to an archaeological resource would not occur, and no mitigation is required.

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

No Impact. The geologic formation within the Project site consists of artificial fill material, and engineered fill over natural landforms constructed in the twentieth century; therefore, the site would not be expected to yield significant paleontological resources or unique geologic features. Before improvements were made to the harbor (beginning in the nineteenth century), the Project area was covered by harbor waters or mudflats. The Project area has been routinely dredged and filled in the twentieth century to create shipping channels and increase or maintain the design depth at the berths. The proposed Project would occur primarily in and over harbor waters. Topside equipment installation would occur only within artificial fill and not in any geologic layer that could yield unique paleontological resources. Therefore, 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 dedicated cemeteries?

No Impact. No known cemeteries or burials are known to have occurred at the Project site, and the Project area is composed of engineered material constructed in the twentieth century. The proposed Project would occur primarily in and over harbor waters; however, the water areas have been routinely dredged over the history of the Port to either increase or maintain the design depth at the berth. Topside equipment installation would occur on the terminal site, which is not a known burial ground.

Therefore, wharf construction and topside equipment installation are not expected to encounter human remains. No mitigation is required.

4.6 ENERGY

a) Would the project conflict with adopted energy conservation plans?

Less-than-Significant Impact. As seen under Section 4.6(b), the proposed Project requires minimal energy for the construction and ultimate operation of the site. The proposed Project is not growth-inducing, and any growth projections in the future are based on economic projections rather than changes at the Project site. However, the improved terminal will be required to comply with current state energy efficiency standards and regulations pursuant to the California Building Code (CBC), California Green Building Standards (CALGreen), and City of Los Angeles Green Building Code (LAGBC) that would reduce long-term energy demand. These requirements would reduce wasteful, inefficient, and unnecessary consumption of energy over the long term. Other plans and policies pertaining to energy use include the following: Executive Directive No. 10, Sustainable City Plan, Sustainable Construction Guidelines, and San Pedro Bay Clean Air Action Plan (CAAP).

The proposed Project would not conflict with any of the abovementioned plans or policies because it requires negligible use of energy as shown below. Impacts to energy conservation plans will be less than significant with no mitigation necessary.

b) Would the project use non-renewable resources in a wasteful and inefficient manner?

Less-than-Significant Impact. Energy (primarily as diesel fuel, but including minor amounts of gasoline) would be used during construction of the proposed Project. Energy expenditures during construction would be temporary, lasting for approximately 21 months, and are necessary to achieve the overall project objective of providing a MOTEMS-compliant terminal. Construction would not result in substantial waste or inefficient use of energy. Construction would be consistent with the policies in the Port of Los Angeles Sustainable Construction Guideline, which require minimum engine emission standards for construction equipment in accordance with the CAAP.

During operations, energy in the form of fuel (primarily for the operation of OGVs) would be used. In the year 2032, the terminal could handle a peak annual throughput of 18,702,500 barrels, a 95% increase over the baseline throughput of 9,561,938 barrels. The corresponding increase in greenhouse gas emissions (which acts as a surrogate for energy use) between baseline and peak operations is 4,899 metric tons per year (mty). Table 4.6-1 shows the energy consumption per barrel of throughput during construction. Table 4.6-2 shows energy consumption per barrel of product during operations.

Table 4.6-1
Energy Efficiency of Proposed Project Construction

Source Category	Fuel	Fuel Use (gal/yr)	Throughput (Barrels per year)	Energy Consumption by Throughput (gal/barrel)
2018 Construction				
Marine	Diesel	9,389	—	—
Off Road	Diesel	39,509	—	—
Hauling	Diesel	1,484	—	—
Vendor Trips	Diesel	15,999	—	—
Worker Vehicles	Gasoline	8,985	—	—
Total Diesel Consumption	**—**	**66,381**	**9,561,938**	**0.007**
Total Gasoline	**—**	**8,985**	**9,561,938**	**0.0009**
2019 Construction				
Marine	Diesel	3,882	—	—
Off Road	Diesel	31,023	—	—
Hauling	Diesel	1,439	—	—
Vendor Trips	Diesel	20,283	—	—

Table 4.6-1
Energy Efficiency of Proposed Project Construction

Source Category	Fuel	Fuel Use (gal/yr)	Throughput (Barrels per year)	Energy Consumption by Throughput (gal/barrel)
Worker Vehicles	Gasoline	2,241	—	—
Total Diesel Consumption	**—**	**56,627**	**9,561,938**	**0.006**
Total Gasoline Consumption	**—**	**2,241**	**9,561,938**	**0.0002**

Table 4.6-2
Energy Efficiency of Proposed Project Operations

Source Catergory	Fuel Use(gal/yr)	Throughput (Barrels per year)	Energy Consumption by Throughput (gal/barrel)
Baseline – Operations			
Total Diesel	1,269,126	9,561,938	0.13
Total Natural Gas	27	9,561,938	0.000003
Year 2032 – Operations			
Total Diesel	1,781,116	18,702,500	0.10
Total Natural Gas	8	18,702,500	0.0000004
Year 2048 – Operations			
Total Diesel	1,781,116	18,702,500	0.10
Total Natural Gas	8	18,702,500	0.0000004

Therefore, the proposed Project would not use non-renewable resources in a wasteful or inefficient manner. Impacts would be less than significant, and no mitigation is required.

c) Would the project result in a need for new systems, or substantial alterations to power or natural gas?

No Impact. The Los Angeles Department of Water and Power (LADWP) is charged with maintaining sufficient capability to provide customers with a reliable source of power, and will continue to do so with proper planning and development of facilities in accordance with the City Charter, using such mechanisms as the Power Integrated Resources Plan. Based on the LADWP Power Integrated Resources Plan, electricity resources and reserves will adequately provide electricity to all of its customers, including the proposed Project. (LADWP 2016). Furthermore, because LADWP is moving toward increasing renewable energy supplies in its resource portfolio, the electricity demand of the proposed Project, by itself, would not result in the need to construct new facilities. Additionally, the proposed Project would have increased energy efficiency compared to baseline conditions (see Section 4.6(b)). Therefore, the proposed Project would have no impact related to the need for new or substantially altered electricity or natural gas systems, and no mitigation is required.

4.7 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.

Less-than-Significant Impact. The primary element of the proposed Project is to upgrade existing wharves at a marine oil terminal to meet seismic safety standards. The replacement of the existing concrete wharves with a new loading platform, breasting and mooring dolphins, and topside equipment in accordance with the findings of the MOTEMS audit. In addition, the City of Los Angeles has building and construction design codes that are meant to minimize structural damage resulting from a seismic event. The proposed Project would also be required to comply with the applicable engineering standards and building codes, including the MOTEMS regulations, Port engineering criteria, and applicable sections of the Los Angeles Building Code. Therefore, compliance with all of these regulations should render the site more seismically safe. Further, there are no defined active or potentially active faults under the Project site (Earth Mechanics 2009), nor are there any Alquist-Priolo Act identified zones within the Port. Therefore, impacts related to rupture of a known earthquake fault would not occur, and no mitigation is required.

Potential impacts associated with seismically generated tsunamis are addressed under Section 4.10(j).

(ii.) Strong seismic ground shaking?

Less-than-Significant Impact. Although no faults within the Port area are currently zoned under the Alquist-Priolo Act, potential hazards exist due to seismic activities associated with the Palos Verdes Fault Zone and the presence of engineered fill. The exposure of people to seismic ground shaking is a potential risk with or without the proposed Project. As discussed in Threshold (a)(i), compliance with MOTEMS regulations is designed to minimize structural damage resulting from a seismic event. The proposed Project would comply with the applicable engineering standards and building codes, including the MOTEMS regulations, Port engineering criteria, and applicable sections of the Los Angeles Building Code. Emergency planning and coordination would also contribute to reducing injuries to on-site personnel during seismic activity. PBF

Energy maintains a comprehensive Integrated Contingency Plan to be followed during natural disasters (including earthquakes). With incorporation of emergency planning and compliance with current regulations and standard engineering practices, impacts related to seismic ground shaking would be less than significant, and no mitigation is required.

iii) Seismic-related ground failure, including liquefaction?

Less-than-Significant Impact. The harbor area, including the Project site, is identified as an area susceptible to liquefaction in the City of Los Angeles General Plan, Safety Element, because of the presence of recent alluvial deposits and groundwater less than 30 feet below ground surface (City of Los Angeles 1996).

Construction of the proposed Project is required to adhere to seismic performance requirements specified in the MOTEMS regulations, which include standards intended to limit the probability of occurrence and the severity of consequences from geological hazards, such as earthquakes. Under the MOTEMS regulations, annual inspections and periodic audits (of a maximum of 5 years apart) occur that include engineering and structural evaluations. The audits include seismic structural evaluations as well. With compliance with appropriate MOTEMS requirements, engineering standards, and building codes, impacts associated with the risk of seismic-related ground failure would be less than significant, and no mitigation is required.

iv) Landslides?

No Impact. The proposed Project would be constructed and operated on Terminal Island, which is flat with no significant natural or graded slopes. The proposed Project is not located near any landslide hazard areas (City of Los Angeles 1996). There would be no impacts related to landslides, and no mitigation is required.

b) Result in substantial soil erosion or the loss of topsoil?

No Impact. The Project site is entirely paved. Construction of the proposed Project would include removal and replacement of wharf piles and decking, and would result in only minor and temporary disturbance of the pavement associated with topside equipment installation. Pavement disturbances would be repaired following construction, which would prevent substantial soil erosion from the site, and operation would continue similar to the existing terminal. Therefore, the proposed Project would not result in soil erosion or the loss of topsoil. There would be no impact, 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. The Project site is constructed on artificial fill, which could be subject to lateral spreading, subsidence, liquefaction, or collapse. As part of the MOTEMS audit in 2008, a geotechnical evaluation was performed of the terminal site that determined that no improvements are needed to maintain terminal operations; however, measures are needed to meet seismic requirements. The primary element of the proposed Project is the replacement of the existing concrete wharves with a new loading platform, breasting and mooring dolphins, and new landside topside equipment in accordance with the findings of the MOTEMS audit. 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 generally result from specific clay minerals that expand when saturated and shrink when dry. These expansive clay minerals are common in the geologic deposits in the adjacent Palos Verdes Peninsula. Clay minerals in geologic deposits within the Project area and previously imported fill soils could be expansive. However, the proposed Project features would not cause or accelerate risks associated with being located on expansive soils. With incorporation of modern engineering and safety standards and compliance with current building regulations, 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 waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The Project site is connected by sanitary sewer system to the City of Los Angeles Bureau of Sanitation's Terminal Island Treatment Plant. Therefore, the use of septic tanks would not be necessary. During the construction phase, portable toilets would be brought to the site for the construction crew, and the resultant wastewater would be disposed of into the existing sanitary sewer system. None of the Project improvements would generate wastewater that would be treated by an alternative wastewater disposal system. Therefore, no impacts associated with the ability of soils to support septic tanks would occur, and no mitigation is required.

4.8 GREENHOUSE GAS EMISSIONS

This section includes a description of the potential effects of greenhouse gases (GHGs) and analyses of potential GHG emissions and impacts of the proposed Project. The methods of analysis for Project emissions are consistent with the guidelines of the SCAQMD and LAHD's standard protocols.

GHG emissions were estimated for the proposed Project. Sources contributing to GHG emissions during construction are described in detail Section 4.3, Air Quality. The construction contractor shall be required to comply with applicable BMPs and LAHD Sustainable Construction Guidelines (see Section 4.3, Air Quality). CO_2E emissions were quantified using the CalEEMod model for land-based sources and EPA's marine engine standards and CARB's harbor craft emissions inventory for marine sources.

Sources contributing to GHG emissions during operation are described in detail in Section 4.3, Air Quality, and include OGVs, re-fueling barges, tugboats, product loading and unloading, terminal equipment, and storage tanks. Indirect GHG emissions, such as off-site power generation associated with on-site lighting requirements, are not expected to change due to the proposed Project and were not included in the analysis.

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 are as follows:

- 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.
- 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.

To provide guidance to local lead agencies regarding determining significance for GHG emissions in CEQA documents, SCAQMD convened the GHG CEQA Significance Threshold Working Group. Members of the working group included government agencies that implement CEQA and representatives from various stakeholder groups that provide input to SCAQMD staff members regarding developing the GHG CEQA significance thresholds.

On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal regarding an interim GHG significance threshold for projects where SCAQMD is lead agency. For industrial projects, a significance threshold of 10,000 mty of CO_2E emissions per year was established. Construction GHG emissions, amortized over project life, are required to be included in a project's annual GHG emissions totals (SCAQMD 2010).

LAHD has determined the SCAQMD-adopted 10,000 mty CO_2E threshold to be suitable for LAHD projects for the following reasons:

- In April 2008, the SCAQMD convened a GHG CEQA Significance Threshold Working Group. Members of the working group include government agencies implementing CEQA representatives from various stakeholder groups that provided input to SCAQMD staff on developing GHG CEQA significance thresholds.
- The SCAQMD industrial source threshold is appropriate for projects with future operations continuing as far out as 2050. The SCAQMD threshold development methodology used the EO S-3-05 emission reduction targets as the basis in developing the threshold (SCAQMD 2008), with the AB 32 2020 reduction requirements incorporated as a subset of EO S-3-05 (SCAQMD 2016b). EO S-3-05 sets an emission reduction target of 80% below 1990 levels by 2050. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020 (SCAQMD 2016b). AB 32 has the goal of achieving 1990 GHG levels by 2020.
- The SCAQMD industrial source threshold is appropriate for projects with both stationary and mobile sources, both of which are typical components of LAHD projects. CAPCOA guidance considers industrial projects to include substantial GHG emissions associated with mobile sources (CAPCOA 2008). 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 sources 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 (SCAQMD 2016b). For example, in one of its recent EIRs, the SCAQMD applied the 10,000 mty threshold to a refinery project where the mobile source emissions would increase and the stationary source emissions (combined direct and indirect) would decrease relative to baseline. The mobile source emissions included construction equipment, on-road vehicles, and on- and off-site rail transport. Moreover, in the same EIR, the SCAQMD also applied the 10,000 mty threshold to its list of related cumulative projects, two of which were LAHD projects (SCIG and ILWU Local 13 Dispatch Hall) with dominant mobile source emissions (SCAQMD 2016a). The SCAQMD also specifically approved the use of the 10,000 mty threshold on another current Port CEQA project dominated by mobile sources (Berths 97-109 [China Shipping] Container Terminal Project Supplemental Environmental Impact Report) (SCAQMD 2015).
- 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 (SCAQMD 2008), both natural

gas and diesel combustion produce CO2 as the dominant GHG (TCR 2016). 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.

- The SCAQMD industrial source threshold is conservative for LAHD projects. The 10,000 mty threshold is intended to achieve a 90% emission capture rate for permitted industrial facilities subject to the SCAQMD's Annual Emission Reporting (AER) program. LAHD projects subject to CEQA review usually far exceed this threshold because of their large size and large number of mobile sources such as ocean-going vessels, drayage trucks, trains, and cargo handling equipment.

After considering the CEQA Guidelines and LAHD-specific climate change impact issues, LAHD has set the following threshold for use in this EIR to determine the significance of proposed Project–related GHG impacts. The proposed Project would create a significant GHG impact if it:

GHG-1: Generates GHG emissions that, either directly or indirectly, exceed the SCAQMD 10,000 mty CO_2E threshold.

Less-than-Significant Impact. GHGs are gases that trap heat in the atmosphere and result from both natural processes and human activities. GHG emissions would be released from combustion sources associated with the proposed Project during both construction and operation.

Based on criteria set by the SCAQMD, a proposed project would have the potential to violate an air quality standard or contribute substantially to an existing violation if emissions exceed the threshold of significance in Table 4.8-1. Impacts are determined by comparing the combined amortized construction and future operational emissions to Baseline emissions. The proposed Project would not affect growth at the Port Complex. Table 4.8-1 shows the proposed Project's annual GHG emissions.

Table 4.8-1
Annual GHG Emissions Without Mitigation – Proposed Project (mty)

Source Category	CO_2	CH_4	N_2O	CO_2E
2018 Construction	661	0.1	0	663.6
2019 Construction	558	0.1	0	560.4
Amortized Annual Construction	22	0.1	0	22.12
2016 Baseline				
Ships – at Berth	3,398	0	0	3,471
Ships – at Anchorage	400	0	0	406
Ships – Transit	8,904	0	0	9,037
Tugboats	251	0	0	255
Terminal Equipment	1,460	0	0	1,462
Baseline Total	14,414	0	1	14,630

Table 4.8-1
Annual GHG Emissions Without Mitigation – Proposed Project (mty)

Source Category	CO_2	CH_4	N_2O	CO_2E
Operation Year 2032				
Ships – at Berth	5,372	0	0	5,489
Ships – at Anchorage	655	0	0	665
Ships – Transit	11,831	0	1	12,009
Tugboats	320	0	0	325
Terminal Equipment	426	0	0	426
Operational Total	**18,605**	**0**	**1**	**18,914**
CEQA Impacts				
CEQA Baseline Emissions	14,414	0	1	14,630
Project Minus CEQA Baseline	4,191	0	0	4,284
Significance Threshold	—	—	—	10,000
Significant?	—	—	—	**No**

Notes: Construction emissions were amortized over 30 years.

Informational assessment: Consider whether the proposed 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."

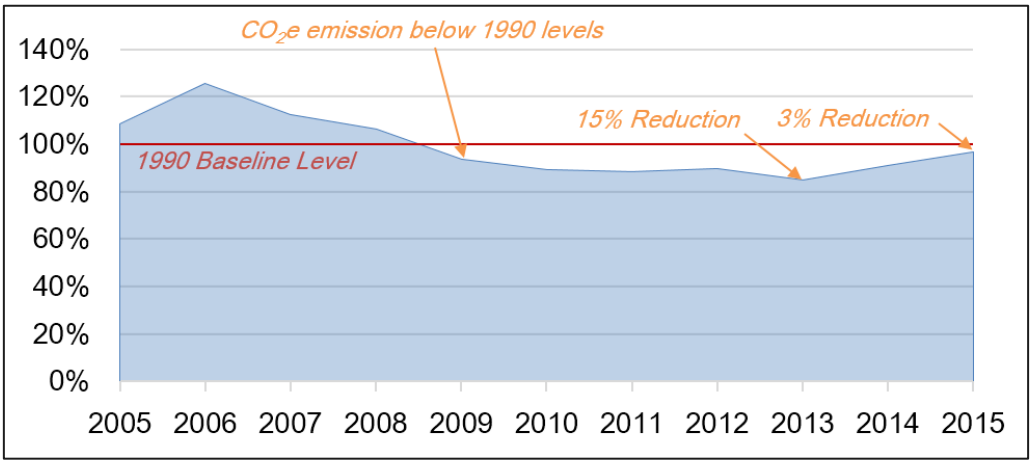
Several state, regional, and local plans have been developed that set goals for the reduction of GHG emissions over the next few years and decades. Some of these plans and policies (notably, EO S-3-05 and AB 32) were taken into account by the SCAQMD in developing the 10,000 mty CO_2E threshold. However, 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 the following:

- 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 4.8-1). As illustrated on Figure 4.8-1, 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 4.8-1: GHG Emissions 2005–2015

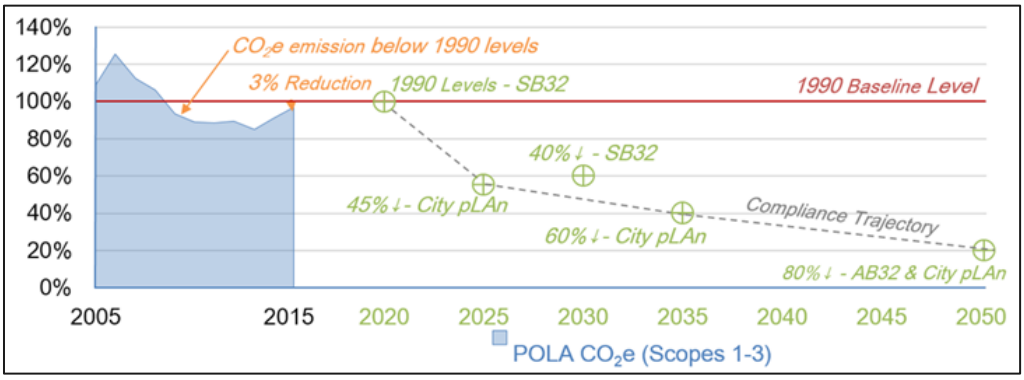


LAHD and its tenants have initiated a number of wide-ranging strategies to reduce all port-related GHGs, which includes the benefits associated with the Clean Air Action Plan (CAAP), Zero Emission Roadmap, Energy Management Action Plan (EMAP), operational efficiency improvements, and land use and planning 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 4.8-2 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 on Figure 4.8-2 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 4.8-2: Actual GHG Emissions
2005–2015 and 2015–2050 GHG Compliance Trajectory



Nevertheless, with the very aggressive targets shown on Figure 4.8-2, 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.

4.9 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?

Less-than-Significant Impact. Construction activities associated with the proposed Project are not likely to involve the use of substantial quantities of hazardous materials and the most likely source of hazardous materials would be from vehicles and construction equipment at the

site. However, there could be small amounts of hazardous materials, including solvents and lubricants used to maintain equipment for pile installation, platform construction, catwalk installation, topside equipment installation, and other Project elements. These materials would be confined and located on a barge or on land at the terminal. Additionally, construction activities would be conducted using BMPs in accordance with City guidelines, as detailed in the Development Best Management Practices Handbook (City of Los Angeles 2011), and the Los Angeles Municipal Code regulations (Chapter 5, Section 57, Division 4 and 5; Chapter 6, Article 4). Federal and state regulations that govern the storage of hazardous materials in containers (i.e., the types of materials and the size of packages containing hazardous materials), secondary confinement requirements, and the separation of containers holding hazardous materials, would limit the potential adverse impacts of contamination to a relatively small area. In compliance with the State General Permit for Storm Water Discharges Associated with Construction Activity and a Project-specific Storm Water Pollution Prevention Plan (SWPPP), standard BMPs would be used during construction activities to minimize runoff of contaminants and clean-up any spills. Applicable BMPs include but are not limited to controls for vehicle and equipment fueling and maintenance; material delivery, storage, and use; spill prevention and control; and solid and hazardous waste management. Therefore, implementation of construction standards would minimize the potential for an accidental release of petroleum products, hazardous materials, and/or explosion during construction activities at the Project site.

General operation of the proposed Project is expected to remain the same as existing conditions. During operation of the proposed Project, accidental releases or explosions of hazardous materials could occur from vessels in transit to and from the terminal as a result of collisions with other vessels or fixed structures, or while at berth at the terminal as a result of accidental releases during vessel loading and unloading. The increase in ocean going vessel transport of petroleum product would be approximately 30 ocean-going barges and ships in 2032 compared to baseline conditions. This results in an average yearly increase of approximately two vessels per year. By 2032, there would also be an increase of approximately 59 barge fueling operations compared to baseline conditions. These barges remain within the Port of Los Angeles and service Port tenants. This results in an average yearly increase of approximately four fueling sessions per year. Spill prevention and response measures are included in the facility's Spill Prevention, Control, and Countermeasure (SPCC) Plan, required under the Oil Pollution Act of 1990, under the Clean Water Act. The numerous safety regulations and spill response measures already in place at the facility would ensure that any unlikely release is handled quickly and minimizes any adverse effects to the maximum extent feasible.

The Oil Pollution Act (OPA; 33 CFR 157.10d) requires that tank vessels be double-hulled as of specified January 1, 2015. Tank vessel means a vessel that is constructed or adapted primarily to carry, or that carries, oil or hazardous material in bulk as cargo or cargo residue, and that functions as follows:

- Is a vessel of the United States.

- Operates on the navigable waters of the United States.
- Transfers oil or hazardous material in a port or place subject to the jurisdiction of the United States. This does not include an offshore supply vessel, or a fishing vessel or fish tender vessel of not more than 750 gross tons when engaged only in the fishing industry.

Operation of the proposed Project would consist of the loading or unloading of double hulled barges and tankers. Over time, the facility anticipates increases in product exporting and decreases in imports.

During operation of the proposed Project, accidental releases of hazardous materials could occur from vessels in transit to and from the terminal as a result of collisions with other vessels or fixed structures, or while at berth at the terminal as a result of an accidental release or explosion during vessel loading and unloading.

Spills of petroleum products from tank vessels and marine oil terminals in the Los Angeles Harbor are infrequent, and their consequences have been minor, and the continued use of double hulled tank vessels is expected to help limit the potential spills sizes and consequences.

All tank vessels are required to have double hulls, which lowers the potential for a spill in the event of an accident. In addition, the existing regulatory framework and navigational procedures would continue to minimize the potential for accidents that could result in a release of product during transport under the proposed Project. For example, the vessel traffic lanes that have been established off the coast of California are separated by a zone where vessel transit is to be avoided, thereby minimizing the potential for collisions between vessels traveling in opposite directions. As tank vessels approach the Port Complex, they leave the established traffic lanes and enter the Precautionary Area, where speed limits are in effect, and as the vessels approach within 2 nm of Point Fermin lower speed limits apply. In addition, Port Pilots would navigate the vessels within the breakwater, and the vessels would be tug assisted. These navigational safety requirements and practices would minimize the potential for collisions, allisions, or groundings that could result in a product spill. Accordingly, although the proposed Project would increase vessel traffic, with the existing navigational safety requirements and practices, the Project is not expected to substantially increase the likelihood or consequences of a release during navigation.

The purpose of the proposed Project is to increase the safety of product transfer operations at marine oil terminals. There is not enough data to quantify the extent to which MOTEMS improvements would be expected to increase the safety of the facility and could reduce the probability of spills at marine terminals (especially associated with vessels and/or vessel collisions). Also, the new loading platforms, mooring dolphins, and berthing dolphins would be more capable of withstanding vessel movements and seismic events than the existing wharf and dolphins. The proposed Project would replace existing loading hoses, pipelines with modern articulated arms that would reduce the potential for rupture or leakage during product transfer. In addition, when tankers are being unloaded at the terminal, inert gas systems are used to prevent

explosive conditions from forming in the vessel tanks. During loading, the vapor control system (i.e., VDU) would destroy any vapors that are displaced from the vessel tanks, thereby preventing explosive conditions.

The purpose of the proposed Project is to increase the safety of product transfer operations at marine oil terminals; as such, operation of the proposed Project, including any additional vessels above the baseline, would not substantially increase the frequency or severity of releases of hazardous materials during transfer operations at Berths 238–239. Therefore, the proposed Project would not create a significant hazard to the public or the environmental through the routine transport, use, or disposal of hazardous materials. The impact would be less than significant, and no mitigation is required.

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. Soil and groundwater beneath the Project site are known to be impacted with petroleum hydrocarbons due to site operations. Historical and current contaminants of concern include total petroleum hydrocarbons, volatile and extractible ranges, benzene, toluene, ethylbenzene, and xylenes, methyl tertiary-butyl ether, and lead. The groundwater and soil at the Project site are being monitored for contamination of floating hydrocarbon products (FHPs) and other pollutants of concern under an active Cleanup and Abatement Order (CAO) (No. 99-003) issued by the Los Angeles Regional Water Quality Control Board (LARWQCB). Since the transfer of facility operations from ExxonMobil to PBF Energy in 2016, PBF Energy has been added to the CAO along with Exxon. Currently, remediation operations consist of on-site and off-site manual and automated FHP recovery systems. The FHP recovery systems are gauged and maintained on a weekly basis. Monitoring and reporting of FHP thickness and sampling of groundwater and surface water are currently conducted at the Site in accordance with the CAO.

ExxonMobil implemented an extensive incident response and mitigation program and devised long-term plans to prevent the release of hazardous materials in the harbor in 2011. This included construction of sheet pile/slurry injection barrier walls to provide a short- and long-term remedy to prevent residual petroleum hydrocarbons from penetrating the concrete seawall and entering the harbor. Since the barrier was installed in January 2011, there has been no visible sheen or release of any kind reported in the area of Berth 238. In 2013, ExxonMobil also implemented a Fluid Migration Barrier Extension Work Plan. Since the barrier extension work plan was implemented, there has been no evidence of FHP releases to the harbor in the vicinity of Berth 238. ExxonMobil also completed a dike liner project that lined the entire tank farm to prevent releases to the subsurface and limit stormwater infiltration. These improvements have effectively lessened the potential for the terminal to release petroleum hydrocarbons to the environment. Therefore, significant impacts associated with accidental release of hazardous materials are not expected.

LARWQCB will be notified of project scope prior to start of construction. Construction of the proposed Project would demolish the existing wharves and replace them with a new loading platform, access trestles, new mooring and breasting systems, and topside equipment. This work would involve driving piles on the waterside of the terminal. The proposed Project involves minimal topside disturbances. Every effort would be made to avoid areas of known soil or groundwater contamination; however, if contaminated soils or groundwater are encountered, LARWQCB will be notified and all regulatory procedures will be followed.

Although the piles may extend into contaminated groundwater, the groundwater would not be drawn or extracted to the surface. Once installed, the piles would be capped, and the unloading platform, abutments, access trestles, and catwalks would be installed atop the capped piles. Because the piles would be capped and open excavation to groundwater would not occur, construction of piles under the proposed Project would not create a significant hazard to the public or the environment related to the release of groundwater contaminants.

Operation of the proposed Project is expected to remain the same as existing conditions. There may be more vessel calls in the future but these calls would have occurred regardless of the project and they are not anticipated to increase the risk of an accidental spill or risk of upset incident to a significant level. Spill prevention and response measures are included in the facility's Spill Prevention, Control, and Countermeasure (SPCC) Plan, required under the Oil Pollution Act of 1990, under the Clean Water Act. The numerous safety regulations and spill response measures already in place at the facility would ensure that any unlikely release is handled quickly and minimizes any adverse effects to the maximum extent feasible.

Therefore, the proposed Project would not create a significant hazard to the public or the environmental through upset and accident conditions involving the release of hazardous materials. The impact would be less than significant, and no mitigation is required.

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. The Project site is located within the Los Angeles Unified School District; however, there are no schools within one-quarter mile of an existing or proposed 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. The provisions in Government Code Section 65962.5 are commonly referred to as the "Cortese List." Because this statute was enacted over 20 years ago, some of the provisions refer to agency activities that are no longer being implemented, and, in some cases, the

information to be included in the Cortese List does not exist. The California Environmental Protection Agency (CalEPA) has identified the data resources that provide information regarding the facilities or sites identified as meeting the "Cortese List" requirements (CalEPA 2017a).

The Project site is contained on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 (DTSC 2011). The Project site was listed on the State Regional Water Resources Control Board (SWRCB) list of "active" Cleanup and Abatement Orders (CAO No. 99-003) (SWRCB 2017) and is therefore considered part of the Cortese List. As discussed above, remediation of existing groundwater and soil contamination at the site is currently occurring and construction of the proposed Project is not expected to result in the release of groundwater contamination. 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, result in a safety hazard for people residing or working in the project area?

No Impact. The proposed Project is not located within an airport land use plan or within 2 miles of a public airport or a public use airport. No impact would occur as a result of the proposed Project, and 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. A helicopter-landing pad for Island Express is located at Berth 95 (Catalina Air and Sea Terminal Helicopter) approximately 1 mile north of the Project site. Only small helicopters operate from this location and transit primarily via the Main Channel. The proximity of the heliports would not result in a safety hazard for people working in the Project area. The proposed Project would have no effect related to private airstrips. No impact would occur as a result of the proposed Project, and 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. The Project site is currently used for the handling and transport of oil and fuel products. Project construction would occur within the Project site boundaries and is not expected to affect emergency response or evacuations. As part of standard procedure for activities occurring on Port property, as well as within the Port area, the contractor would coordinate with Port Police, Los Angeles Police Department (LAPD), and fire protection/service providers, as appropriate, on traffic management issues and any Port improvement plans occurring in the vicinity. Traffic control equipment would be in place to direct local traffic around the work area if necessary.

An emergency response action plan has been prepared for the existing terminal, which provides detailed procedures to be followed in the event of an emergency at the terminal. During proposed Project operation, PBF Energy, U.S. Coast Guard (USCG), Port Police, and Fire emergency response plans are employed as necessary in accordance with the Port's Risk Management Plan and MOTEMS requirements. The proposed Project would implement the most recent engineering standards required by MOTEMS for the design and maintenance of marine oil terminals to better protect public health and safety and the environment. Future operational years could result in an increase in vessel calls at the terminal. Additional vessels beyond the baseline vessel calls would moor at the new loading platform (waterside portion of the terminal). The additional vessels would not result in activities that could impede land-based emergency responses to the terminal.

The proposed Project would comply with MOTEMS requirements and would not impair implementation of or physically 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. There are no wildlands at or near the Project site (City of Los Angeles 1996). Therefore, no impacts would occur as a result of the proposed Project, and no mitigation is required.

4.10 HYDROLOGY AND WATER QUALITY

Would the Project:

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

Less-than-Significant Impact. Construction of the proposed Project could result in sediment resuspension during demolition, pile installation and platform/decking construction. The demolition of the existing concrete wharves is not expected to result in a substantial release of contaminants as described under Section 4.9(b). During removal of existing piles, the piles would first be pulled, followed by cutting at the mud line for piles that are not able to be extracted via pulling. While there may be increased debris initially (including concrete debris from existing piles to be removed) in the water during wharf demolition and pile removal (from removing the decking and removing the piles), the demolition contractor would adhere to water quality requirements issued from the LARWQCB (WDRs/Section 401 Water Quality Certification). This would limit the potential for violations of water quality standards to below a level of significance. Removal of the piles could resuspend some bottom sediments and create localized and temporary turbidity plumes and associated water quality issues as discussed above. However, such impacts would occur over a relatively small, localized area.

In addition to water quality effects related to resuspended sediments, accidents resulting in spills of fuel, lubricants, or hydraulic fluid from equipment used during wharf demolition, pile installation, wharf improvements, and topside equipment installation could occur during proposed Project construction. However, large volumes of these materials typically are not used or stored at construction sites, and the facility is subject to hazardous materials management requirements under the Certified Unified Program Agencies (CUPA). Spill prevention and response measures are included in the facility's Spill Prevention, Control, and Countermeasure (SPCC) Plan, required under the Oil Pollution Act of 1990, under the Clean Water Act.

Potential construction impacts would also be regulated under the National Pollutant Discharge Elimination System (NPDES) Construction General Permit, which requires a site-specific Stormwater Pollution Prevention Plan (SWPPP) that would define actions to minimize potentials for spills, as well as manage runoff, and prevent impacts to water quality. BMPs would be implemented during construction in accordance with the SWPPP, as well as the Clean Water Act Section 401 Water Quality Certification issued by the LARWQCB. As a consequence, accidents that result in spills of contaminants during Project construction are not expected to adversely affect beneficial uses of harbor waters or result in violations of water quality standards.

Facility operations are covered under both CUPA and SPCC requirements, as mentioned above. The onshore storm drain system of the existing marine oil facility would not be modified, and the proposed Project would not increase the amount of impervious surface area of the terminal. Stormwater from the tank farm area is contained by concrete containment walls, where it is accumulated and eventually conveyed to the sanitary sewer system (the facility holds a City of Los Angeles industrial wastewater discharge permit). In the event this water is not suitable for discharge to the sewer, it will be transported off site for treatment and disposal. The hazardous waste storage area, as well as other material storage areas, all have secondary containment. Rainwater that accumulates in these areas drains to the slop tank and is piped to the refinery. The access roads outside of the tank farm have storm drains that are locked shut. Water that collects in the roadway areas is usually left to evaporate. In a rare flood situation, water from the access roads can be discharged to the harbor after passing a visual/smell inspection. None of these onsite containment/drainage systems will change with implementation of the proposed Project.

Stormwater from the existing overwater wharves and wharf access road flows directly to the Los Angeles Harbor, and once the Project is completed, stormwater on the new loading platform and access trestles would also flow directly into the harbor. All equipment involved in loading/offloading operations on the new loading platform will have secondary containment in place. Operation of the facility will remain the same and the facility will continue to comply with all BMPs and rules and regulations pertaining to water quality standards and waste discharge standards. Therefore, potential construction- and operations-related 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. Groundwater at the Project site is affected by saltwater intrusion (high salinity), and is therefore unsuitable for use as drinking water. The proposed Project construction activities would occur primarily in and over harbor waters; the limited landside activities would not adversely affect groundwater recharge because the terminal is not used as a recharge site, and would not adversely affect drinking water supplies because there are none on or near the site. The proposed Project would not change the amount of impervious surface at the site nor would it substantively alter the land surface; therefore, groundwater recharge would not be changed. The proposed Project would not install any new groundwater wells, and groundwater extraction would not occur as part of the proposed Project. Thus, the proposed Project would not affect the existing groundwater supplies, drinking water supplies, groundwater recharge facilities, or aquifers. 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. The majority of the Project site is currently developed and paved and, as such, is impervious. The proposed Project would not alter the amount of impervious surface area. As discussed above, site drainage systems/patterns would not be altered as a result of the proposed Project, and the majority of the construction work associated with the proposed Project will be conducted over water, where there is no erosion potential. Therefore, no impacts related to alteration of drainage patterns resulting in erosion or siltation would occur, 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. There is no change to the landside storm drain system or site drainage patterns as a result of the proposed Project. Therefore, no impacts related to alteration of drainage patterns resulting in flooding would occur, 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?

No Impact. The majority of the Project site is paved and impervious with an existing storm drainage system. The existing system, which has adequate capacity, discharges runoff from the wharves directly into the harbor, and runoff from the remainder of the terminal is directed to the sanitary sewer system or to the refinery. No changes in the impervious surface area, site topography, or drainage systems would occur; therefore, the proposed Project would not exceed the capacity of existing or planned stormwater drainage systems. The proposed Project would have no impact with respect to exceeding capacity of the stormwater drainage system, or provide substantial sources of polluted runoff, and no mitigation is required.

f) Otherwise substantially degrade water quality?

Less-than-Significant Impact. There are no additional water quality-related issues associated with construction and operation of the proposed Project that would otherwise substantially degrade water quality. Spill prevention and response measures would be in place during both construction and facility operations to minimize release of contaminants from the facility. 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. No housing is proposed under the proposed Project. 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?

No Impact. According to Flood Hazard Map FM06037C2032F, the Project site is located in Zone AE which is identified as Special Flood Hazard Area subject to inundation by the 1% annual chance flood, also known as the base flood, which has a 1% chance of being equaled or exceeded in any given year (FEMA 2008).

The proposed Project would include demolition of the existing concrete wharf structures at Berth 238 and construction of a loading platform replacement structure. The replacement platform at Berth 238 would be located at the same location and height as the existing wharf structure and would not increase the potential for flooding in that area. The Project site is located on the shoreline, which would allow any excess runoff to flow into the harbor. Additionally, site elevations and the flat site topography would not change under the proposed Project. Therefore, there would be no impact related to placing structures within a 100-year flood hazard area, 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?

No Impact. There are no levees or dams in the vicinity of the Project site that would be subject to failure or would expose people or structures to a significant risk of loss, injury, or death involving flooding associated with levee or dam failure (City of Los Angeles 1996). Please also refer to Section 4.9(h) (FEMA 2008). Therefore, no impact associated with risk of loss, injury, or death involving flooding as a result of the failure of a levee or dam would occur, and no mitigation is required.

j) Inundation by seiche, tsunami, or mudflow?

Less-than-Significant Impact. The proposed Project would not increase impacts associated with seiche, tsunami, or mudflow. The Project site and surrounding area are primarily paved and flat with relatively small elevation differences, and thus, mudflows would not occur. Seiches are seismically induced water waves that surge back and forth in an enclosed basin and could occur in the harbor as a result of earthquakes. A Port Complex (Port of Los Angeles and Port of Long Beach) model that assessed tsunami and seiche scenarios determined that in each case modeled, impacts from a tsunami were equal to or more severe than those from a seiche (Moffatt and Nichol 2007). As a result, the discussion below refers to tsunamis as the worst case of potential impacts. Potential impacts related to seiches would be the same as or less than identified below.

Construction and operation of the proposed Project would not increase the potential for tsunami damage to occur. Under the proposed Project, the existing concrete wharves at Berths 238 and 239 would be replaced by a new modern wharf structure at Berth 238. No other new structures would be constructed that would be subject to damage, including inundation, by tsunami. The proposed Project would implement the most recent engineering standards required by MOTEMS, which specifically considers tsunamis (24 CCR 3103F.5.7), for the design and maintenance of marine oil terminals to better protect public health, safety and the environment.

The Port Complex model indicates that a reasonable maximum source for future tsunami events within the harbor area would either be a magnitude (M) 7 earthquake on the Santa Catalina Fault or a submarine landslide along the nearby Palos Verdes Peninsula. The tsunami study notes that large offshore earthquakes (M~7.5) in the Port region are very infrequent. Furthermore, not every large earthquake is expected to generate a tsunami based on historical occurrences. Based on the seismicity, geodetics, and geology, a large locally generated tsunami from either local seismic activity or a local submarine landslide would likely not occur more than once every 10,000 years.

A Sea Level Rise Vulnerability Report for the City of Los Angeles presents initial research on the potential impacts of sea level rise and associated flooding from storms in City of Los Angeles coastal communities. For the period of 2000–2050, the report suggests that the sea level can rise by up to 2 feet by 2050 (USC 2013). A maximum tsunami wave height of 7.2 feet along the Main Channel on top of a 2-foot sea level rise would result in a combined potential wave height of 9.2

feet above mean sea level in the vicinity of the Project site. No overtopping at the Project site is anticipated as a result of a tsunami. The proposed Project is a wharf replacement project that would meet all MOTEMS requirements and standards, and is not expected to contribute to an increased potential for inundation by seiche, tsunami, or mudflow. Therefore, there would be a less-than-significant impact associated with inundation by seiche, tsunami, or mudflow, and no mitigation is required.

4.11 LAND USE AND PLANNING

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

Would the Project:

a) Physically divide an established community?

No Impact. The proposed Project is located on Terminal Island, a heavy industrial area of the Port that does not contain any established communities. The nearest residential areas to the Project site include the single-family and multi-family residences along South Beacon Street across the Main Channel in San Pedro (approximately 0.4 miles or 2,100 feet to the west). Proposed Project improvements would be confined to the existing marine oil terminal at Berths 238 and 239. The proposed Project would not physically divide an established community. 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?

Less-than-Significant Impact. The Project site is located on Terminal Island in the Port of Los Angeles Community Plan area, the community of San Pedro is located to the west and southwest, and the community of Wilmington is located to the north. The existing marine oil terminal (SWT-I) occupies a land area of approximately 20.54 acres, has 2 active dedicated berths (Berths 238 and 239) providing for a total of 1,000 feet of continuous berthing space, and has 19 storage tanks of various sizes, parking, and several ancillary buildings.

Land uses in the vicinity of SWT-I support a variety of cargo handling operations (including container, liquid bulk, and dry bulk). SWT-I occupies the western side of Terminal Island along the east side of the Main Channel and is generally bounded by the Main Channel and Southwest Marine Terminal to the south; Berths 240W, 240X, and 240Y to the east; Berth 237 and the

Evergreen Container Terminal (Berth 236) to the north; and the Main Channel and the San Pedro Public Market to the west.

SWT-II is a tank farm approximately 16.62 acres in size located approximately 3,500 feet northeast of SWT-I at 401 Ferry Street/551 South Pilchard. SWT-II is generally bounded by the Evergreen Container Terminal to the north and west, Ferry Street to the east, and the Terminal Island Water Reclamation Plant to the south. Local access if provided by Ferry Street and Earle Street. Access to the Project site is via Pilchard Street.

Both facilities are serviced by approximately 21.98 miles of existing pipelines operated and maintained within LAHD's jurisdiction.

The Port of Los Angeles Master Plan serves as a long-range plan that establishes policies and guidelines for future development of the Port. The proposed Project is located in Planning Area 3, Terminal Island. Planning Area 3 is the largest planning area, consisting of approximately 1,940 acres and more than 9.5 miles of usable waterfront. It consists of all of Terminal Island except Fish Harbor. The land uses in Planning Area 3 includes container terminals (1,565 acres); liquid bulk (99 acres); commercial fishing (1 acre); maritime support (100 acres); institutional (26 acres); open space (34 acres); a mix of container, dry bulk, and breakbulk uses (85 acres); and a mix of container and liquid bulk uses (5 acres) (POLA 2013) (see Figure 4.11-1, Land Use Designations). Before the PMP Update, the SWT-II area was designated for liquid bulk uses. After the update, the area was designated for container uses. As an existing operation, the tank farm at SWT-II is allowed to continue operations (grandfathered) under the updated PMP.

The Port of Los Angeles Master Plan is part of the City of Los Angeles General Plan Land Use Element, which serves as the guide for the continued development and operation of the Port (City of Los Angeles 1982). SWT-I and SWT-II are both zoned [Q] M3-1 (Quasi-Heavy Industrial) by the City of Los Angeles Zoning Ordinance. The [Q] designation restricts uses to General Cargo, limited Port-related commercial, industrial, and support uses. The proposed Project would provide for the continuation of the existing use, which is consistent with the [Q] M3-1 zoning of the site. The continuation of the sites as a marine oil terminal and tank farm under the proposed Project would be consistent with the surrounding uses, which include other port uses, such as the Evergreen Container Terminal and South West Marine Terminal.

As such, the proposed Project would not conflict with any applicable land use plan, policy, or regulation. Therefore, impacts would be less than significant, and no mitigation is required.

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

No Impact. As discussed in the Section 4.4, Biological Resources, the Project site does not fall within or near an area covered by a HCP or natural community's conservation plan; therefore, the proposed Project would not conflict with any HCP or natural community's conservation plan. Therefore, no impacts associated with conservation plans would occur, and no mitigation is required.

4.12 MINERAL RESOURCES

Would the Project:

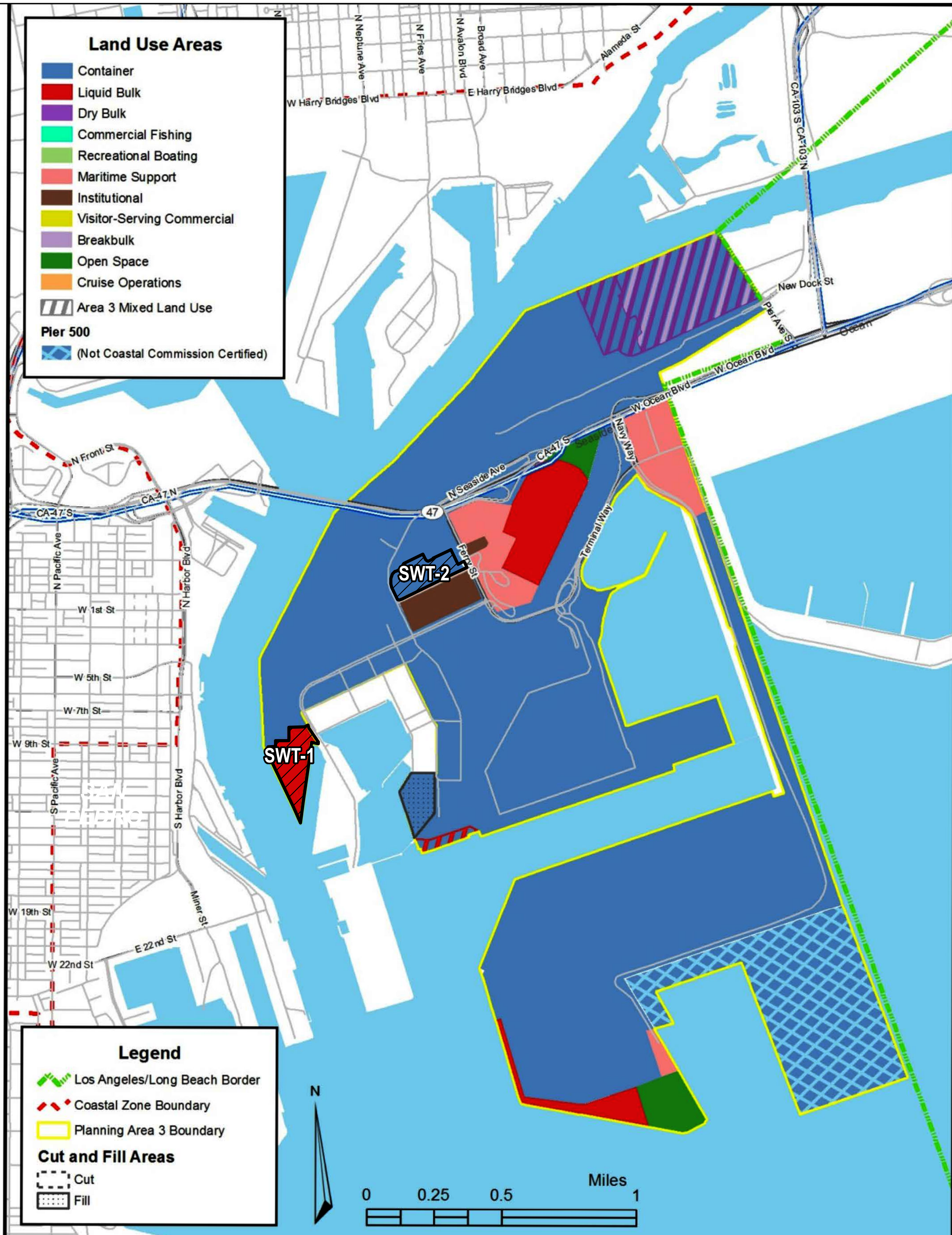
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact. The proposed Project is located on Terminal Island, which is made mostly of artificial fill material. The Wilmington Oil Field is the third largest oil field in the United States based on cumulative production. The Wilmington Oil Field extends from Torrance to Harbor District of the City of Long Beach, a distance of approximately 13 miles (Otott and Clarke 1996), and is the closest oil field to the proposed Project location. According to the City of Los Angeles General Plan Safety Element and the California Department of Conservation, Division of Oil, Gas, and Geothermic Resources the Project site is located to the south-west outside the boundary of the Wilmington Oil Field and contains no active oil well on site (California Department of Conservation 2017; City of Los Angeles 1996). The proposed Project would not create any obstacles to oil extraction operations associated with the Wilmington Oil Field. No known valuable mineral resources would be impacted by the proposed Project. According to the California Department of Conservation Division of Mines and Geology mineral resource maps, the nearest mineral resources area is located in the San Gabriel Valley (California Department of Conservation 2011b).

Therefore, no impacts related to the loss of availability of a known valued mineral resources would occur with the implementation of the proposed Project. 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. As described under Section 4.12(a), there are no active oil wells on site. The proposed Project would not result in the loss of availability of a mineral resource recovery site as described under Section 4.12(a). Therefore, no impact to the availability of a mineral resource would result from construction and operation of the proposed Project. No impact would occur, and no mitigation is required.



DUDEK

SOURCE: Port of LA, 2017

FIGURE 4.11-1
Land Use Designations

POLA MOTEMS

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4.13 NOISE

The purpose of this section is to identify sensitive noise receptors in the Project area 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 2016). 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 4.13-1.

Table 4.13-1
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 2016.
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 City regulates construction noise via the Los Angeles Municipal Code (Chapter IV, Article 1, Section 41.40; Chapter XI, Article 2, Section 112.05). Under the noise provisions, construction equipment noise levels are limited to a maximum noise level of 75 dBA (A-weighted decibel) if located within 500 feet of any residential zone of the City.

There are no residences within 500 feet of the Project site; therefore, the proposed Project would not be subject to the maximum noise limits in the Los Angeles Municipal Code. All phases of the proposed Project construction would occur Monday through Friday between 7:00 a.m. and 9:00 p.m. In addition, the current noise environment is active port industrial in nature and construction activities are generally similar in noise levels to those industrial activities and would not result in a significant change.

The threshold of significance that the City recommends using for Noise is an increase of 5 dBA or more over existing ambient community noise equivalent level, which is a type of 24-hour average noise level (City of Los Angeles 2006a). However, the Los Angeles CEQA Thresholds

Guide (City of Los Angeles 2006a) does not require a full noise evaluation if construction is not located within 500 feet of a residential zone.

Noise measurements were conducted on May 3, 2017, between 10:00 a.m. and 1:00 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. The measured daytime average sound levels ranged from 55 to 56 decibels (dB), as depicted in Table 4.13-2. Measurement results are in terms of the time-averaged sound level (L_{eq}).

Table 4.13-2
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	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

Notes: dB Leq = decibel of equivalent sound level

Construction equipment would include standard equipment such as excavators, backhoes, loaders, cranes, portable generators and air-compressors, pile-drivers, and miscellaneous trucks. The maximum noise level ranges for various pieces of construction equipment at a distance of 50 feet are depicted in Table 4.13-3. The maximum noise levels at 50 feet for typical equipment would range up to 101 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 101 dB at 50 feet are typical for the anticipated construction activities.

Table 4.13-3
Construction Equipment Noise Emission Levels

Equipment Type	"Typical" Equipment dBA at 50 feet
Pile driver	101
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 et al. 2006..

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 95 dBA L_{eq}. At a distance of 1,600 feet, construction noise could range up to 49 to 77 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. 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, and no current sensitive receptors, the proposed Project is expected to result in a less-than-significant noise impact, and no mitigation is required. However, prior to construction, the contractor will be required to verify that there are no potential sensitive receptors in the local vicinity that could be adversely impacted by construction. If sensitive receptors are determined to be in the region, the following noise-reduction measures will be required throughout construction:

A. Construction Equipment: All construction equipment powered by internal combustion engines shall be property muffled and maintained.

B. Idling Prohibitions: Unnecessary idling of internal combustion engines near noise-sensitive areas shall be prohibited.
C. Equipment Location: All stationary noise-generating construction equipment, such as air compressors and portable power generators, shall be located as far as is practical from existing noise sensitive land uses.
D. Use Electrical Power When Feasible: If ample local grid power is available, electricity shall be obtained from the local power grid to avoid the use of portable generators.
E. Disturbance Coordinator. A disturbance coordinator shall be designated for responding to noise complaints, with his/her name and telephone number to be clearly posted at the construction site.
F. Quiet Pile Driving: The contractor shall be required to use a pile driving system, such as a Bruce hammer (with silencing kit), and IHC Hydrohammer SC series (with sound insulation system), or equivalent silenced hammer, which is capable of limiting maximum noise levels at 50 feet from the pile driver to 104 dBA, or less, for wharf construction.

Operational Noise

The proposed Project would not increase the terminal's handling, storage, or pumping capacity; rather, it would replace the existing concrete wharves at Berth 238 and 239 with a new loading platform at Berth 238 (with the same water depth) and replace existing topside equipment with new topside equipment to meet regulatory standards. Operation of the proposed Project under the new lease could result in an increase in vessel calls to the terminal beyond baseline conditions; however, only one vessel, whether a barge or a Panamax-class tanker, could berth at the terminal at any given time. The existing terminal is capable of simultaneously handling liquid bulk cargo from two vessels at each berth (Berths 238 and 239) as long as the size of vessels allows. Further, residential receptors are located 0.4 miles away, and across that distance vessel noise (such as from tugboats maneuvering tankers into position) is expected to be attenuated to below local noise ordinance thresholds. Therefore, the proposed Project would result in a less-than-significant noise impact, and no mitigation is required.

The proposed Project is surrounded by industrial and commercial uses. 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 no residences within 500 feet, 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. Construction activities associated with the proposed Project could generate vibration. Construction equipment such as pile installation and driving equipment, and haul trucks would generate vibrations that could result in groundborne noise or vibration that could affect nearby structures or residences. Transient vibration levels greater than 2.0 in/sec, or

continuous sources greater than 0.4 in/sec, would cause severe annoyance to a human (Caltrans 2013b). In addition, continuous vibration levels of 0.08 in/sec would be "readily perceptible" to humans, whereas transient vibration levels of 0.035 in/sec would be "barely perceptible" to humans. All phases of the construction involve multiple trucks and other vibration-producing equipment resulting in vibration levels up to approximately 0.002in/sec at the closest residences. That level is well below the thresholds established by Caltrans (2013b). Accordingly, excessive groundborne vibration and/or groundborne noise are not anticipated. This impact would be less than significant, and no mitigation is required.

Operation of the proposed Project under the new lease could result in an increase in vessel calls to the terminal; however, the vessels would be water-based, and are not expected to result in substantive groundborne vibrations or noise levels. 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. Operation of the proposed Project under the new lease could result in an increase in vessel calls and throughput beyond baseline conditions; however, the new wharf at Berth 238 could only accommodate one vessel, whether a barge or a Panamax class tanker, at the terminal at any given time. The existing terminal is capable of simultaneously handling liquid bulk cargo from two vessels at each berth (Berths 238 and 239) as long as the size of vessels allows. Further, as discussed in Threshold XII (a) above, sensitive receptors are located approximately 0.4 to 0.8 miles away, and across this distance, vessel noise (such as from tugs boats maneuvering tankers into position) are expected to be attenuated to below significance levels. Therefore, impacts related to a permanent increase in ambient noise 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. As described under Section 43.13(a), construction and operational noise impacts would be less than significant; 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 is not located within 2 miles of a public airport. 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. The proposed Project is not located within the vicinity of a private airstrip. No impacts would result, and no mitigation is required.

4.14 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)?

No Impact. The proposed Project would not establish new residential uses within the Port, require extension of roads or other growth-accommodating infrastructure, or result in the relocation of substantial numbers of people from outside of the region. Therefore, the proposed Project would not directly or indirectly induce substantial population growth through extension of roads or other infrastructure. 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. There is no housing within the Project boundaries that would be displaced as a result of the proposed Project. No replacement housing would be needed or required associated with the implementation of the proposed Project. No impact would occur, and no mitigation is required.

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

No Impact. There is no housing within the proposed Project boundaries that would be displaced as a result of the proposed Project. The proposed Project would not result in the displacement of any persons and the need for replacement housing. No impact would occur, and no mitigation is required.

4.15 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 City of Los Angeles Fire Department (LAFD) currently provides fire protection and emergency services to the Project site and surrounding area. LAFD facilities in the Port include land-based fire stations and fireboat companies. The nearest station with direct fireboat access is Fire Station No. 111 located in Fish Harbor about 0.3 miles south of the Project site with an approximate travel distance of just under 2 miles. There is also Fire Station 112 with fireboat access located about 0.5 miles north of the Project site, which is the closest fire station to the Project site. The next closest station is Fire Station No. 40, located to the north at 330 Ferry Street, with an approximately 1.5 miles travel distance to the terminal. This station is located on Terminal Island and is equipped with a single engine company, an Assessment Engine, Rescue Ambulance, and Rehab Air Tender. This station would provide fire service by land.

As described above, the Project site is currently served by fire protection and emergency services. Construction of the proposed Project would not increase the need for expanded services. Further, construction would occur within the Project site and harbor and would not affect service ratios, response times, or other performance objectives of the LAFD.

The proposed Project would implement the most recent engineering standards required by MOTEMS for the design and maintenance of marine oil terminals to better protect public health, safety and the environment at an existing marine oil terminal. The MOTEMS requirements include specifications for fire prevention, detection, and suppression, including preparation of a site-specific fire plan, a permanently installed automated fire detection system, and a fire suppression system that meets provisions of fire-water flow rates, foam supply, and fire extinguishers. Operation of the proposed Project would not result in a substantive increase in demand for LAFD personnel, equipment, facilities, or firefighting capabilities, nor would it affect response times that could lead to a substantial adverse physical impact.

Construction activities would include implementation of standard safety requirements, including preparation of an emergency response plan and coordination with emergency service providers, including the LAFD. Accordingly, construction of the proposed Project is not expected to result in an increase in demand for LAFD personnel, equipment, facilities, or firefighting capabilities, nor would it affect response times that could lead to a substantial adverse physical impact.

Operation of the proposed Project would comply with MOTEMS fire safety requirements and the state and city fire codes, standards and regulations, and would not increase the demand for fire protection services. Therefore, impacts related to fire protection would be less than significant, and no mitigation is required.

ii) Police protection?

Less-than-Significant Impact. The Los Angeles Harbor Department Port Police (Port Police) and the LAPD both provide police services to the Port. The Port Police is the primary law enforcement agency within the Port of Los Angeles. Specifically, the Port Police is responsible for patrol and surveillance within the Port property boundaries, including Port-owned properties within the communities of Wilmington, San Pedro, and Harbor City. The Port Police maintains 24-hour land and water patrols and enforces federal, state, and local public safety statutes, Port tariff regulations, as well as environmental and maritime safety regulations. The Port Police headquarters is located at 330 Centre Street in San Pedro.

Although the Port Police are the first responders in an emergency, the LAPD also holds responsibility for police services in the Project vicinity because the Port is part of the City of Los Angeles. The LAPD Harbor Division is located at 2175 John S. Gibson Boulevard in San Pedro, which is approximately 1.9 miles northwest of the proposed Project. The Harbor Division Station is responsible for patrols throughout San Pedro, Harbor City, and Wilmington.

Construction of the proposed Project would occur within the Project site and adjacent harbor waters. It is unlikely that street closures would be required. Therefore, Project construction would not affect the demand for law enforcement such that new facilities would be required.

The proposed Project would be located within the same operating distance as the existing wharves and therefore, would not increase emergency response times. The proposed Project would not increase the amount of vessels that berth at the facility, and all vessels that do berth would be moored at the loading platform at Berth 238, and would not impede surface transportation routes that could be used by police service providers. In addition, the proposed Project would implement the most recent engineering standards

required by MOTEMS for the design and maintenance of marine oil terminals to better protect public health, safety and the environment at an existing marine oil terminal. It would not substantively alter terminal activities and would not increase long-term employment or result in indirect growth that would result in need for additional police protection. Therefore, impacts related to police protection would be less than significant, and no mitigation is required.

iii) Schools?

No Impact. The proposed Project would not include the creation of new parks or reduction in existing park facilities. In addition, proposed Project improvements would be confined to the Project site within the Port and would not induce population growth that could result in increased demand for parks beyond that which currently exists. Therefore, no impacts to existing parks or need for new parks would occur from implementation of the proposed Project, and no mitigation is required.

iv) Parks?

No Impact. As further discussed in Section 4.16, Recreation, no residential uses or other land uses typically associated with directly inducing population growth are included as part of the proposed Project. 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?

Less-than-Significant Impact. The USCG is a federal agency responsible for a broad range of regulatory, law-enforcement, humanitarian, and emergency-response duties. The USCG mission includes maritime safety, maritime law enforcement, protection of natural resources, maritime mobility, national defense, and homeland security. The USCG's primary responsibility is to ensure the safety of vessel traffic in the channels of the Port and in coastal waters. The proposed Project would implement the most recent engineering standards required by MOTEMS for the design and maintenance of marine oil terminals to better protect public health, safety and the environment at an existing marine oil terminal and would not result in impacts to USCG facilities or operations. By the year 2032, vessel calls to the terminal could increase from the baseline of 399 calls in 2016 to 488 vessels. No expansion of the Vessel Traffic Information Systems would be needed with the proposed Project. Therefore, the proposed Project is not expected to result in an increase in demand for other public facilities, including the USCG, which could lead to a substantial adverse physical impact. Impacts would be less than significant, and no mitigation is required.

4.16 RECREATION

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 not directly or indirectly result in physical deterioration of parks or other recreational facilities. 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 would not include recreational facilities or new residential development that would require construction or expansion of existing recreational facilities. Therefore, no new or expanded recreational facilities would be constructed, and no impact would occur. No mitigation is required.

4.17 TRANSPORTATION AND TRAFFIC

This analysis provides a summary of the Traffic Analysis Technical Memorandum prepared by Iteris in August 2016.

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 proposed Project, which would improve the existing marine oil terminal and Berth 238 while demolishing the wharf structures at Berth 239, would not increase the capacity of the existing circulation system based on the applicable measures of effectiveness as designated by the City of Los Angeles General Plan or the Port of Los Angles Plan. This includes the infrastructure for all elements of ground transportation such as intersections, streets, highways and freeways, pedestrian and bicycle facilities and transit stations and services. Liquid cargo loaded and unloaded at the terminal is conveyed to and from the terminal primarily via pipelines, and an increase in vessel calls would not result in a substantive increase in ground transportation to and from the terminal. The terminal does not handle rail or truck traffic. Therefore, the impact of the proposed Project on the existing circulation system would be less than significant and no mitigation is required.

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. According to the Los Angeles County Congestion Management Program (CMP), a Transportation Impact Analysis (TIA) should be conducted at all Congestion Management Program arterial monitoring intersections, including monitored freeway on-ramps or off-ramps, where the proposed Project would add 50 or more trips during either the AM or PM weekday peak hours and at all mainline freeway monitoring locations where the proposed Project will add 150 or more trips, in either direction, during the AM or PM weekday peak hours. City of Los Angeles Traffic Study Policies and Procedures (City of Los Angeles 2014) state that a Technical Memorandum is required when the proposed Project is likely to add 25 to 42 AM or PM peak hour trips, and the adjacent intersection(s) are presently operating at LOS E or F. Additionally, the guidelines state that a Traffic Study is required when the proposed Project is likely to add 43 or more AM or PM peak hour trips.

Operation of the proposed Project is projected to result in an increase in product throughput of approximately 53% compared with baseline levels of activity. Liquid cargo loaded and unloaded at the terminal is conveyed to and from the terminal primarily via pipelines, and an increase in throughput would not result in a substantive increase in vehicular trips to and from the terminal because the terminal does not handle rail or truck traffic. Accordingly, the proposed Project would not result in an increase in ground transportation that could result in a conflict with an applicable congestion management program or other performance standards of ground transportation facilities.

Analysis was conducted to determine the potential impact of trips associated with the proposed Project's construction period. Construction of the proposed Project is anticipated to last for approximately 21 months. It is anticipated that up to 50 workers would be on site during the busiest phases of construction. The peak construction activity is projected to result in a maximum of 60 trucks per day. It is assumed that all 20 workers (auto trips) would enter the site during AM peak hour and leave during PM peak hour. It is also assumed that the construction activity would ensure a staggering of trucks throughout the day so that no more than 40 trips (autos + trucks) would occur during any peak hour. This assumption is reasonable because the maximum truck activity at the site will be associated with concrete pours, during which concrete trucks arrive and depart sequentially over the course of an entire workday. Therefore, traffic impacts on congestion management roads and highways during construction or operation would be less than significant, and no mitigation is required.

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

Less-than-Significant Impact. The facility is anticipated to see an increase in vessel calls to the terminal over time; however, the additional vessels would not result in physical changes to the terminal. It is projected that the peak annual throughput associated with the proposed new lease would be up to approximately 18.7 million barrels, which equates to future vessel calls to the terminal increasing to approximately 488 vessel calls from the baseline of 399 vessels. Given that vessels entering the harbor are piloted by Port Pilots or by a federally licensed pilot, and that vessels would utilize the Vessel Traffic Service operated jointly by the USCG and Marine Exchange of Southern California, the increase in vessel calls to the terminal is not expected to result in significant safety risks. In addition, an increase in vessel calls associated with the new lease would not translate into changes to the existing marine vessel traffic lanes or affect existing anchorage locations. Therefore, the proposed Project would not result in significant marine vessel traffic impacts, 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)?

No Impact. The proposed Project would not affect roadway design or use, or include modification of any roadways or access roads to or within the Project site or vicinity, or otherwise alter the existing use of the site or implement design features that would be incompatible with the current zoning or land use designation. Therefore, the proposed Project would not increase roadway hazards. No impact would occur and no mitigation is required.

e) Result in inadequate emergency access?

No Impact. Although the proposed Project would replace the existing wharves with a loading platform at Berth 238 and make other improvements to comply with MOTEMS, it would not include capacity-increasing facilities such as larger or more pipelines or new storage tanks. Rather, the improvements under the proposed Project would make the necessary upgrades to meet MOTEMS and the environmental protection requirements of the LAHD. Because existing emergency access features and procedures would not be altered, and the proposed Project would not result in an increase in traffic or alteration of traffic patterns, emergency access would remain adequate. 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 roadways on Terminal Island that support current or future bike lanes or bus stops. The proposed Project would also not include construction of new pedestrian facilities associated with commercial and visitor-serving uses and amenities that would benefit from alternative modes of transportation. No impacts would occur and no mitigation is required.

4.18 TRIBAL CULTURAL RESOURCES

Assembly Bill (AB) 52 Consultation: Pursuant to Public Resources Code Section 21080.3.1(d) Anthony Morales, Chief of San Gabriel Band of Mission Indians was informed of the proposed Project. Pursuant to Public Resources Code Section 21080.3.1(b), LAHD requested respond in writing within 30 days if consultation was desired. The informational package was delivered by certified mail on September 15, 2017. As of October 16, 2017, LAHD had not received a request for consultation. The 30-day response period has closed and AB 52 has been complied with.

a) 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 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).

Less-than-Significant Impact. The proposed Project is located on artificial fill material on Terminal Island that was constructed in the early twentieth century. The proposed Project would result in minor amounts of ground-disturbing activities (i.e., installation of pipes and topside equipment). However, the site is disturbed and tribal cultural resources are not likely present.

The proposed Project would also occur in and over harbor waters. The Project area has been routinely dredged over the history of the Port to create shipping channels and increase or maintain the design depth at the berths. Given the absence of known tribal resources in the Project area and the limited ground-disturbing activities that would be done, the proposed Project would not have significant impacts to tribal resources, and no mitigation is required.

b) 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 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, the lead agency shall consider the significance of the resource to a California Native American tribe.

No Impact. The proposed Project is located on artificial fill material on Terminal Island, which was constructed in the early twentieth century. The proposed Project would result in minor ground-disturbing activities (i.e., installation of pipes and topside equipment). However, the site is disturbed and tribal cultural resources are not likely present.

The proposed Project would occur in and over harbor waters. The Project area has been routinely dredged over the history of the Port to create shipping channels and increase or maintain the design depth at the berths. Given the absence of known tribal resources in the Project area and the limited ground-disturbing activities that would be performed, the proposed Project would not cause significant impacts to a California Native American tribe resource, and no mitigation is required.

4.19 UTILITIES AND SERVICE SYSTEMS

Would the Project:

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

Less-than-Significant Impact. Wastewater generated at the PBF Energy terminal is conveyed to and treated at the Terminal Island Treatment Plant (TITP), which currently operates at approximately 58% of capacity (see Section 4.19(b)). A small increase in on-site personnel associated with proposed construction (estimated at 20 per day) would generate temporary minor increases in wastewater flows. Future operational activities would require the same number of staff as existing operational activities. Aside from the minor increase in wastewater generation during construction, wastewater treatment requirements would not change.

Existing sewer and wastewater infrastructure exists within the Project area, and wastewater would continue to flow to the TITP, which is operated by the City's Department of Public Works Bureau of Sanitation, and which is required to comply with all applicable wastewater standards set forth by the LARWQCB (City of Los Angeles 2006c). 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. Because operation of the proposed Project would be the same as under baseline conditions, including staffing levels and activities, the proposed Project would not increase the demand for potable water or wastewater generation such that development of new water or wastewater treatment facilities or the expansion of existing facilities would be required.

TITP has a capacity of 30 million gallons per day (mgd) and currently operates at 58% capacity (City of Los Angeles 2017b). The City projects that by 2025, wastewater flows in the TITP service area will grow from the current 15 mgd to 23 mgd (City of Los Angeles 2017b). Therefore, approximately 8 mgd in annual capacity at TITP would remain unused and available for future years. The negligible increase in wastewater flows from the proposed Project associated with construction activities would not exceed the daily capacity of the TITP or conveyance system (e.g., sewer trunk lines in the Project vicinity or other off-site infrastructure or facilities) over the long-term.

As discussed above, the proposed Project would result in a small increase in wastewater generation and water demand from construction activities, however, existing facilities can accommodate this small increase and no construction or expansion of water or wastewater

treatment facilities would be required. 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 storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. The Project site is currently served by an existing on-site storm drainage system that contains, treats, and conveys stormwater. The proposed Project primarily involves construction of a replacement wharf. No new land area is expected to be built. Hence, no additional demand on existing stormwater drainage facilities is expected. Storm drains are located throughout Terminal Island and the harbor area and are maintained by the LAHD, City of Los Angeles Bureau of Sanitation, and Los Angeles County.

Impacts related to construction of new stormwater drainage facilities would not occur, 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?

No Impact. LADWP provides water service to the Project area. The LADWP is responsible for supplying, treating, and distributing water for domestic, industrial, agricultural, and firefighting purposes within the City. Water sources used by the LADWP include local sources, such as groundwater, wells and recycled water (for non-potable uses), and imported sources, including the Los Angeles Aqueducts and purchases from the Metropolitan Water District of Southern California. In Fiscal Years 2011–2015, LADWP supplied a yearly average of 566,990 acre-feet in its service area (County of Los Angeles 2015).

In a continuing effort to ensure a reliable water supply for future years, LADWP prepared the Urban Water Management Plan (UWMP) (County of Los Angeles 2015), which was updated and adopted on April 27, 2016. The UWMP is updated every 5 years, as required by the California Water Code (Section 10621a), and serves as the City master plan for water supply and resources management through the year 2040.

LADWP's UWMP uses a service-area-wide method in developing City water demand projections that considers the growth in water use for the entire service area in developing long-term projections, including use by Port tenants. The driving factors for this growth are demographics, weather, and water conservation. Total LADWP demand for water is predicted to be 675,685 acre-feet in 2040, which is 5% lower than the projection in the 2010 UWMP. LADWP would be able to meet this demand by increasing local water supplies and water conservation to 25% by 2035, reducing its reliance on purchased Metropolitan Water District water by one-half (County of Los Angeles 2015).

Construction water use would come primarily from personal use by the construction workers (at any given time). Although the construction contractor is likely to provide temporary toilet facilities and drinking water for its workers, this analysis makes the conservative assumption that construction workers would use the terminals restrooms and drinking water.

Topside equipment installation would occur on the landside portion of the terminal, and the remaining construction would take place in and over the water. Water usage during construction would be temporary and insubstantial and would not exceed the existing supply. Therefore, construction of the proposed Project would have no impact on water supply.

Operation of the proposed Project would not result in operational or personnel changes to the terminal that could result in generation of additional water demand. Accordingly, no new or expanded water supply entitlements would be needed. No impacts on the City's water supply would occur from operation of the proposed Project 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?

No Impact. As discussed above, the City of Los Angeles Department of Public Works, Bureau of Sanitation, provides sewer service to all areas within its jurisdiction, including the Project site. Wastewater would flow through existing sewer and wastewater infrastructure within the Project site to TITP, which is maintained by the Bureau of Sanitation. Please see Section 4.19(b) regarding wastewater generation. Further, no increase in impervious surface area at the terminal would occur under the proposed Project; therefore, the Project would not increase the amount of runoff that is conveyed to the City's sewer and treatment system. No impacts to wastewater treatment capacity would occur with the implementation of the proposed Project 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. Construction of the proposed Project would generate a small amount of construction debris, including piles and debris from the existing wharves. Demolition of the existing wharves and access trestles at Berth 238 and 239 would result in generation of asphalt/concrete debris (including concrete piles).

The generation of landfill waste would be reduced by recycling of demolition debris to the extent feasible. The LAHD maintains an asphalt/concrete recycling facility at the intersection of East Grant Street and Foote Avenue in Wilmington. The asphalt/concrete debris from construction activities would be crushed at the facility or elsewhere in the Port for construction reuse within the Port.

Solid waste associated with demolition and construction that would require disposal at a landfill is not expected to be substantial relative to the permitted landfill capacity at Chiquita Canyon Landfill, Sunshine Canyon Landfill, or other local or regional disposal facilities that could accept construction waste from the proposed Project. There is currently sufficient inert waste disposal capacity available in Los Angeles County (LADPW 2017). Further, there are a number of operations within Los Angeles County that recycle construction and demolition material, and the Port, as standard conditions of permit approval, requires recycling of construction materials and use of materials with recycled content where feasible to minimize impacts to solid waste. Demolition debris would not exceed landfill capacity.

In summary, construction is anticipated to generate relatively small amounts of waste requiring disposal in a landfill, and construction would comply with applicable waste reduction requirements. Operation of the proposed Project would not result in an increase in solid waste generation relative to baseline conditions. The proposed Project would be served by landfills with sufficient permitted capacity to accommodate the solid waste disposal needs. 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. The proposed Project would comply with all applicable codes pertaining to solid waste disposal. These codes include Chapter VI Article 6 Garbage, Refuse Collection of the City of Los Angeles Municipal Code, Part 13 Title 42 – Public Health and Welfare of the California Health and Safety Code, and Chapter 39 Solid Waste Disposal – of the United States Code. The proposed Project would also be compliant with AB 939, the California Solid Waste Management Act and AB 341, which establish waste stream diversion and recycling goals. Because the proposed Project would implement and be consistent with the procedures and policies detailed in the codes identified above, Port-wide standard conditions of approval requiring recycling of construction materials, the City's recycling and solid waste diversion efforts, and related laws pertaining to solid waste disposal, impacts related to compliance with solid waste statutes and regulations would be less than significant, and no mitigation is required.

4.20 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 after Mitigation Incorporated. As discussed in Section 4.4, Biological Resources, impacts are less than significant with the incorporation of MM-BIO-1. As discussed in Section 4.5, Cultural Resources, impacts would be less than significant, and no mitigation is required.

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. The proposed Project would not result in any cumulatively considerable impacts. Several other development projects are currently under construction, are planned, or have recently been completed within the Port. These projects include container terminal developments, industrial developments, and other waterfront plans. Future projects would be evaluated in a separate future environmental document. These types of projects and other present and/or probable future projects are required to comply with CEQA requirements, including implementation of mitigation measures to reduce or avoid environmental impacts, as well as with applicable laws and regulations at the federal, state and local level, including but not limited to the Los Angeles City Municipal Code and local ordinances governing land use and development.

As discussed under each issue area in Sections 4.1 through 4.19 of this IS/MND, the proposed Project would not result in significant impacts to aesthetics, agricultural and forestry resources, air quality, biological resources, cultural resources, energy, geology and soils, GHG emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation and traffic, tribal cultural resources, or utilities and services systems that could not be mitigated to below significance.

The proposed Project would not result in significant impacts and only result in one mitigation measure related to biological resources. The Project site is currently developed with industrial uses similar to what the proposed Project now proposes. 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. Operations will remain consistent and retrofits will be incorporated to render the facility compliant with seismic codes and safety regulations. The proposed Project represents a slight increase in vessels but still only allows for the berthing of one

vessel at a time. As such, operational impacts of the proposed Project would not contribute to a cumulative impact. The analysis has determined that the proposed Project would not have any individually limited but cumulatively considerable impacts.

Approved projects as well as other current and future probable projects are required to comply with CEQA requirements, including implementation of mitigation measures to reduce or avoid environmental impacts, as well as with applicable laws and regulations at the federal, state and local level. These regulations include but are not limited to Los Angeles City Building Code, LAHD *Sustainable Construction Guidelines*, SCAQMD regulations, US ACE Letter of Permission and Regional Water Quality Control Board Section 401 Certification. The analysis contained herein has determined that the proposed Project would not have any individually limited but cumulatively considerable impacts. No mitigation measures are required.

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. All impacts related to the proposed Project are less than significant.

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5.0 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 the proposed Project would not have a significant effect on the environment with the incorporation of the mitigation measures described in the document.

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6.0 PREPARERS AND CONTRIBUTORS

LAHD, Environmental Management Division

- Christopher Cannon, Director of Environmental Management
- Dennis Hagner, Marine Environmental Supervisor
- Tara Tisopulos, Project Manager
- Nicole Enciso, Environmental Specialist

Dudek

- Matthew Valerio, Project Manager
- Candice Disney Magnus, Deputy Project Manager
- Mike Green, Senior Acoustician
- Samantha Murray, Senior Architectural Historian and Archaeologist
- Connor Burke, Noise Analyst
- Curtis Battle, GIS Specialist

iLanco Environmental

- Lora Granovsky, Air Quality

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7.0 ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
AAQS	ambient air quality standards
AB	Assembly Bill
Air Basin	South Coast Air Basin
AQMP	Air Quality Management Plan
BD	breasting dolphin
BMP	best management practice
CAA	Clean Air Act
CAAP	Clean Air Action Plan
CalEEMod	California Emissions Estimator Model
CAO	Cleanup and Abatement Order
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
City	City of Los Angeles
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
CRHR	California Register of Historical Resources
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
DWT	deadweight tons
EPA	U.S. Environmental Protection Agency
FHP	floating hydrocarbon product
GHG	greenhouse gas
HCP	Habitat Conservation Plan
I	Interstate
IS	Initial Study
KOP	Key Observation Point
LADWP	Los Angeles Department of Water and Power
LAFD	Los Angeles Fire Department
LAHD	Los Angeles Harbor Department
LAPD	Los Angeles Police Department
LARWQCB	Los Angeles Regional Water Quality Control Board
LOA	Length overall

Acronym/Abbreviation	Definition
LST	Localized Significance Threshold
MD	mooring dolphin
mgd	Million gallons per day
MM	mitigation measure
MND	Mitigated Negative Declaration
MOTEMS	Marine Oil Terminal Engineering and Maintenance Standards
mty	metric tons per year
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OEHHA	Office of Environmental Health Hazard Assessment
OGV	ocean-going vessel
PBF Energy	PBF Energy Western Region LLC
PM_{10}	particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PMP	Port Master Plan
Port	Port of Los Angeles
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SO_X	sulfur oxide
SRA	source receptor area
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
SWT-I	Southwestern Terminal Area I
SWT-II	Southwestern Terminal Area II
TITP	Terminal Island Treatment Plant
USCG	U.S. Coast Guard
USFWS	U.S. Fish and Wildlife Service
UWMP	Urban Water Management Plan
VDU	vapor destruction unit
VOC	volatile organic compound

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APPENDIX A
Operational Emission Calculation Summary

Calculations/modeling data are provided on the CD inside the back cover of this document.

APPENDIX B
CalEEMod Output

PBF Construction

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	900.00	1000sqft	20.66	900,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2020
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Construction Phase - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

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Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Trips and VMT - Trips and VMT - Provided by POLA Engineering

Demolition -

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Fleet Mix -

Area Coating -

Energy Use -

Area Mitigation - SCAQMD Rule 1113

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingValue	0	100
tblConstructionPhase	NumDays	370.00	35.00
tblConstructionPhase	NumDays	370.00	40.00

tblConstructionPhase	NumDays	370.00	1.00
tblConstructionPhase	NumDays	370.00	23.00
tblConstructionPhase	NumDays	370.00	29.00
tblConstructionPhase	NumDays	370.00	24.00
tblConstructionPhase	NumDays	370.00	153.00
tblConstructionPhase	NumDays	20.00	65.00
tblConstructionPhase	NumDays	20.00	80.00
tblConstructionPhase	NumDays	20.00	80.00
tblOffRoadEquipment	HorsePower	81.00	65.00
tblOffRoadEquipment	HorsePower	231.00	297.00
tblOffRoadEquipment	HorsePower	231.00	289.00
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tblOffRoadEquipment	HorsePower	231.00	150.00
tblOffRoadEquipment	HorsePower	231.00	260.00
tblOffRoadEquipment	HorsePower	158.00	220.00
tblOffRoadEquipment	HorsePower	158.00	220.00
tblOffRoadEquipment	HorsePower	84.00	10.00
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tblOffRoadEquipment	HorsePower	231.00	260.00
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tblOffRoadEquipment	HorsePower	231.00	297.00
tblOffRoadEquipment	HorsePower	172.00	160.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
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tblOffRoadEquipment	PhaseName		Berth 238 Demolition
tblOffRoadEquipment	PhaseName		Pile Driving Deck and Dolphins
tblOffRoadEquipment	PhaseName		Platform Deck Construction/Forms
tblOffRoadEquipment	PhaseName		Platform Deck Construction/Concrete
tblOffRoadEquipment	PhaseName		Platform Deck Construction/Completion
tblOffRoadEquipment	PhaseName		Breasting Dolphins Construction
tblOffRoadEquipment	PhaseName		Topside Construction
tblOffRoadEquipment	PhaseName		Berth 239 Demolition
tblOffRoadEquipment	PhaseName		Berth 238 Demolition
tblOffRoadEquipment	PhaseName		Pile Driving Deck and Dolphins

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tblOffRoadEquipment	PhaseName		Platform Deck Construction/Forms
tblOffRoadEquipment	PhaseName		Platform Deck Construction/Concrete
tblOffRoadEquipment	PhaseName		Platform Deck Construction/Completion
tblOffRoadEquipment	PhaseName		Breasting Dolphins Construction
tblOffRoadEquipment	PhaseName		Mooring Dolphins Construction
tblOffRoadEquipment	PhaseName		Topside Construction
tblOffRoadEquipment	PhaseName		Berth 239 Demolition
tblOffRoadEquipment	PhaseName		Berth 238 Demolition
tblOffRoadEquipment	PhaseName		Pile Driving Deck and Dolphins
tblOffRoadEquipment	PhaseName		Pile Driving Deck and Dolphins
tblOffRoadEquipment	PhaseName		Berth 239 Demolition
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tblOffRoadEquipment	PhaseName		Berth 238 Demolition
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tblOffRoadEquipment	PhaseName		Platform Deck Construction/Forms
tblOffRoadEquipment	PhaseName		Platform Deck Construction/Concrete
tblOffRoadEquipment	PhaseName		Platform Deck Construction/Completion
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tblOffRoadEquipment	UsageHours	7.00	8.00

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tblTripsAndVMT	HaulingTripNumber	0.00	14.00
tblTripsAndVMT	VendorTripLength	6.90	50.00
tblTripsAndVMT	VendorTripLength	6.90	50.00
tblTripsAndVMT	VendorTripNumber	148.00	95.00
tblTripsAndVMT	VendorTripNumber	148.00	95.00
tblTripsAndVMT	VendorTripNumber	148.00	186.00
tblTripsAndVMT	VendorTripNumber	148.00	95.00
tblTripsAndVMT	VendorTripNumber	148.00	13.00

tblTripsAndVMT	VendorTripNumber	148.00	17.00
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tblTripsAndVMT	WorkerTripNumber	18.00	20.00
tblTripsAndVMT	WorkerTripNumber	378.00	16.00
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tblTripsAndVMT	WorkerTripNumber	378.00	40.00
tblTripsAndVMT	WorkerTripNumber	378.00	16.00
tblTripsAndVMT	WorkerTripNumber	378.00	12.00
tblTripsAndVMT	WorkerTripNumber	378.00	20.00

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					
2018	0.3605	4.1759	2.7185	7.2000e-003	0.1292	0.1563	0.2855	0.0317	0.1479	0.1796	0.0000	660.5741	660.5741	0.1227	0.0000	663.6418
2019	0.2604	3.1508	2.0457	6.1000e-003	0.1093	0.1085	0.2179	0.0266	0.1034	0.1300	0.0000	558.0108	558.0108	0.0952	0.0000	560.3911
Maximum	**0.3605**	**4.1759**	**2.7185**	**7.2000e-003**	**0.1292**	**0.1563**	**0.2855**	**0.0317**	**0.1479**	**0.1796**	**0.0000**	**660.5741**	**660.5741**	**0.1227**	**0.0000**	**663.6418**

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					
2018	0.3605	4.1759	2.7185	7.2000e-003	0.1292	0.1563	0.2855	0.0317	0.1479	0.1796	0.0000	660.5737	660.5737	0.1227	0.0000	663.6414
2019	0.2604	3.1508	2.0457	6.1000e-003	0.1093	0.1085	0.2179	0.0266	0.1034	0.1300	0.0000	558.0104	558.0104	0.0952	0.0000	560.3907
Maximum	**0.3605**	**4.1759**	**2.7185**	**7.2000e-003**	**0.1292**	**0.1563**	**0.2855**	**0.0317**	**0.1479**	**0.1796**	**0.0000**	**660.5737**	**660.5737**	**0.1227**	**0.0000**	**663.6414**

	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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-16-2018	4-15-2018	1.1410	1.1410
2	4-16-2018	7-15-2018	1.0392	1.0392
3	7-16-2018	10-15-2018	1.1167	1.1167
4	10-16-2018	1-15-2019	1.2666	1.2666
5	1-16-2019	4-15-2019	1.3174	1.3174
6	4-16-2019	7-15-2019	1.1064	1.1064
7	7-16-2019	9-30-2019	0.7210	0.7210
		Highest	1.3174	1.3174

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	tons/yr										MT/yr					
Area	3.6704	1.1000e-004	0.0116	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0223	0.0223	6.0000e-005	0.0000	0.0238
Energy	0.0878	0.7985	0.6708	4.7900e-003		0.0607	0.0607		0.0607	0.0607	0.0000	6,433.3422	6,433.3422	0.1481	0.0431	6,449.8953
Mobile	0.5263	3.1020	7.9273	0.0282	2.2715	0.0286	2.3001	0.6088	0.0268	0.6356	0.0000	2,596.8894	2,596.8894	0.1283	0.0000	2,600.0976
Waste						0.0000	0.0000		0.0000	0.0000	226.5379	0.0000	226.5379	13.3880	0.0000	561.2381
Water						0.0000	0.0000		0.0000	0.0000	66.0285	1,509.3633	1,575.3918	6.8174	0.1675	1,795.7441
Total	**4.2845**	**3.9006**	**8.6096**	**0.0330**	**2.2715**	**0.0893**	**2.3608**	**0.6088**	**0.0875**	**0.6963**	**292.5664**	**10,539.6173**	**10,832.1836**	**20.4819**	**0.2106**	**11,406.9990**

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	3.6704	1.1000e-004	0.0116	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0223	0.0223	6.0000e-005	0.0000	0.0238
Energy	0.0878	0.7985	0.6708	4.7900e-003		0.0607	0.0607		0.0607	0.0607	0.0000	6,433.3422	6,433.3422	0.1481	0.0431	6,449.8953
Mobile	0.5263	3.1020	7.9273	0.0282	2.2715	0.0286	2.3001	0.6088	0.0268	0.6356	0.0000	2,596.8894	2,596.8894	0.1283	0.0000	2,600.0976
Waste						0.0000	0.0000		0.0000	0.0000	226.5379	0.0000	226.5379	13.3880	0.0000	561.2381
Water						0.0000	0.0000		0.0000	0.0000	66.0285	1,509.3633	1,575.3918	6.8174	0.1675	1,795.7441
Total	**4.2845**	**3.9006**	**8.6096**	**0.0330**	**2.2715**	**0.0893**	**2.3608**	**0.6088**	**0.0875**	**0.6963**	**292.5664**	**10,539.6173**	**10,832.1836**	**20.4819**	**0.2106**	**11,406.9990**

	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	Topside Demolition	Demolition	1/1/2018	4/1/2018	5	65	
2	Berth 238 Demolition	Demolition	3/1/2018	6/20/2018	5	80	
3	Pile Driving Deck and Dolphins	Building Construction	6/21/2018	8/8/2018	5	35	
4	Platform Deck Construction/Forms	Building Construction	7/1/2018	8/24/2018	5	40	
5	Platform Deck Construction/Concrete	Building Construction	8/27/2018	8/27/2018	5	1	
6	Platform Deck Construction/Completion	Building Construction	8/28/2018	9/27/2018	5	23	
7	Breasting Dolphins Construction	Building Construction	9/28/2018	11/7/2018	5	29	
8	Mooring Dolphins Construction	Building Construction	10/1/2018	11/1/2018	5	24	
9	Topside Construction	Building Construction	11/6/2018	6/6/2019	5	153	
10	Berth 239 Demolition	Demolition	6/10/2019	9/28/2019	5	80	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Topside Demolition	Aerial Lifts	2	8.00	63	0.31
Topside Demolition	Air Compressors	1	8.00	78	0.48
Topside Demolition	Cranes	1	8.00	150	0.29
Topside Demolition	Cranes	1	8.00	260	0.29
Topside Demolition	Forklifts	1	8.00	89	0.20
Topside Demolition	Generator Sets	1	8.00	84	0.74

Topside Demolition	Welders	1	8.00	46	0.45
Berth 238 Demolition	Aerial Lifts	1	4.00	67	0.31
Berth 238 Demolition	Air Compressors	1	4.00	75	0.48
Berth 238 Demolition	Bore/Drill Rigs	1	8.00	595	0.50
Berth 238 Demolition	Concrete/Industrial Saws	1	4.00	65	0.73
Berth 238 Demolition	Cranes	1	8.00	297	0.29
Berth 238 Demolition	Excavators	1	8.00	220	0.38
Berth 238 Demolition	Other Construction Equipment	1	1.00	160	0.42
Pile Driving Deck and Dolphins	Aerial Lifts	1	4.00	67	0.31
Pile Driving Deck and Dolphins	Air Compressors	1	2.00	75	0.48
Pile Driving Deck and Dolphins	Bore/Drill Rigs	1	4.00	221	0.50
Pile Driving Deck and Dolphins	Bore/Drill Rigs	1	2.00	595	0.50
Pile Driving Deck and Dolphins	Cranes	1	8.00	297	0.29
Pile Driving Deck and Dolphins	Generator Sets	1	2.00	10	0.74
Pile Driving Deck and Dolphins	Other Construction Equipment	1	1.00	160	0.42
Pile Driving Deck and Dolphins	Welders	1	2.00	85	0.45
Platform Deck Construction/Forms	Aerial Lifts	1	8.00	67	0.31
Platform Deck Construction/Forms	Air Compressors	1	2.00	75	0.48
Platform Deck Construction/Forms	Cranes	1	8.00	289	0.29
Platform Deck Construction/Forms	Cranes	1	8.00	152	0.29
Platform Deck Construction/Forms	Generator Sets	1	4.00	10	0.74
Platform Deck Construction/Forms	Other Construction Equipment	1	1.00	160	0.42
Platform Deck Construction/Forms	Welders	1	2.00	85	0.45
Platform Deck Construction/Concrete	Aerial Lifts	1	8.00	67	0.31
Platform Deck Construction/Concrete	Air Compressors	1	2.00	75	0.48
Platform Deck Construction/Concrete	Cranes	1	8.00	289	0.29
Platform Deck Construction/Concrete	Cranes	1	8.00	152	0.29

Platform Deck Construction/Concrete	Generator Sets	1	4.00	10	0.74
Platform Deck Construction/Concrete	Other Construction Equipment	1	1.00	160	0.42
Platform Deck Construction/Concrete	Pumps	2	8.00	300	0.74
Platform Deck Construction/Concrete	Welders	1	2.00	85	0.45
Platform Deck Construction/Completion	Aerial Lifts	1	8.00	67	0.31
Platform Deck Construction/Completion	Air Compressors	1	2.00	75	0.48
Platform Deck Construction/Completion	Cranes	1	8.00	289	0.29
Platform Deck Construction/Completion	Cranes	1	8.00	152	0.29
Platform Deck Construction/Completion	Generator Sets	1	4.00	10	0.74
Platform Deck Construction/Completion	Other Construction Equipment	1	1.00	160	0.42
Platform Deck Construction/Completion	Welders	1	2.00	85	0.45
Breasting Dolphins Construction	Aerial Lifts	1	4.00	67	0.31
Breasting Dolphins Construction	Air Compressors	1	4.00	75	0.48
Breasting Dolphins Construction	Cranes	1	8.00	289	0.29
Breasting Dolphins Construction	Generator Sets	1	4.00	10	0.74
Breasting Dolphins Construction	Other Construction Equipment	1	1.00	160	0.42
Breasting Dolphins Construction	Welders	1	2.00	85	0.45
Mooring Dolphins Construction	Air Compressors	1	4.00	75	0.48
Mooring Dolphins Construction	Cranes	1	8.00	152	0.29
Mooring Dolphins Construction	Generator Sets	1	4.00	10	0.74
Topside Construction	Aerial Lifts	2	8.00	63	0.31
Topside Construction	Air Compressors	1	8.00	78	0.48
Topside Construction	Cranes	1	8.00	150	0.29
Topside Construction	Cranes	1	8.00	260	0.29
Topside Construction	Forklifts	1	8.00	89	0.20
Topside Construction	Generator Sets	1	8.00	84	0.74
Topside Construction	Welders	1	8.00	46	0.45

Berth 239 Demolition	Aerial Lifts	1	4.00	67	0.31
Berth 239 Demolition	Air Compressors	1	4.00	75	0.48
Berth 239 Demolition	Bore/Drill Rigs	1	8.00	595	0.50
Berth 239 Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Berth 239 Demolition	Cranes	1	8.00	297	0.29
Berth 239 Demolition	Excavators	1	8.00	220	0.38
Berth 239 Demolition	Other Construction Equipment	1	1.00	160	0.42

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
Topside Demolition	8	20.00	0.00	14.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Berth 238 Demolition	7	20.00	0.00	375.00	14.70	50.00	20.00	LD_Mix	HDT_Mix	HHDT
Pile Driving Deck and Dolphins	8	16.00	95.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Platform Deck Construction/Forms	7	40.00	95.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Platform Deck Construction/Concrete	9	40.00	186.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Platform Deck Construction/Completio	7	40.00	95.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Breasting Dolphins Construction	6	16.00	13.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Mooring Dolphins Construction	3	12.00	17.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Topside Construction	8	20.00	148.00	14.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Berth 239 Demolition	7	20.00	0.00	375.00	14.70	50.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Topside Demolition - 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					
Fugitive Dust					1.0700e-003	0.0000	1.0700e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0837	0.7364	0.6020	9.2000e-004		0.0409	0.0409		0.0392	0.0392	0.0000	80.4464	80.4464	0.0175	0.0000	80.8846
Total	**0.0837**	**0.7364**	**0.6020**	**9.2000e-004**	**1.0700e-003**	**0.0409**	**0.0420**	**1.6000e-004**	**0.0392**	**0.0393**	**0.0000**	**80.4464**	**80.4464**	**0.0175**	**0.0000**	**80.8846**

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	6.0000e-005	2.2300e-003	4.1000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5400	0.5400	4.0000e-005	0.0000	0.5409
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	3.4500e-003	2.8300e-003	0.0303	8.0000e-005	7.1300e-003	6.0000e-005	7.1900e-003	1.8900e-003	5.0000e-005	1.9500e-003	0.0000	6.8413	6.8413	2.3000e-004	0.0000	6.8471
Total	**3.5100e-003**	**5.0600e-003**	**0.0308**	**9.0000e-005**	**7.2500e-003**	**7.0000e-005**	**7.3200e-003**	**1.9200e-003**	**6.0000e-005**	**1.9900e-003**	**0.0000**	**7.3813**	**7.3813**	**2.7000e-004**	**0.0000**	**7.3880**

3.2 Topside Demolition - 2018

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					1.0700e-003	0.0000	1.0700e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0837	0.7364	0.6020	9.2000e-004		0.0409	0.0409		0.0392	0.0392	0.0000	80.4463	80.4463	0.0175	0.0000	80.8845
Total	**0.0837**	**0.7364**	**0.6020**	**9.2000e-004**	**1.0700e-003**	**0.0409**	**0.0420**	**1.6000e-004**	**0.0392**	**0.0393**	**0.0000**	**80.4463**	**80.4463**	**0.0175**	**0.0000**	**80.8845**

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	6.0000e-005	2.2300e-003	4.1000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5400	0.5400	4.0000e-005	0.0000	0.5409
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	3.4500e-003	2.8300e-003	0.0303	8.0000e-005	7.1300e-003	6.0000e-005	7.1900e-003	1.8900e-003	5.0000e-005	1.9500e-003	0.0000	6.8413	6.8413	2.3000e-004	0.0000	6.8471
Total	**3.5100e-003**	**5.0600e-003**	**0.0308**	**9.0000e-005**	**7.2500e-003**	**7.0000e-005**	**7.3200e-003**	**1.9200e-003**	**6.0000e-005**	**1.9900e-003**	**0.0000**	**7.3813**	**7.3813**	**2.7000e-004**	**0.0000**	**7.3880**

3.3 Berth 238 Demolition - 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					
Fugitive Dust					0.0321	0.0000	0.0321	4.8600e-003	0.0000	4.8600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0803	0.9445	0.6225	1.8500e-003		0.0375	0.0375		0.0351	0.0351	0.0000	167.5940	167.5940	0.0487	0.0000	168.8125
Total	**0.0803**	**0.9445**	**0.6225**	**1.8500e-003**	**0.0321**	**0.0375**	**0.0696**	**4.8600e-003**	**0.0351**	**0.0400**	**0.0000**	**167.5940**	**167.5940**	**0.0487**	**0.0000**	**168.8125**

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	1.6500e-003	0.0596	0.0111	1.5000e-004	3.2200e-003	2.2000e-004	3.4500e-003	8.9000e-004	2.1000e-004	1.1000e-003	0.0000	14.4639	14.4639	1.0200e-003	0.0000	14.4893
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	4.2500e-003	3.4800e-003	0.0373	9.0000e-005	8.7800e-003	7.0000e-005	8.8500e-003	2.3300e-003	7.0000e-005	2.4000e-003	0.0000	8.4200	8.4200	2.9000e-004	0.0000	8.4272
Total	**5.9000e-003**	**0.0631**	**0.0484**	**2.4000e-004**	**0.0120**	**2.9000e-004**	**0.0123**	**3.2200e-003**	**2.8000e-004**	**3.5000e-003**	**0.0000**	**22.8839**	**22.8839**	**1.3100e-003**	**0.0000**	**22.9165**

3.3 Berth 238 Demolition - 2018

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					0.0321	0.0000	0.0321	4.8600e-003	0.0000	4.8600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0803	0.9445	0.6225	1.8500e-003		0.0375	0.0375		0.0351	0.0351	0.0000	167.5938	167.5938	0.0487	0.0000	168.8123
Total	**0.0803**	**0.9445**	**0.6225**	**1.8500e-003**	**0.0321**	**0.0375**	**0.0696**	**4.8600e-003**	**0.0351**	**0.0400**	**0.0000**	**167.5938**	**167.5938**	**0.0487**	**0.0000**	**168.8123**

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	1.6500e-003	0.0596	0.0111	1.5000e-004	3.2200e-003	2.2000e-004	3.4500e-003	8.9000e-004	2.1000e-004	1.1000e-003	0.0000	14.4639	14.4639	1.0200e-003	0.0000	14.4893
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	4.2500e-003	3.4800e-003	0.0373	9.0000e-005	8.7800e-003	7.0000e-005	8.8500e-003	2.3300e-003	7.0000e-005	2.4000e-003	0.0000	8.4200	8.4200	2.9000e-004	0.0000	8.4272
Total	**5.9000e-003**	**0.0631**	**0.0484**	**2.4000e-004**	**0.0120**	**2.9000e-004**	**0.0123**	**3.2200e-003**	**2.8000e-004**	**3.5000e-003**	**0.0000**	**22.8839**	**22.8839**	**1.3100e-003**	**0.0000**	**22.9165**

3.4 Pile Driving Deck and Dolphins - 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	0.0206	0.2431	0.1679	3.9000e-004		9.9300e-003	9.9300e-003		9.2800e-003	9.2800e-003	0.0000	35.3554	35.3554	0.0103	0.0000	35.6128
Total	**0.0206**	**0.2431**	**0.1679**	**3.9000e-004**		**9.9300e-003**	**9.9300e-003**		**9.2800e-003**	**9.2800e-003**	**0.0000**	**35.3554**	**35.3554**	**0.0103**	**0.0000**	**35.6128**

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	7.2000e-003	0.2055	0.0530	4.3000e-004	0.0105	1.4800e-003	0.0120	3.0200e-003	1.4200e-003	4.4400e-003	0.0000	41.5266	41.5266	2.9600e-003	0.0000	41.6004
Worker	1.4900e-003	1.2200e-003	0.0131	3.0000e-005	3.0700e-003	2.0000e-005	3.1000e-003	8.2000e-004	2.0000e-005	8.4000e-004	0.0000	2.9470	2.9470	1.0000e-004	0.0000	2.9495
Total	**8.6900e-003**	**0.2068**	**0.0660**	**4.6000e-004**	**0.0136**	**1.5000e-003**	**0.0151**	**3.8400e-003**	**1.4400e-003**	**5.2800e-003**	**0.0000**	**44.4736**	**44.4736**	**3.0600e-003**	**0.0000**	**44.5500**

3.4 Pile Driving Deck and Dolphins - 2018

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	0.0206	0.2431	0.1679	3.9000e-004		9.9300e-003	9.9300e-003		9.2800e-003	9.2800e-003	0.0000	35.3553	35.3553	0.0103	0.0000	35.6128
Total	**0.0206**	**0.2431**	**0.1679**	**3.9000e-004**		**9.9300e-003**	**9.9300e-003**		**9.2800e-003**	**9.2800e-003**	**0.0000**	**35.3553**	**35.3553**	**0.0103**	**0.0000**	**35.6128**

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	7.2000e-003	0.2055	0.0530	4.3000e-004	0.0105	1.4800e-003	0.0120	3.0200e-003	1.4200e-003	4.4400e-003	0.0000	41.5266	41.5266	2.9600e-003	0.0000	41.6004
Worker	1.4900e-003	1.2200e-003	0.0131	3.0000e-005	3.0700e-003	2.0000e-005	3.1000e-003	8.2000e-004	2.0000e-005	8.4000e-004	0.0000	2.9470	2.9470	1.0000e-004	0.0000	2.9495
Total	**8.6900e-003**	**0.2068**	**0.0660**	**4.6000e-004**	**0.0136**	**1.5000e-003**	**0.0151**	**3.8400e-003**	**1.4400e-003**	**5.2800e-003**	**0.0000**	**44.4736**	**44.4736**	**3.0600e-003**	**0.0000**	**44.5500**

3.5 Platform Deck Construction/Forms - 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	0.0275	0.3006	0.2130	3.2000e-004		0.0144	0.0144		0.0134	0.0134	0.0000	28.7402	28.7402	8.0700e-003	0.0000	28.9419
Total	**0.0275**	**0.3006**	**0.2130**	**3.2000e-004**		**0.0144**	**0.0144**		**0.0134**	**0.0134**	**0.0000**	**28.7402**	**28.7402**	**8.0700e-003**	**0.0000**	**28.9419**

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	8.2300e-003	0.2349	0.0605	4.9000e-004	0.0120	1.6900e-003	0.0137	3.4600e-003	1.6200e-003	5.0800e-003	0.0000	47.4589	47.4589	3.3800e-003	0.0000	47.5434
Worker	4.2500e-003	3.4800e-003	0.0373	9.0000e-005	8.7800e-003	7.0000e-005	8.8500e-003	2.3300e-003	7.0000e-005	2.4000e-003	0.0000	8.4200	8.4200	2.9000e-004	0.0000	8.4272
Total	**0.0125**	**0.2384**	**0.0979**	**5.8000e-004**	**0.0208**	**1.7600e-003**	**0.0225**	**5.7900e-003**	**1.6900e-003**	**7.4800e-003**	**0.0000**	**55.8789**	**55.8789**	**3.6700e-003**	**0.0000**	**55.9706**

3.5 Platform Deck Construction/Forms - 2018

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	0.0275	0.3006	0.2130	3.2000e-004		0.0144	0.0144		0.0134	0.0134	0.0000	28.7401	28.7401	8.0700e-003	0.0000	28.9418
Total	**0.0275**	**0.3006**	**0.2130**	**3.2000e-004**		**0.0144**	**0.0144**		**0.0134**	**0.0134**	**0.0000**	**28.7401**	**28.7401**	**8.0700e-003**	**0.0000**	**28.9418**

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	8.2300e-003	0.2349	0.0605	4.9000e-004	0.0120	1.6900e-003	0.0137	3.4600e-003	1.6200e-003	5.0800e-003	0.0000	47.4589	47.4589	3.3800e-003	0.0000	47.5434
Worker	4.2500e-003	3.4800e-003	0.0373	9.0000e-005	8.7800e-003	7.0000e-005	8.8500e-003	2.3300e-003	7.0000e-005	2.4000e-003	0.0000	8.4200	8.4200	2.9000e-004	0.0000	8.4272
Total	**0.0125**	**0.2384**	**0.0979**	**5.8000e-004**	**0.0208**	**1.7600e-003**	**0.0225**	**5.7900e-003**	**1.6900e-003**	**7.4800e-003**	**0.0000**	**55.8789**	**55.8789**	**3.6700e-003**	**0.0000**	**55.9706**

3.6 Platform Deck Construction/Concrete - 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	1.5700e-003	0.0167	9.4000e-003	3.0000e-005		6.4000e-004	6.4000e-004		6.1000e-004	6.1000e-004	0.0000	2.7371	2.7371	2.7000e-004	0.0000	2.7439
Total	**1.5700e-003**	**0.0167**	**9.4000e-003**	**3.0000e-005**		**6.4000e-004**	**6.4000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.7371**	**2.7371**	**2.7000e-004**	**0.0000**	**2.7439**

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	4.0000e-004	0.0115	2.9600e-003	2.0000e-005	5.9000e-004	8.0000e-005	6.7000e-004	1.7000e-004	8.0000e-005	2.5000e-004	0.0000	2.3230	2.3230	1.7000e-004	0.0000	2.3271
Worker	1.1000e-004	9.0000e-005	9.3000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2105	0.2105	1.0000e-005	0.0000	0.2107
Total	**5.1000e-004**	**0.0116**	**3.8900e-003**	**2.0000e-005**	**8.1000e-004**	**8.0000e-005**	**8.9000e-004**	**2.3000e-004**	**8.0000e-005**	**3.1000e-004**	**0.0000**	**2.5335**	**2.5335**	**1.8000e-004**	**0.0000**	**2.5378**

3.6 Platform Deck Construction/Concrete - 2018

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	1.5700e-003	0.0167	9.4000e-003	3.0000e-005		6.4000e-004	6.4000e-004		6.1000e-004	6.1000e-004	0.0000	2.7371	2.7371	2.7000e-004	0.0000	2.7439
Total	**1.5700e-003**	**0.0167**	**9.4000e-003**	**3.0000e-005**		**6.4000e-004**	**6.4000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**2.7371**	**2.7371**	**2.7000e-004**	**0.0000**	**2.7439**

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	4.0000e-004	0.0115	2.9600e-003	2.0000e-005	5.9000e-004	8.0000e-005	6.7000e-004	1.7000e-004	8.0000e-005	2.5000e-004	0.0000	2.3230	2.3230	1.7000e-004	0.0000	2.3271
Worker	1.1000e-004	9.0000e-005	9.3000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2105	0.2105	1.0000e-005	0.0000	0.2107
Total	**5.1000e-004**	**0.0116**	**3.8900e-003**	**2.0000e-005**	**8.1000e-004**	**8.0000e-005**	**8.9000e-004**	**2.3000e-004**	**8.0000e-005**	**3.1000e-004**	**0.0000**	**2.5335**	**2.5335**	**1.8000e-004**	**0.0000**	**2.5378**

3.7 Platform Deck Construction/Completion - 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	0.0158	0.1729	0.1225	1.8000e-004		8.2800e-003	8.2800e-003		7.7200e-003	7.7200e-003	0.0000	16.5256	16.5256	4.6400e-003	0.0000	16.6416
Total	**0.0158**	**0.1729**	**0.1225**	**1.8000e-004**		**8.2800e-003**	**8.2800e-003**		**7.7200e-003**	**7.7200e-003**	**0.0000**	**16.5256**	**16.5256**	**4.6400e-003**	**0.0000**	**16.6416**

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	4.7300e-003	0.1351	0.0348	2.8000e-004	6.8900e-003	9.7000e-004	7.8600e-003	1.9900e-003	9.3000e-004	2.9200e-003	0.0000	27.2889	27.2889	1.9400e-003	0.0000	27.3374
Worker	2.4400e-003	2.0000e-003	0.0215	5.0000e-005	5.0500e-003	4.0000e-005	5.0900e-003	1.3400e-003	4.0000e-005	1.3800e-003	0.0000	4.8415	4.8415	1.7000e-004	0.0000	4.8456
Total	**7.1700e-003**	**0.1371**	**0.0563**	**3.3000e-004**	**0.0119**	**1.0100e-003**	**0.0130**	**3.3300e-003**	**9.7000e-004**	**4.3000e-003**	**0.0000**	**32.1304**	**32.1304**	**2.1100e-003**	**0.0000**	**32.1831**

3.7 Platform Deck Construction/Completion - 2018

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	0.0158	0.1729	0.1225	1.8000e-004		8.2800e-003	8.2800e-003		7.7200e-003	7.7200e-003	0.0000	16.5256	16.5256	4.6400e-003	0.0000	16.6416
Total	**0.0158**	**0.1729**	**0.1225**	**1.8000e-004**		**8.2800e-003**	**8.2800e-003**		**7.7200e-003**	**7.7200e-003**	**0.0000**	**16.5256**	**16.5256**	**4.6400e-003**	**0.0000**	**16.6416**

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	4.7300e-003	0.1351	0.0348	2.8000e-004	6.8900e-003	9.7000e-004	7.8600e-003	1.9900e-003	9.3000e-004	2.9200e-003	0.0000	27.2889	27.2889	1.9400e-003	0.0000	27.3374
Worker	2.4400e-003	2.0000e-003	0.0215	5.0000e-005	5.0500e-003	4.0000e-005	5.0900e-003	1.3400e-003	4.0000e-005	1.3800e-003	0.0000	4.8415	4.8415	1.7000e-004	0.0000	4.8456
Total	**7.1700e-003**	**0.1371**	**0.0563**	**3.3000e-004**	**0.0119**	**1.0100e-003**	**0.0130**	**3.3300e-003**	**9.7000e-004**	**4.3000e-003**	**0.0000**	**32.1304**	**32.1304**	**2.1100e-003**	**0.0000**	**32.1831**

3.8 Breasting Dolphins 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	0.0140	0.1479	0.1133	1.8000e-004		7.0300e-003	7.0300e-003		6.6500e-003	6.6500e-003	0.0000	15.7994	15.7994	4.0200e-003	0.0000	15.9000
Total	**0.0140**	**0.1479**	**0.1133**	**1.8000e-004**		**7.0300e-003**	**7.0300e-003**		**6.6500e-003**	**6.6500e-003**	**0.0000**	**15.7994**	**15.7994**	**4.0200e-003**	**0.0000**	**15.9000**

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	8.2000e-004	0.0233	6.0000e-003	5.0000e-005	1.1900e-003	1.7000e-004	1.3600e-003	3.4000e-004	1.6000e-004	5.0000e-004	0.0000	4.7084	4.7084	3.4000e-004	0.0000	4.7168
Worker	1.2300e-003	1.0100e-003	0.0108	3.0000e-005	2.5500e-003	2.0000e-005	2.5700e-003	6.8000e-004	2.0000e-005	7.0000e-004	0.0000	2.4418	2.4418	8.0000e-005	0.0000	2.4439
Total	**2.0500e-003**	**0.0243**	**0.0168**	**8.0000e-005**	**3.7400e-003**	**1.9000e-004**	**3.9300e-003**	**1.0200e-003**	**1.8000e-004**	**1.2000e-003**	**0.0000**	**7.1502**	**7.1502**	**4.2000e-004**	**0.0000**	**7.1607**

3.8 Breasting Dolphins Construction - 2018

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	0.0140	0.1479	0.1133	1.8000e-004		7.0300e-003	7.0300e-003		6.6500e-003	6.6500e-003	0.0000	15.7994	15.7994	4.0200e-003	0.0000	15.9000
Total	**0.0140**	**0.1479**	**0.1133**	**1.8000e-004**		**7.0300e-003**	**7.0300e-003**		**6.6500e-003**	**6.6500e-003**	**0.0000**	**15.7994**	**15.7994**	**4.0200e-003**	**0.0000**	**15.9000**

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	8.2000e-004	0.0233	6.0000e-003	5.0000e-005	1.1900e-003	1.7000e-004	1.3600e-003	3.4000e-004	1.6000e-004	5.0000e-004	0.0000	4.7084	4.7084	3.4000e-004	0.0000	4.7168
Worker	1.2300e-003	1.0100e-003	0.0108	3.0000e-005	2.5500e-003	2.0000e-005	2.5700e-003	6.8000e-004	2.0000e-005	7.0000e-004	0.0000	2.4418	2.4418	8.0000e-005	0.0000	2.4439
Total	**2.0500e-003**	**0.0243**	**0.0168**	**8.0000e-005**	**3.7400e-003**	**1.9000e-004**	**3.9300e-003**	**1.0200e-003**	**1.8000e-004**	**1.2000e-003**	**0.0000**	**7.1502**	**7.1502**	**4.2000e-004**	**0.0000**	**7.1607**

3.9 Mooring Dolphins 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	8.6200e-003	0.0803	0.0513	7.0000e-005		4.6200e-003	4.6200e-003		4.3600e-003	4.3600e-003	0.0000	6.5406	6.5406	1.5300e-003	0.0000	6.5788
Total	**8.6200e-003**	**0.0803**	**0.0513**	**7.0000e-005**		**4.6200e-003**	**4.6200e-003**		**4.3600e-003**	**4.3600e-003**	**0.0000**	**6.5406**	**6.5406**	**1.5300e-003**	**0.0000**	**6.5788**

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	8.8000e-004	0.0252	6.5000e-003	5.0000e-005	1.2900e-003	1.8000e-004	1.4700e-003	3.7000e-004	1.7000e-004	5.4000e-004	0.0000	5.0956	5.0956	3.6000e-004	0.0000	5.1047
Worker	7.7000e-004	6.3000e-004	6.7200e-003	2.0000e-005	1.5800e-003	1.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.5156	1.5156	5.0000e-005	0.0000	1.5169
Total	**1.6500e-003**	**0.0259**	**0.0132**	**7.0000e-005**	**2.8700e-003**	**1.9000e-004**	**3.0600e-003**	**7.9000e-004**	**1.8000e-004**	**9.7000e-004**	**0.0000**	**6.6112**	**6.6112**	**4.1000e-004**	**0.0000**	**6.6216**

3.9 Mooring Dolphins Construction - 2018

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	8.6200e-003	0.0803	0.0513	7.0000e-005		4.6200e-003	4.6200e-003		4.3600e-003	4.3600e-003	0.0000	6.5406	6.5406	1.5300e-003	0.0000	6.5788
Total	**8.6200e-003**	**0.0803**	**0.0513**	**7.0000e-005**		**4.6200e-003**	**4.6200e-003**		**4.3600e-003**	**4.3600e-003**	**0.0000**	**6.5406**	**6.5406**	**1.5300e-003**	**0.0000**	**6.5788**

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	8.8000e-004	0.0252	6.5000e-003	5.0000e-005	1.2900e-003	1.8000e-004	1.4700e-003	3.7000e-004	1.7000e-004	5.4000e-004	0.0000	5.0956	5.0956	3.6000e-004	0.0000	5.1047
Worker	7.7000e-004	6.3000e-004	6.7200e-003	2.0000e-005	1.5800e-003	1.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.5156	1.5156	5.0000e-005	0.0000	1.5169
Total	**1.6500e-003**	**0.0259**	**0.0132**	**7.0000e-005**	**2.8700e-003**	**1.9000e-004**	**3.0600e-003**	**7.9000e-004**	**1.8000e-004**	**9.7000e-004**	**0.0000**	**6.6112**	**6.6112**	**4.1000e-004**	**0.0000**	**6.6216**

3.10 Topside 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	0.0515	0.4532	0.3704	5.6000e-004		0.0252	0.0252		0.0241	0.0241	0.0000	49.5055	49.5055	0.0108	0.0000	49.7751
Total	**0.0515**	**0.4532**	**0.3704**	**5.6000e-004**		**0.0252**	**0.0252**		**0.0241**	**0.0241**	**0.0000**	**49.5055**	**49.5055**	**0.0108**	**0.0000**	**49.7751**

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	2.0000e-005	5.8000e-004	1.1000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1412	0.1412	1.0000e-005	0.0000	0.1414
Vendor	0.0128	0.3660	0.0943	7.7000e-004	0.0187	2.6400e-003	0.0213	5.3800e-003	2.5200e-003	7.9100e-003	0.0000	73.9360	73.9360	5.2600e-003	0.0000	74.0676
Worker	2.1300e-003	1.7400e-003	0.0187	5.0000e-005	4.3900e-003	4.0000e-005	4.4200e-003	1.1700e-003	3.0000e-005	1.2000e-003	0.0000	4.2100	4.2100	1.4000e-004	0.0000	4.2136
Total	**0.0150**	**0.3683**	**0.1131**	**8.2000e-004**	**0.0232**	**2.6800e-003**	**0.0258**	**6.5800e-003**	**2.5500e-003**	**9.1400e-003**	**0.0000**	**78.2872**	**78.2872**	**5.4100e-003**	**0.0000**	**78.4226**

3.10 Topside Construction - 2018

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	0.0515	0.4532	0.3704	5.6000e-004		0.0252	0.0252		0.0241	0.0241	0.0000	49.5054	49.5054	0.0108	0.0000	49.7751
Total	**0.0515**	**0.4532**	**0.3704**	**5.6000e-004**		**0.0252**	**0.0252**		**0.0241**	**0.0241**	**0.0000**	**49.5054**	**49.5054**	**0.0108**	**0.0000**	**49.7751**

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	2.0000e-005	5.8000e-004	1.1000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1412	0.1412	1.0000e-005	0.0000	0.1414
Vendor	0.0128	0.3660	0.0943	7.7000e-004	0.0187	2.6400e-003	0.0213	5.3800e-003	2.5200e-003	7.9100e-003	0.0000	73.9360	73.9360	5.2600e-003	0.0000	74.0676
Worker	2.1300e-003	1.7400e-003	0.0187	5.0000e-005	4.3900e-003	4.0000e-005	4.4200e-003	1.1700e-003	3.0000e-005	1.2000e-003	0.0000	4.2100	4.2100	1.4000e-004	0.0000	4.2136
Total	**0.0150**	**0.3683**	**0.1131**	**8.2000e-004**	**0.0232**	**2.6800e-003**	**0.0258**	**6.5800e-003**	**2.5500e-003**	**9.1400e-003**	**0.0000**	**78.2872**	**78.2872**	**5.4100e-003**	**0.0000**	**78.4226**

3.10 Topside Construction - 2019

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	0.1314	1.1818	1.0212	1.5900e-003		0.0630	0.0630		0.0602	0.0602	0.0000	138.6112	138.6112	0.0297	0.0000	139.3544
Total	**0.1314**	**1.1818**	**1.0212**	**1.5900e-003**		**0.0630**	**0.0630**		**0.0602**	**0.0602**	**0.0000**	**138.6112**	**138.6112**	**0.0297**	**0.0000**	**139.3544**

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	4.0000e-005	1.5500e-003	3.0000e-004	0.0000	1.1000e-004	1.0000e-005	1.2000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.3941	0.3941	3.0000e-005	0.0000	0.3948
Vendor	0.0329	0.9750	0.2445	2.1400e-003	0.0527	6.3800e-003	0.0591	0.0152	6.1000e-003	0.0213	0.0000	207.0189	207.0189	0.0143	0.0000	207.3770
Worker	5.4600e-003	4.3300e-003	0.0471	1.3000e-004	0.0124	1.0000e-004	0.0125	3.2900e-003	9.0000e-005	3.3800e-003	0.0000	11.5180	11.5180	3.6000e-004	0.0000	11.5270
Total	**0.0384**	**0.9809**	**0.2919**	**2.2700e-003**	**0.0652**	**6.4900e-003**	**0.0717**	**0.0185**	**6.2000e-003**	**0.0247**	**0.0000**	**218.9310**	**218.9310**	**0.0147**	**0.0000**	**219.2988**

3.10 Topside Construction - 2019

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	0.1314	1.1818	1.0212	1.5900e-003		0.0630	0.0630		0.0602	0.0602	0.0000	138.6111	138.6111	0.0297	0.0000	139.3542
Total	**0.1314**	**1.1818**	**1.0212**	**1.5900e-003**		**0.0630**	**0.0630**		**0.0602**	**0.0602**	**0.0000**	**138.6111**	**138.6111**	**0.0297**	**0.0000**	**139.3542**

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	4.0000e-005	1.5500e-003	3.0000e-004	0.0000	1.1000e-004	1.0000e-005	1.2000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.3941	0.3941	3.0000e-005	0.0000	0.3948
Vendor	0.0329	0.9750	0.2445	2.1400e-003	0.0527	6.3800e-003	0.0591	0.0152	6.1000e-003	0.0213	0.0000	207.0189	207.0189	0.0143	0.0000	207.3770
Worker	5.4600e-003	4.3300e-003	0.0471	1.3000e-004	0.0124	1.0000e-004	0.0125	3.2900e-003	9.0000e-005	3.3800e-003	0.0000	11.5180	11.5180	3.6000e-004	0.0000	11.5270
Total	**0.0384**	**0.9809**	**0.2919**	**2.2700e-003**	**0.0652**	**6.4900e-003**	**0.0717**	**0.0185**	**6.2000e-003**	**0.0247**	**0.0000**	**218.9310**	**218.9310**	**0.0147**	**0.0000**	**219.2988**

3.11 Berth 239 Demolition - 2019

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					0.0321	0.0000	0.0321	4.8600e-003	0.0000	4.8600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0852	0.9287	0.6884	2.0000e-003		0.0388	0.0388		0.0367	0.0367	0.0000	178.0199	178.0199	0.0495	0.0000	179.2578
Total	**0.0852**	**0.9287**	**0.6884**	**2.0000e-003**	**0.0321**	**0.0388**	**0.0709**	**4.8600e-003**	**0.0367**	**0.0415**	**0.0000**	**178.0199**	**178.0199**	**0.0495**	**0.0000**	**179.2578**

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	1.5600e-003	0.0563	0.0108	1.5000e-004	3.2200e-003	2.0000e-004	3.4300e-003	8.9000e-004	2.0000e-004	1.0800e-003	0.0000	14.2943	14.2943	1.0000e-003	0.0000	14.3194
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	3.8600e-003	3.0700e-003	0.0334	9.0000e-005	8.7800e-003	7.0000e-005	8.8500e-003	2.3300e-003	6.0000e-005	2.4000e-003	0.0000	8.1543	8.1543	2.5000e-004	0.0000	8.1607
Total	**5.4200e-003**	**0.0594**	**0.0442**	**2.4000e-004**	**0.0120**	**2.7000e-004**	**0.0123**	**3.2200e-003**	**2.6000e-004**	**3.4800e-003**	**0.0000**	**22.4487**	**22.4487**	**1.2500e-003**	**0.0000**	**22.4801**

3.11 Berth 239 Demolition - 2019

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					0.0321	0.0000	0.0321	4.8600e-003	0.0000	4.8600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0852	0.9287	0.6884	2.0000e-003		0.0388	0.0388		0.0367	0.0367	0.0000	178.0197	178.0197	0.0495	0.0000	179.2576
Total	**0.0852**	**0.9287**	**0.6884**	**2.0000e-003**	**0.0321**	**0.0388**	**0.0709**	**4.8600e-003**	**0.0367**	**0.0415**	**0.0000**	**178.0197**	**178.0197**	**0.0495**	**0.0000**	**179.2576**

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	1.5600e-003	0.0563	0.0108	1.5000e-004	3.2200e-003	2.0000e-004	3.4300e-003	8.9000e-004	2.0000e-004	1.0800e-003	0.0000	14.2943	14.2943	1.0000e-003	0.0000	14.3194
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	3.8600e-003	3.0700e-003	0.0334	9.0000e-005	8.7800e-003	7.0000e-005	8.8500e-003	2.3300e-003	6.0000e-005	2.4000e-003	0.0000	8.1543	8.1543	2.5000e-004	0.0000	8.1607
Total	**5.4200e-003**	**0.0594**	**0.0442**	**2.4000e-004**	**0.0120**	**2.7000e-004**	**0.0123**	**3.2200e-003**	**2.6000e-004**	**3.4800e-003**	**0.0000**	**22.4487**	**22.4487**	**1.2500e-003**	**0.0000**	**22.4801**

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	tons/yr										MT/yr					
Mitigated	0.5263	3.1020	7.9273	0.0282	2.2715	0.0286	2.3001	0.6088	0.0268	0.6356	0.0000	2,596.8894	2,596.8894	0.1283	0.0000	2,600.0976
Unmitigated	0.5263	3.1020	7.9273	0.0282	2.2715	0.0286	2.3001	0.6088	0.0268	0.6356	0.0000	2,596.8894	2,596.8894	0.1283	0.0000	2,600.0976

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	1,350.00	1,350.00	1350.00	5,978,175	5,978,175
Total	1,350.00	1,350.00	1,350.00	5,978,175	5,978,175

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
General Heavy Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

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	5,564.0457	5,564.0457	0.1314	0.0272	5,575.4331
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	5,564.0457	5,564.0457	0.1314	0.0272	5,575.4331
NaturalGas Mitigated	0.0878	0.7985	0.6708	4.7900e-003		0.0607	0.0607		0.0607	0.0607	0.0000	869.2964	869.2964	0.0167	0.0159	874.4622
NaturalGas Unmitigated	0.0878	0.7985	0.6708	4.7900e-003		0.0607	0.0607		0.0607	0.0607	0.0000	869.2964	869.2964	0.0167	0.0159	874.4622

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					
General Heavy Industry	1.629e+007	0.0878	0.7985	0.6708	4.7900e-003		0.0607	0.0607		0.0607	0.0607	0.0000	869.2964	869.2964	0.0167	0.0159	874.4622
Total		**0.0878**	**0.7985**	**0.6708**	**4.7900e-003**		**0.0607**	**0.0607**		**0.0607**	**0.0607**	**0.0000**	**869.2964**	**869.2964**	**0.0167**	**0.0159**	**874.4622**

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					
General Heavy Industry	1.629e+007	0.0878	0.7985	0.6708	4.7900e-003		0.0607	0.0607		0.0607	0.0607	0.0000	869.2964	869.2964	0.0167	0.0159	874.4622
Total		**0.0878**	**0.7985**	**0.6708**	**4.7900e-003**		**0.0607**	**0.0607**		**0.0607**	**0.0607**	**0.0000**	**869.2964**	**869.2964**	**0.0167**	**0.0159**	**874.4622**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	9.99e+006	5,564.0457	0.1314	0.0272	5,575.4331
Total		**5,564.0457**	**0.1314**	**0.0272**	**5,575.4331**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	9.99e+006	5,564.0457	0.1314	0.0272	5,575.4331
Total		**5,564.0457**	**0.1314**	**0.0272**	**5,575.4331**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	3.6704	1.1000e-004	0.0116	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0223	0.0223	6.0000e-005	0.0000	0.0238
Unmitigated	3.6704	1.1000e-004	0.0116	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0223	0.0223	6.0000e-005	0.0000	0.0238

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	0.4172					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.2522					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0900e-003	1.1000e-004	0.0116	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0223	0.0223	6.0000e-005	0.0000	0.0238
Total	**3.6704**	**1.1000e-004**	**0.0116**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0223**	**0.0223**	**6.0000e-005**	**0.0000**	**0.0238**

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	0.4172					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.2522					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0900e-003	1.1000e-004	0.0116	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0223	0.0223	6.0000e-005	0.0000	0.0238
Total	**3.6704**	**1.1000e-004**	**0.0116**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.0223**	**0.0223**	**6.0000e-005**	**0.0000**	**0.0238**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1,575.3918	6.8174	0.1675	1,795.7441
Unmitigated	1,575.3918	6.8174	0.1675	1,795.7441

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	208.125 / 0	1,575.3918	6.8174	0.1675	1,795.7441
Total		**1,575.3918**	**6.8174**	**0.1675**	**1,795.7441**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	208.125 / 0	1,575.3918	6.8174	0.1675	1,795.7441
Total		**1,575.3918**	**6.8174**	**0.1675**	**1,795.7441**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	226.5379	13.3880	0.0000	561.2381
Unmitigated	226.5379	13.3880	0.0000	561.2381

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	1116	226.5379	13.3880	0.0000	561.2381
Total		**226.5379**	**13.3880**	**0.0000**	**561.2381**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	1116	226.5379	13.3880	0.0000	561.2381
Total		**226.5379**	**13.3880**	**0.0000**	**561.2381**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

PBF Construction

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	900.00	1000sqft	20.66	900,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2020
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Construction Phase - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Trips and VMT - Trips and VMT - Provided by POLA Engineering

Demolition -

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Fleet Mix -

Area Coating -

Energy Use -

Area Mitigation - SCAQMD Rule 1113

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingValue	0	100
tblConstructionPhase	NumDays	370.00	35.00
tblConstructionPhase	NumDays	370.00	40.00

tblConstructionPhase	NumDays	370.00	1.00
tblConstructionPhase	NumDays	370.00	23.00
tblConstructionPhase	NumDays	370.00	29.00
tblConstructionPhase	NumDays	370.00	24.00
tblConstructionPhase	NumDays	370.00	153.00
tblConstructionPhase	NumDays	20.00	65.00
tblConstructionPhase	NumDays	20.00	80.00
tblConstructionPhase	NumDays	20.00	80.00
tblOffRoadEquipment	HorsePower	81.00	65.00
tblOffRoadEquipment	HorsePower	231.00	297.00
tblOffRoadEquipment	HorsePower	231.00	289.00
tblOffRoadEquipment	HorsePower	231.00	152.00
tblOffRoadEquipment	HorsePower	231.00	289.00
tblOffRoadEquipment	HorsePower	231.00	152.00
tblOffRoadEquipment	HorsePower	231.00	289.00
tblOffRoadEquipment	HorsePower	231.00	152.00
tblOffRoadEquipment	HorsePower	231.00	289.00
tblOffRoadEquipment	HorsePower	231.00	152.00
tblOffRoadEquipment	HorsePower	231.00	150.00
tblOffRoadEquipment	HorsePower	231.00	260.00
tblOffRoadEquipment	HorsePower	158.00	220.00
tblOffRoadEquipment	HorsePower	158.00	220.00
tblOffRoadEquipment	HorsePower	84.00	10.00
tblOffRoadEquipment	HorsePower	84.00	10.00
tblOffRoadEquipment	HorsePower	84.00	10.00
tblOffRoadEquipment	HorsePower	84.00	10.00
tblOffRoadEquipment	HorsePower	84.00	10.00

tblOffRoadEquipment	HorsePower	84.00	10.00
tblOffRoadEquipment	HorsePower	46.00	85.00
tblOffRoadEquipment	HorsePower	46.00	85.00
tblOffRoadEquipment	HorsePower	46.00	85.00
tblOffRoadEquipment	HorsePower	46.00	85.00
tblOffRoadEquipment	HorsePower	46.00	85.00
tblOffRoadEquipment	HorsePower	63.00	67.00
tblOffRoadEquipment	HorsePower	63.00	67.00
tblOffRoadEquipment	HorsePower	63.00	67.00
tblOffRoadEquipment	HorsePower	63.00	67.00
tblOffRoadEquipment	HorsePower	63.00	67.00
tblOffRoadEquipment	HorsePower	63.00	67.00
tblOffRoadEquipment	HorsePower	63.00	67.00
tblOffRoadEquipment	HorsePower	78.00	75.00
tblOffRoadEquipment	HorsePower	78.00	75.00
tblOffRoadEquipment	HorsePower	78.00	75.00
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tblOffRoadEquipment	HorsePower	231.00	150.00
tblOffRoadEquipment	HorsePower	231.00	260.00
tblOffRoadEquipment	HorsePower	231.00	297.00

tblOffRoadEquipment	HorsePower	231.00	297.00
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tblOffRoadEquipment	HorsePower	172.00	160.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
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tblOffRoadEquipment	PhaseName		Berth 238 Demolition
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tblOffRoadEquipment	PhaseName		Platform Deck Construction/Forms
tblOffRoadEquipment	PhaseName		Platform Deck Construction/Concrete
tblOffRoadEquipment	PhaseName		Platform Deck Construction/Completion
tblOffRoadEquipment	PhaseName		Breasting Dolphins Construction
tblOffRoadEquipment	PhaseName		Topside Construction
tblOffRoadEquipment	PhaseName		Berth 239 Demolition
tblOffRoadEquipment	PhaseName		Berth 238 Demolition
tblOffRoadEquipment	PhaseName		Pile Driving Deck and Dolphins

PBF Construction - South Coast AQMD Air District, Summer

tblOffRoadEquipment	PhaseName		Platform Deck Construction/Forms
tblOffRoadEquipment	PhaseName		Platform Deck Construction/Concrete
tblOffRoadEquipment	PhaseName		Platform Deck Construction/Completion
tblOffRoadEquipment	PhaseName		Breasting Dolphins Construction
tblOffRoadEquipment	PhaseName		Mooring Dolphins Construction
tblOffRoadEquipment	PhaseName		Topside Construction
tblOffRoadEquipment	PhaseName		Berth 239 Demolition
tblOffRoadEquipment	PhaseName		Berth 238 Demolition
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tblOffRoadEquipment	PhaseName		Pile Driving Deck and Dolphins
tblOffRoadEquipment	PhaseName		Berth 239 Demolition
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tblOffRoadEquipment	PhaseName		Berth 239 Demolition
tblOffRoadEquipment	PhaseName		Berth 238 Demolition
tblOffRoadEquipment	PhaseName		Pile Driving Deck and Dolphins
tblOffRoadEquipment	PhaseName		Platform Deck Construction/Forms
tblOffRoadEquipment	PhaseName		Platform Deck Construction/Concrete
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tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00

tblOffRoadEquipment	UsageHours	7.00	8.00
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tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
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tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	2.00
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tblTripsAndVMT	HaulingTripNumber	10.00	14.00
tblTripsAndVMT	HaulingTripNumber	297.00	375.00
tblTripsAndVMT	HaulingTripNumber	297.00	375.00
tblTripsAndVMT	HaulingTripNumber	0.00	14.00
tblTripsAndVMT	VendorTripLength	6.90	50.00
tblTripsAndVMT	VendorTripLength	6.90	50.00
tblTripsAndVMT	VendorTripNumber	148.00	95.00
tblTripsAndVMT	VendorTripNumber	148.00	95.00
tblTripsAndVMT	VendorTripNumber	148.00	186.00
tblTripsAndVMT	VendorTripNumber	148.00	95.00
tblTripsAndVMT	VendorTripNumber	148.00	13.00

tblTripsAndVMT	VendorTripNumber	148.00	17.00
tblTripsAndVMT	WorkerTripNumber	18.00	20.00
tblTripsAndVMT	WorkerTripNumber	18.00	20.00
tblTripsAndVMT	WorkerTripNumber	378.00	16.00
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tblTripsAndVMT	WorkerTripNumber	378.00	40.00
tblTripsAndVMT	WorkerTripNumber	378.00	40.00
tblTripsAndVMT	WorkerTripNumber	378.00	16.00
tblTripsAndVMT	WorkerTripNumber	378.00	12.00
tblTripsAndVMT	WorkerTripNumber	378.00	20.00

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					
2018	4.8410	56.0500	36.3714	0.1088	1.8420	2.2058	3.5740	0.5161	2.0920	2.3605	0.0000	11,705.0574	11,705.0574	1.9830	0.0000	11,729.3237
2019	2.9948	37.9463	23.0715	0.0690	1.1728	1.2292	2.4020	0.3325	1.1747	1.5073	0.0000	7,036.2939	7,036.2939	1.3990	0.0000	7,057.7531
Maximum	**4.8410**	**56.0500**	**36.3714**	**0.1088**	**1.8420**	**2.2058**	**3.5740**	**0.5161**	**2.0920**	**2.3605**	**0.0000**	**11,705.0574**	**11,705.0574**	**1.9830**	**0.0000**	**11,729.3237**

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					
2018	4.8410	56.0500	36.3714	0.1088	1.8420	2.2058	3.5740	0.5161	2.0920	2.3605	0.0000	11,705.0574	11,705.0574	1.9830	0.0000	11,729.3237
2019	2.9948	37.9463	23.0715	0.0690	1.1728	1.2292	2.4020	0.3325	1.1747	1.5073	0.0000	7,036.2939	7,036.2939	1.3990	0.0000	7,057.7531
Maximum	**4.8410**	**56.0500**	**36.3714**	**0.1088**	**1.8420**	**2.2058**	**3.5740**	**0.5161**	**2.0920**	**2.3605**	**0.0000**	**11,705.0574**	**11,705.0574**	**1.9830**	**0.0000**	**11,729.3237**

	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**

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	20.1145	8.5000e-004	0.0925	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004		0.1970	0.1970	5.3000e-004		0.2102
Energy	0.4813	4.3755	3.6754	0.0263		0.3325	0.3325		0.3325	0.3325		5,250.6044	5,250.6044	0.1006	0.0963	5,281.8061
Mobile	3.0815	16.2752	46.1145	0.1612	12.7115	0.1568	12.8682	3.4013	0.1472	3.5486		16,374.4811	16,374.4811	0.7869		16,394.1524
Total	**23.6773**	**20.6515**	**49.8824**	**0.1875**	**12.7115**	**0.4897**	**13.2011**	**3.4013**	**0.4801**	**3.8814**		**21,625.2824**	**21,625.2824**	**0.8880**	**0.0963**	**21,676.1686**

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	20.1145	8.5000e-004	0.0925	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004		0.1970	0.1970	5.3000e-004		0.2102
Energy	0.4813	4.3755	3.6754	0.0263		0.3325	0.3325		0.3325	0.3325		5,250.6044	5,250.6044	0.1006	0.0963	5,281.8061
Mobile	3.0815	16.2752	46.1145	0.1612	12.7115	0.1568	12.8682	3.4013	0.1472	3.5486		16,374.4811	16,374.4811	0.7869		16,394.1524
Total	**23.6773**	**20.6515**	**49.8824**	**0.1875**	**12.7115**	**0.4897**	**13.2011**	**3.4013**	**0.4801**	**3.8814**		**21,625.2824**	**21,625.2824**	**0.8880**	**0.0963**	**21,676.1686**

	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	Topside Demolition	Demolition	1/1/2018	4/1/2018	5	65	
2	Berth 238 Demolition	Demolition	3/1/2018	6/20/2018	5	80	
3	Pile Driving Deck and Dolphins	Building Construction	6/21/2018	8/8/2018	5	35	
4	Platform Deck Construction/Forms	Building Construction	7/1/2018	8/24/2018	5	40	
5	Platform Deck Construction/Concrete	Building Construction	8/27/2018	8/27/2018	5	1	
6	Platform Deck Construction/Completion	Building Construction	8/28/2018	9/27/2018	5	23	
7	Breasting Dolphins Construction	Building Construction	9/28/2018	11/7/2018	5	29	
8	Mooring Dolphins Construction	Building Construction	10/1/2018	11/1/2018	5	24	
9	Topside Construction	Building Construction	11/6/2018	6/6/2019	5	153	
10	Berth 239 Demolition	Demolition	6/10/2019	9/28/2019	5	80	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

PBF Construction - South Coast AQMD Air District, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Topside Demolition	Aerial Lifts	2	8.00	63	0.31
Topside Demolition	Air Compressors	1	8.00	78	0.48
Topside Demolition	Cranes	1	8.00	150	0.29
Topside Demolition	Cranes	1	8.00	260	0.29
Topside Demolition	Forklifts	1	8.00	89	0.20
Topside Demolition	Generator Sets	1	8.00	84	0.74
Topside Demolition	Welders	1	8.00	46	0.45
Berth 238 Demolition	Aerial Lifts	1	4.00	67	0.31
Berth 238 Demolition	Air Compressors	1	4.00	75	0.48
Berth 238 Demolition	Bore/Drill Rigs	1	8.00	595	0.50
Berth 238 Demolition	Concrete/Industrial Saws	1	4.00	65	0.73
Berth 238 Demolition	Cranes	1	8.00	297	0.29
Berth 238 Demolition	Excavators	1	8.00	220	0.38
Berth 238 Demolition	Other Construction Equipment	1	1.00	160	0.42
Pile Driving Deck and Dolphins	Aerial Lifts	1	4.00	67	0.31
Pile Driving Deck and Dolphins	Air Compressors	1	2.00	75	0.48
Pile Driving Deck and Dolphins	Bore/Drill Rigs	1	4.00	221	0.50
Pile Driving Deck and Dolphins	Bore/Drill Rigs	1	2.00	595	0.50
Pile Driving Deck and Dolphins	Cranes	1	8.00	297	0.29
Pile Driving Deck and Dolphins	Generator Sets	1	2.00	10	0.74
Pile Driving Deck and Dolphins	Other Construction Equipment	1	1.00	160	0.42
Pile Driving Deck and Dolphins	Welders	1	2.00	85	0.45
Platform Deck Construction/Forms	Aerial Lifts	1	8.00	67	0.31
Platform Deck Construction/Forms	Air Compressors	1	2.00	75	0.48
Platform Deck Construction/Forms	Cranes	1	8.00	289	0.29
Platform Deck Construction/Forms	Cranes	1	8.00	152	0.29

Platform Deck Construction/Forms	Generator Sets	1	4.00	10	0.74
Platform Deck Construction/Forms	Other Construction Equipment	1	1.00	160	0.42
Platform Deck Construction/Forms	Welders	1	2.00	85	0.45
Platform Deck Construction/Concrete	Aerial Lifts	1	8.00	67	0.31
Platform Deck Construction/Concrete	Air Compressors	1	2.00	75	0.48
Platform Deck Construction/Concrete	Cranes	1	8.00	289	0.29
Platform Deck Construction/Concrete	Cranes	1	8.00	152	0.29
Platform Deck Construction/Concrete	Generator Sets	1	4.00	10	0.74
Platform Deck Construction/Concrete	Other Construction Equipment	1	1.00	160	0.42
Platform Deck Construction/Concrete	Pumps	2	8.00	300	0.74
Platform Deck Construction/Concrete	Welders	1	2.00	85	0.45
Platform Deck Construction/Completion	Aerial Lifts	1	8.00	67	0.31
Platform Deck Construction/Completion	Air Compressors	1	2.00	75	0.48
Platform Deck Construction/Completion	Cranes	1	8.00	289	0.29
Platform Deck Construction/Completion	Cranes	1	8.00	152	0.29
Platform Deck Construction/Completion	Generator Sets	1	4.00	10	0.74
Platform Deck Construction/Completion	Other Construction Equipment	1	1.00	160	0.42
Platform Deck Construction/Completion	Welders	1	2.00	85	0.45
Breasting Dolphins Construction	Aerial Lifts	1	4.00	67	0.31
Breasting Dolphins Construction	Air Compressors	1	4.00	75	0.48
Breasting Dolphins Construction	Cranes	1	8.00	289	0.29
Breasting Dolphins Construction	Generator Sets	1	4.00	10	0.74
Breasting Dolphins Construction	Other Construction Equipment	1	1.00	160	0.42
Breasting Dolphins Construction	Welders	1	2.00	85	0.45
Mooring Dolphins Construction	Air Compressors	1	4.00	75	0.48
Mooring Dolphins Construction	Cranes	1	8.00	152	0.29
Mooring Dolphins Construction	Generator Sets	1	4.00	10	0.74

Topside Construction	Aerial Lifts	2	8.00	63	0.31
Topside Construction	Air Compressors	1	8.00	78	0.48
Topside Construction	Cranes	1	8.00	150	0.29
Topside Construction	Cranes	1	8.00	260	0.29
Topside Construction	Forklifts	1	8.00	89	0.20
Topside Construction	Generator Sets	1	8.00	84	0.74
Topside Construction	Welders	1	8.00	46	0.45
Berth 239 Demolition	Aerial Lifts	1	4.00	67	0.31
Berth 239 Demolition	Air Compressors	1	4.00	75	0.48
Berth 239 Demolition	Bore/Drill Rigs	1	8.00	595	0.50
Berth 239 Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Berth 239 Demolition	Cranes	1	8.00	297	0.29
Berth 239 Demolition	Excavators	1	8.00	220	0.38
Berth 239 Demolition	Other Construction Equipment	1	1.00	160	0.42

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
Topside Demolition	8	20.00	0.00	14.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Berth 238 Demolition	7	20.00	0.00	375.00	14.70	50.00	20.00	LD_Mix	HDT_Mix	HHDT
Pile Driving Deck and Dolphins	8	16.00	95.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Platform Deck Construction/Forms	7	40.00	95.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Platform Deck Construction/Concrete	9	40.00	186.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Platform Deck Construction/Completio	7	40.00	95.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Breasting Dolphins Construction	6	16.00	13.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Mooring Dolphins Construction	3	12.00	17.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Topside Construction	8	20.00	148.00	14.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Berth 239 Demolition	7	20.00	0.00	375.00	14.70	50.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Topside Demolition - 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					
Fugitive Dust					0.0329	0.0000	0.0329	4.9800e-003	0.0000	4.9800e-003			0.0000			0.0000
Off-Road	2.5757	22.6594	18.5220	0.0282		1.2593	1.2593		1.2047	1.2047		2,728.5220	2,728.5220	0.5945		2,743.3833
Total	**2.5757**	**22.6594**	**18.5220**	**0.0282**	**0.0329**	**1.2593**	**1.2922**	**4.9800e-003**	**1.2047**	**1.2096**		**2,728.5220**	**2,728.5220**	**0.5945**		**2,743.3833**

3.2 Topside Demolition - 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	1.8700e-003	0.0663	0.0123	1.7000e-004	3.7600e-003	2.5000e-004	4.0200e-003	1.0300e-003	2.4000e-004	1.2800e-003		18.4539	18.4539	1.2600e-003		18.4854
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	0.1078	0.0773	1.0035	2.4500e-003	0.2236	1.7800e-003	0.2253	0.0593	1.6400e-003	0.0609		243.8703	243.8703	8.3200e-003		244.0782
Total	**0.1096**	**0.1436**	**1.0158**	**2.6200e-003**	**0.2273**	**2.0300e-003**	**0.2294**	**0.0603**	**1.8800e-003**	**0.0622**		**262.3242**	**262.3242**	**9.5800e-003**		**262.5636**

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					0.0329	0.0000	0.0329	4.9800e-003	0.0000	4.9800e-003			0.0000			0.0000
Off-Road	2.5757	22.6594	18.5220	0.0282		1.2593	1.2593		1.2047	1.2047	0.0000	2,728.5220	2,728.5220	0.5945		2,743.3833
Total	**2.5757**	**22.6594**	**18.5220**	**0.0282**	**0.0329**	**1.2593**	**1.2922**	**4.9800e-003**	**1.2047**	**1.2096**	**0.0000**	**2,728.5220**	**2,728.5220**	**0.5945**		**2,743.3833**

3.2 Topside Demolition - 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	1.8700e-003	0.0663	0.0123	1.7000e-004	3.7600e-003	2.5000e-004	4.0200e-003	1.0300e-003	2.4000e-004	1.2800e-003		18.4539	18.4539	1.2600e-003		18.4854
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	0.1078	0.0773	1.0035	2.4500e-003	0.2236	1.7800e-003	0.2253	0.0593	1.6400e-003	0.0609		243.8703	243.8703	8.3200e-003		244.0782
Total	**0.1096**	**0.1436**	**1.0158**	**2.6200e-003**	**0.2273**	**2.0300e-003**	**0.2294**	**0.0603**	**1.8800e-003**	**0.0622**		**262.3242**	**262.3242**	**9.5800e-003**		**262.5636**

3.3 Berth 238 Demolition - 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					
Fugitive Dust					0.8025	0.0000	0.8025	0.1215	0.0000	0.1215			0.0000			0.0000
Off-Road	2.0073	23.6116	15.5628	0.0462		0.9372	0.9372		0.8785	0.8785		4,618.5184	4,618.5184	1.3432		4,652.0976
Total	**2.0073**	**23.6116**	**15.5628**	**0.0462**	**0.8025**	**0.9372**	**1.7396**	**0.1215**	**0.8785**	**1.0000**		**4,618.5184**	**4,618.5184**	**1.3432**		**4,652.0976**

3.3 Berth 238 Demolition - 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	0.0406	1.4433	0.2673	3.7200e-003	0.0819	5.5500e-003	0.0875	0.0225	5.3100e-003	0.0278		401.6185	401.6185	0.0275		402.3052
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	0.1078	0.0773	1.0035	2.4500e-003	0.2236	1.7800e-003	0.2253	0.0593	1.6400e-003	0.0609		243.8703	243.8703	8.3200e-003		244.0782
Total	**0.1484**	**1.5205**	**1.2708**	**6.1700e-003**	**0.3055**	**7.3300e-003**	**0.3128**	**0.0817**	**6.9500e-003**	**0.0887**		**645.4889**	**645.4889**	**0.0358**		**646.3835**

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					0.8025	0.0000	0.8025	0.1215	0.0000	0.1215			0.0000			0.0000
Off-Road	2.0073	23.6116	15.5628	0.0462		0.9372	0.9372		0.8785	0.8785	0.0000	4,618.5184	4,618.5184	1.3432		4,652.0976
Total	**2.0073**	**23.6116**	**15.5628**	**0.0462**	**0.8025**	**0.9372**	**1.7396**	**0.1215**	**0.8785**	**1.0000**	**0.0000**	**4,618.5184**	**4,618.5184**	**1.3432**		**4,652.0976**

3.3 Berth 238 Demolition - 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	0.0406	1.4433	0.2673	3.7200e-003	0.0819	5.5500e-003	0.0875	0.0225	5.3100e-003	0.0278		401.6185	401.6185	0.0275		402.3052
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	0.1078	0.0773	1.0035	2.4500e-003	0.2236	1.7800e-003	0.2253	0.0593	1.6400e-003	0.0609		243.8703	243.8703	8.3200e-003		244.0782
Total	**0.1484**	**1.5205**	**1.2708**	**6.1700e-003**	**0.3055**	**7.3300e-003**	**0.3128**	**0.0817**	**6.9500e-003**	**0.0887**		**645.4889**	**645.4889**	**0.0358**		**646.3835**

3.4 Pile Driving Deck and Dolphins - 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	1.1775	13.8908	9.5963	0.0223		0.5672	0.5672		0.5302	0.5302		2,227.0069	2,227.0069	0.6486		2,243.2219
Total	**1.1775**	**13.8908**	**9.5963**	**0.0223**		**0.5672**	**0.5672**		**0.5302**	**0.5302**		**2,227.0069**	**2,227.0069**	**0.6486**		**2,243.2219**

3.4 Pile Driving Deck and Dolphins - 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	0.4042	11.5125	2.8670	0.0249	0.6080	0.0841	0.6922	0.1751	0.0805	0.2555		2,647.2513	2,647.2513	0.1802		2,651.7556
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	**0.4904**	**11.5743**	**3.6699**	**0.0268**	**0.7869**	**0.0856**	**0.8724**	**0.2225**	**0.0818**	**0.3043**		**2,842.3476**	**2,842.3476**	**0.1868**		**2,847.0182**

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	1.1775	13.8908	9.5963	0.0223		0.5672	0.5672		0.5302	0.5302	0.0000	2,227.0069	2,227.0069	0.6486		2,243.2219
Total	**1.1775**	**13.8908**	**9.5963**	**0.0223**		**0.5672**	**0.5672**		**0.5302**	**0.5302**	**0.0000**	**2,227.0069**	**2,227.0069**	**0.6486**		**2,243.2219**

3.4 Pile Driving Deck and Dolphins - 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	0.4042	11.5125	2.8670	0.0249	0.6080	0.0841	0.6922	0.1751	0.0805	0.2555		2,647.2513	2,647.2513	0.1802		2,651.7556
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	**0.4904**	**11.5743**	**3.6699**	**0.0268**	**0.7869**	**0.0856**	**0.8724**	**0.2225**	**0.0818**	**0.3043**		**2,842.3476**	**2,842.3476**	**0.1868**		**2,847.0182**

3.5 Platform Deck Construction/Forms - 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	1.3739	15.0311	10.6476	0.0160		0.7200	0.7200		0.6714	0.6714		1,584.0304	1,584.0304	0.4447		1,595.1466
Total	**1.3739**	**15.0311**	**10.6476**	**0.0160**		**0.7200**	**0.7200**		**0.6714**	**0.6714**		**1,584.0304**	**1,584.0304**	**0.4447**		**1,595.1466**

3.5 Platform Deck Construction/Forms - 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	0.4042	11.5125	2.8670	0.0249	0.6080	0.0841	0.6922	0.1751	0.0805	0.2555		2,647.2513	2,647.2513	0.1802		2,651.7556
Worker	0.2155	0.1545	2.0070	4.9000e-003	0.4471	3.5600e-003	0.4507	0.1186	3.2900e-003	0.1219		487.7407	487.7407	0.0166		488.1564
Total	**0.6198**	**11.6670**	**4.8741**	**0.0298**	**1.0551**	**0.0877**	**1.1428**	**0.2936**	**0.0838**	**0.3774**		**3,134.9920**	**3,134.9920**	**0.1968**		**3,139.9120**

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	1.3739	15.0311	10.6476	0.0160		0.7200	0.7200		0.6714	0.6714	0.0000	1,584.0304	1,584.0304	0.4447		1,595.1466
Total	**1.3739**	**15.0311**	**10.6476**	**0.0160**		**0.7200**	**0.7200**		**0.6714**	**0.6714**	**0.0000**	**1,584.0304**	**1,584.0304**	**0.4447**		**1,595.1466**

3.5 Platform Deck Construction/Forms - 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	0.4042	11.5125	2.8670	0.0249	0.6080	0.0841	0.6922	0.1751	0.0805	0.2555		2,647.2513	2,647.2513	0.1802		2,651.7556
Worker	0.2155	0.1545	2.0070	4.9000e-003	0.4471	3.5600e-003	0.4507	0.1186	3.2900e-003	0.1219		487.7407	487.7407	0.0166		488.1564
Total	**0.6198**	**11.6670**	**4.8741**	**0.0298**	**1.0551**	**0.0877**	**1.1428**	**0.2936**	**0.0838**	**0.3774**		**3,134.9920**	**3,134.9920**	**0.1968**		**3,139.9120**

3.6 Platform Deck Construction/Concrete - 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	3.1437	33.3552	18.7995	0.0552		1.2760	1.2760		1.2274	1.2274		6,034.2773	6,034.2773	0.6013		6,049.3090
Total	**3.1437**	**33.3552**	**18.7995**	**0.0552**		**1.2760**	**1.2760**		**1.2274**	**1.2274**		**6,034.2773**	**6,034.2773**	**0.6013**		**6,049.3090**

3.6 Platform Deck Construction/Concrete - 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	0.7914	22.5403	5.6134	0.0487	1.1905	0.1647	1.3552	0.3427	0.1576	0.5003		5,183.0395	5,183.0395	0.3528		5,191.8583
Worker	0.2155	0.1545	2.0070	4.9000e-003	0.4471	3.5600e-003	0.4507	0.1186	3.2900e-003	0.1219		487.7407	487.7407	0.0166		488.1564
Total	**1.0070**	**22.6948**	**7.6204**	**0.0536**	**1.6376**	**0.1683**	**1.8058**	**0.4613**	**0.1608**	**0.6221**		**5,670.7801**	**5,670.7801**	**0.3694**		**5,680.0148**

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	3.1437	33.3552	18.7995	0.0552		1.2760	1.2760		1.2274	1.2274	0.0000	6,034.2773	6,034.2773	0.6013		6,049.3089
Total	**3.1437**	**33.3552**	**18.7995**	**0.0552**		**1.2760**	**1.2760**		**1.2274**	**1.2274**	**0.0000**	**6,034.2773**	**6,034.2773**	**0.6013**		**6,049.3089**

3.6 Platform Deck Construction/Concrete - 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	0.7914	22.5403	5.6134	0.0487	1.1905	0.1647	1.3552	0.3427	0.1576	0.5003		5,183.0395	5,183.0395	0.3528		5,191.8583
Worker	0.2155	0.1545	2.0070	4.9000e-003	0.4471	3.5600e-003	0.4507	0.1186	3.2900e-003	0.1219		487.7407	487.7407	0.0166		488.1564
Total	**1.0070**	**22.6948**	**7.6204**	**0.0536**	**1.6376**	**0.1683**	**1.8058**	**0.4613**	**0.1608**	**0.6221**		**5,670.7801**	**5,670.7801**	**0.3694**		**5,680.0148**

3.7 Platform Deck Construction/Completion - 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	1.3739	15.0311	10.6476	0.0160		0.7200	0.7200		0.6714	0.6714		1,584.0304	1,584.0304	0.4447		1,595.1466
Total	**1.3739**	**15.0311**	**10.6476**	**0.0160**		**0.7200**	**0.7200**		**0.6714**	**0.6714**		**1,584.0304**	**1,584.0304**	**0.4447**		**1,595.1466**

3.7 Platform Deck Construction/Completion - 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	0.4042	11.5125	2.8670	0.0249	0.6080	0.0841	0.6922	0.1751	0.0805	0.2555		2,647.2513	2,647.2513	0.1802		2,651.7556
Worker	0.2155	0.1545	2.0070	4.9000e-003	0.4471	3.5600e-003	0.4507	0.1186	3.2900e-003	0.1219		487.7407	487.7407	0.0166		488.1564
Total	**0.6198**	**11.6670**	**4.8741**	**0.0298**	**1.0551**	**0.0877**	**1.1428**	**0.2936**	**0.0838**	**0.3774**		**3,134.9920**	**3,134.9920**	**0.1968**		**3,139.9120**

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	1.3739	15.0311	10.6476	0.0160		0.7200	0.7200		0.6714	0.6714	0.0000	1,584.0304	1,584.0304	0.4447		1,595.1466
Total	**1.3739**	**15.0311**	**10.6476**	**0.0160**		**0.7200**	**0.7200**		**0.6714**	**0.6714**	**0.0000**	**1,584.0304**	**1,584.0304**	**0.4447**		**1,595.1466**

3.7 Platform Deck Construction/Completion - 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	0.4042	11.5125	2.8670	0.0249	0.6080	0.0841	0.6922	0.1751	0.0805	0.2555		2,647.2513	2,647.2513	0.1802		2,651.7556
Worker	0.2155	0.1545	2.0070	4.9000e-003	0.4471	3.5600e-003	0.4507	0.1186	3.2900e-003	0.1219		487.7407	487.7407	0.0166		488.1564
Total	**0.6198**	**11.6670**	**4.8741**	**0.0298**	**1.0551**	**0.0877**	**1.1428**	**0.2936**	**0.0838**	**0.3774**		**3,134.9920**	**3,134.9920**	**0.1968**		**3,139.9120**

3.8 Breasting Dolphins 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	0.9644	10.1982	7.8120	0.0123		0.4848	0.4848		0.4589	0.4589		1,201.0909	1,201.0909	0.3059		1,208.7390
Total	**0.9644**	**10.1982**	**7.8120**	**0.0123**		**0.4848**	**0.4848**		**0.4589**	**0.4589**		**1,201.0909**	**1,201.0909**	**0.3059**		**1,208.7390**

3.8 Breasting Dolphins 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	0.0553	1.5754	0.3923	3.4000e-003	0.0832	0.0115	0.0947	0.0240	0.0110	0.0350		362.2555	362.2555	0.0247		362.8718
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	**0.1415**	**1.6372**	**1.1951**	**5.3600e-003**	**0.2620**	**0.0129**	**0.2750**	**0.0714**	**0.0123**	**0.0837**		**557.3517**	**557.3517**	**0.0313**		**558.1344**

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	0.9644	10.1982	7.8120	0.0123		0.4848	0.4848		0.4589	0.4589	0.0000	1,201.0909	1,201.0909	0.3059		1,208.7390
Total	**0.9644**	**10.1982**	**7.8120**	**0.0123**		**0.4848**	**0.4848**		**0.4589**	**0.4589**	**0.0000**	**1,201.0909**	**1,201.0909**	**0.3059**		**1,208.7390**

3.8 Breasting Dolphins 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	0.0553	1.5754	0.3923	3.4000e-003	0.0832	0.0115	0.0947	0.0240	0.0110	0.0350		362.2555	362.2555	0.0247		362.8718
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	**0.1415**	**1.6372**	**1.1951**	**5.3600e-003**	**0.2620**	**0.0129**	**0.2750**	**0.0714**	**0.0123**	**0.0837**		**557.3517**	**557.3517**	**0.0313**		**558.1344**

3.9 Mooring Dolphins 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	0.7187	6.6921	4.2721	6.2300e-003		0.3850	0.3850		0.3631	0.3631		600.8132	600.8132	0.1405		604.3245
Total	**0.7187**	**6.6921**	**4.2721**	**6.2300e-003**		**0.3850**	**0.3850**		**0.3631**	**0.3631**		**600.8132**	**600.8132**	**0.1405**		**604.3245**

3.9 Mooring Dolphins 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	0.0723	2.0601	0.5131	4.4500e-003	0.1088	0.0151	0.1239	0.0313	0.0144	0.0457		473.7187	473.7187	0.0322		474.5247
Worker	0.0647	0.0464	0.6021	1.4700e-003	0.1341	1.0700e-003	0.1352	0.0356	9.9000e-004	0.0366		146.3222	146.3222	4.9900e-003		146.4469
Total	**0.1370**	**2.1065**	**1.1152**	**5.9200e-003**	**0.2429**	**0.0161**	**0.2591**	**0.0669**	**0.0154**	**0.0823**		**620.0409**	**620.0409**	**0.0372**		**620.9716**

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	0.7187	6.6921	4.2721	6.2300e-003		0.3850	0.3850		0.3631	0.3631	0.0000	600.8132	600.8132	0.1405		604.3245
Total	**0.7187**	**6.6921**	**4.2721**	**6.2300e-003**		**0.3850**	**0.3850**		**0.3631**	**0.3631**	**0.0000**	**600.8132**	**600.8132**	**0.1405**		**604.3245**

3.9 Mooring Dolphins 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	0.0723	2.0601	0.5131	4.4500e-003	0.1088	0.0151	0.1239	0.0313	0.0144	0.0457		473.7187	473.7187	0.0322		474.5247
Worker	0.0647	0.0464	0.6021	1.4700e-003	0.1341	1.0700e-003	0.1352	0.0356	9.9000e-004	0.0366		146.3222	146.3222	4.9900e-003		146.4469
Total	**0.1370**	**2.1065**	**1.1152**	**5.9200e-003**	**0.2429**	**0.0161**	**0.2591**	**0.0669**	**0.0154**	**0.0823**		**620.0409**	**620.0409**	**0.0372**		**620.9716**

3.10 Topside 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	2.5757	22.6594	18.5220	0.0282		1.2593	1.2593		1.2047	1.2047		2,728.5220	2,728.5220	0.5945		2,743.3833
Total	**2.5757**	**22.6594**	**18.5220**	**0.0282**		**1.2593**	**1.2593**		**1.2047**	**1.2047**		**2,728.5220**	**2,728.5220**	**0.5945**		**2,743.3833**

3.10 Topside 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	7.9000e-004	0.0282	5.2200e-003	7.0000e-005	5.0200e-003	1.1000e-004	5.1200e-003	1.2800e-003	1.0000e-004	1.3800e-003		7.8399	7.8399	5.4000e-004		7.8533
Vendor	0.6297	17.9353	4.4666	0.0387	0.9473	0.1310	1.0783	0.2727	0.1254	0.3981		4,124.1389	4,124.1389	0.2807		4,131.1561
Worker	0.1078	0.0773	1.0035	2.4500e-003	0.2236	1.7800e-003	0.2253	0.0593	1.6400e-003	0.0609		243.8703	243.8703	8.3200e-003		244.0782
Total	**0.7383**	**18.0407**	**5.4753**	**0.0413**	**1.1758**	**0.1329**	**1.3087**	**0.3333**	**0.1271**	**0.4604**		**4,375.8491**	**4,375.8491**	**0.2896**		**4,383.0876**

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	2.5757	22.6594	18.5220	0.0282		1.2593	1.2593		1.2047	1.2047	0.0000	2,728.5220	2,728.5220	0.5945		2,743.3833
Total	**2.5757**	**22.6594**	**18.5220**	**0.0282**		**1.2593**	**1.2593**		**1.2047**	**1.2047**	**0.0000**	**2,728.5220**	**2,728.5220**	**0.5945**		**2,743.3833**

3.10 Topside 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	7.9000e-004	0.0282	5.2200e-003	7.0000e-005	5.0200e-003	1.1000e-004	5.1200e-003	1.2800e-003	1.0000e-004	1.3800e-003		7.8399	7.8399	5.4000e-004		7.8533
Vendor	0.6297	17.9353	4.4666	0.0387	0.9473	0.1310	1.0783	0.2727	0.1254	0.3981		4,124.1389	4,124.1389	0.2807		4,131.1561
Worker	0.1078	0.0773	1.0035	2.4500e-003	0.2236	1.7800e-003	0.2253	0.0593	1.6400e-003	0.0609		243.8703	243.8703	8.3200e-003		244.0782
Total	**0.7383**	**18.0407**	**5.4753**	**0.0413**	**1.1758**	**0.1329**	**1.3087**	**0.3333**	**0.1271**	**0.4604**		**4,375.8491**	**4,375.8491**	**0.2896**		**4,383.0876**

3.10 Topside Construction - 2019

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	2.3256	20.9168	18.0739	0.0282		1.1152	1.1152		1.0657	1.0657		2,704.2958	2,704.2958	0.5800		2,718.7949
Total	**2.3256**	**20.9168**	**18.0739**	**0.0282**		**1.1152**	**1.1152**		**1.0657**	**1.0657**		**2,704.2958**	**2,704.2958**	**0.5800**		**2,718.7949**

3.10 Topside Construction - 2019

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	7.5000e-004	0.0266	5.1000e-003	7.0000e-005	2.0300e-003	1.0000e-004	2.1300e-003	5.4000e-004	9.0000e-005	6.4000e-004		7.7487	7.7487	5.3000e-004		7.7619
Vendor	0.5706	16.9347	4.0938	0.0384	0.9472	0.1122	1.0594	0.2727	0.1073	0.3800		4,088.0516	4,088.0516	0.2705		4,094.8139
Worker	0.0980	0.0682	0.8987	2.3700e-003	0.2236	1.7400e-003	0.2253	0.0593	1.6000e-003	0.0609		236.1978	236.1978	7.3900e-003		236.3825
Total	**0.6693**	**17.0295**	**4.9976**	**0.0408**	**1.1728**	**0.1140**	**1.2868**	**0.3325**	**0.1090**	**0.4415**		**4,331.9981**	**4,331.9981**	**0.2784**		**4,338.9583**

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	2.3256	20.9168	18.0739	0.0282		1.1152	1.1152		1.0657	1.0657	0.0000	2,704.2958	2,704.2958	0.5800		2,718.7949
Total	**2.3256**	**20.9168**	**18.0739**	**0.0282**		**1.1152**	**1.1152**		**1.0657**	**1.0657**	**0.0000**	**2,704.2958**	**2,704.2958**	**0.5800**		**2,718.7949**

3.10 Topside Construction - 2019

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	7.5000e-004	0.0266	5.1000e-003	7.0000e-005	2.0300e-003	1.0000e-004	2.1300e-003	5.4000e-004	9.0000e-005	6.4000e-004		7.7487	7.7487	5.3000e-004		7.7619
Vendor	0.5706	16.9347	4.0938	0.0384	0.9472	0.1122	1.0594	0.2727	0.1073	0.3800		4,088.0516	4,088.0516	0.2705		4,094.8139
Worker	0.0980	0.0682	0.8987	2.3700e-003	0.2236	1.7400e-003	0.2253	0.0593	1.6000e-003	0.0609		236.1978	236.1978	7.3900e-003		236.3825
Total	**0.6693**	**17.0295**	**4.9976**	**0.0408**	**1.1728**	**0.1140**	**1.2868**	**0.3325**	**0.1090**	**0.4415**		**4,331.9981**	**4,331.9981**	**0.2784**		**4,338.9583**

3.11 Berth 239 Demolition - 2019

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					0.8025	0.0000	0.8025	0.1215	0.0000	0.1215			0.0000			0.0000
Off-Road	2.1306	23.2172	17.2108	0.0499		0.9695	0.9695		0.9169	0.9169		4,905.8337	4,905.8337	1.3645		4,939.9465
Total	**2.1306**	**23.2172**	**17.2108**	**0.0499**	**0.8025**	**0.9695**	**1.7719**	**0.1215**	**0.9169**	**1.0384**		**4,905.8337**	**4,905.8337**	**1.3645**		**4,939.9465**

3.11 Berth 239 Demolition - 2019

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	0.0385	1.3646	0.2612	3.6800e-003	0.0819	5.0600e-003	0.0870	0.0225	4.8400e-003	0.0273		396.9456	396.9456	0.0271		397.6225
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	0.0980	0.0682	0.8987	2.3700e-003	0.2236	1.7400e-003	0.2253	0.0593	1.6000e-003	0.0609		236.1978	236.1978	7.3900e-003		236.3825
Total	**0.1365**	**1.4328**	**1.1599**	**6.0500e-003**	**0.3055**	**6.8000e-003**	**0.3123**	**0.0817**	**6.4400e-003**	**0.0882**		**633.1434**	**633.1434**	**0.0345**		**634.0050**

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					0.8025	0.0000	0.8025	0.1215	0.0000	0.1215			0.0000			0.0000
Off-Road	2.1306	23.2172	17.2108	0.0499		0.9695	0.9695		0.9169	0.9169	0.0000	4,905.8337	4,905.8337	1.3645		4,939.9465
Total	**2.1306**	**23.2172**	**17.2108**	**0.0499**	**0.8025**	**0.9695**	**1.7719**	**0.1215**	**0.9169**	**1.0384**	**0.0000**	**4,905.8337**	**4,905.8337**	**1.3645**		**4,939.9465**

3.11 Berth 239 Demolition - 2019

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	0.0385	1.3646	0.2612	3.6800e-003	0.0819	5.0600e-003	0.0870	0.0225	4.8400e-003	0.0273		396.9456	396.9456	0.0271		397.6225
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	0.0980	0.0682	0.8987	2.3700e-003	0.2236	1.7400e-003	0.2253	0.0593	1.6000e-003	0.0609		236.1978	236.1978	7.3900e-003		236.3825
Total	**0.1365**	**1.4328**	**1.1599**	**6.0500e-003**	**0.3055**	**6.8000e-003**	**0.3123**	**0.0817**	**6.4400e-003**	**0.0882**		**633.1434**	**633.1434**	**0.0345**		**634.0050**

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	3.0815	16.2752	46.1145	0.1612	12.7115	0.1568	12.8682	3.4013	0.1472	3.5486		16,374.4811	16,374.4811	0.7869		16,394.1524
Unmitigated	3.0815	16.2752	46.1145	0.1612	12.7115	0.1568	12.8682	3.4013	0.1472	3.5486		16,374.4811	16,374.4811	0.7869		16,394.1524

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	1,350.00	1,350.00	1350.00	5,978,175	5,978,175
Total	1,350.00	1,350.00	1,350.00	5,978,175	5,978,175

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
General Heavy Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

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	0.4813	4.3755	3.6754	0.0263		0.3325	0.3325		0.3325	0.3325		5,250.6044	5,250.6044	0.1006	0.0963	5,281.8061
NaturalGas Unmitigated	0.4813	4.3755	3.6754	0.0263		0.3325	0.3325		0.3325	0.3325		5,250.6044	5,250.6044	0.1006	0.0963	5,281.8061

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					
General Heavy Industry	44630.1	0.4813	4.3755	3.6754	0.0263		0.3325	0.3325		0.3325	0.3325		5,250.6044	5,250.6044	0.1006	0.0963	5,281.8061
Total		**0.4813**	**4.3755**	**3.6754**	**0.0263**		**0.3325**	**0.3325**		**0.3325**	**0.3325**		**5,250.6044**	**5,250.6044**	**0.1006**	**0.0963**	**5,281.8061**

5.2 Energy by Land Use - NaturalGas

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					
General Heavy Industry	44.6301	0.4813	4.3755	3.6754	0.0263		0.3325	0.3325		0.3325	0.3325		5,250.6044	5,250.6044	0.1006	0.0963	5,281.8061
Total		**0.4813**	**4.3755**	**3.6754**	**0.0263**		**0.3325**	**0.3325**		**0.3325**	**0.3325**		**5,250.6044**	**5,250.6044**	**0.1006**	**0.0963**	**5,281.8061**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	20.1145	8.5000e-004	0.0925	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004		0.1970	0.1970	5.3000e-004		0.2102
Unmitigated	20.1145	8.5000e-004	0.0925	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004		0.1970	0.1970	5.3000e-004		0.2102

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	2.2858					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	17.8200					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.7000e-003	8.5000e-004	0.0925	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004		0.1970	0.1970	5.3000e-004		0.2102
Total	**20.1145**	**8.5000e-004**	**0.0925**	**1.0000e-005**		**3.3000e-004**	**3.3000e-004**		**3.3000e-004**	**3.3000e-004**		**0.1970**	**0.1970**	**5.3000e-004**		**0.2102**

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	2.2858					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	17.8200					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.7000e-003	8.5000e-004	0.0925	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004		0.1970	0.1970	5.3000e-004		0.2102
Total	**20.1145**	**8.5000e-004**	**0.0925**	**1.0000e-005**		**3.3000e-004**	**3.3000e-004**		**3.3000e-004**	**3.3000e-004**		**0.1970**	**0.1970**	**5.3000e-004**		**0.2102**

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

PBF Construction

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	900.00	1000sqft	20.66	900,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2020
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Construction Phase - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Off-road Equipment - Off-Road Equipment - Provided by POLA Engineering

Trips and VMT - Trips and VMT - Provided by POLA Engineering

Demolition -

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Fleet Mix -

Area Coating -

Energy Use -

Area Mitigation - SCAQMD Rule 1113

Table Name	Column Name	Default Value	New Value
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tblConstructionPhase	NumDays	370.00	35.00
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tblConstructionPhase	NumDays	370.00	23.00
tblConstructionPhase	NumDays	370.00	29.00
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tblConstructionPhase	NumDays	370.00	153.00
tblConstructionPhase	NumDays	20.00	65.00
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tblOffRoadEquipment	HorsePower	81.00	65.00
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tblOffRoadEquipment	PhaseName		Platform Deck Construction/Forms
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tblOffRoadEquipment	PhaseName		Platform Deck Construction/Completion
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tblOffRoadEquipment	PhaseName		Berth 238 Demolition
tblOffRoadEquipment	PhaseName		Pile Driving Deck and Dolphins

tblOffRoadEquipment	PhaseName		Platform Deck Construction/Forms
tblOffRoadEquipment	PhaseName		Platform Deck Construction/Concrete
tblOffRoadEquipment	PhaseName		Platform Deck Construction/Completion
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tblOffRoadEquipment	PhaseName		Topside Construction
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tblOffRoadEquipment	PhaseName		Pile Driving Deck and Dolphins
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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					
2018	4.8611	56.1024	36.2044	0.1071	1.8420	2.2059	3.5741	0.5161	2.0921	2.3606	0.0000	11,526.6188	11,526.6188	1.9832	0.0000	11,551.5138
2019	3.0290	37.9651	23.4494	0.0678	1.1728	1.2309	2.4038	0.3325	1.1764	1.5090	0.0000	6,903.9158	6,903.9158	1.3997	0.0000	6,925.8678
Maximum	**4.8611**	**56.1024**	**36.2044**	**0.1071**	**1.8420**	**2.2059**	**3.5741**	**0.5161**	**2.0921**	**2.3606**	**0.0000**	**11,526.6188**	**11,526.6188**	**1.9832**	**0.0000**	**11,551.5138**

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					
2018	4.8611	56.1024	36.2044	0.1071	1.8420	2.2059	3.5741	0.5161	2.0921	2.3606	0.0000	11,526.6188	11,526.6188	1.9832	0.0000	11,551.5138
2019	3.0290	37.9651	23.4494	0.0678	1.1728	1.2309	2.4038	0.3325	1.1764	1.5090	0.0000	6,903.9158	6,903.9158	1.3997	0.0000	6,925.8678
Maximum	**4.8611**	**56.1024**	**36.2044**	**0.1071**	**1.8420**	**2.2059**	**3.5741**	**0.5161**	**2.0921**	**2.3606**	**0.0000**	**11,526.6188**	**11,526.6188**	**1.9832**	**0.0000**	**11,551.5138**

	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**

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	20.1145	8.5000e-004	0.0925	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004		0.1970	0.1970	5.3000e-004		0.2102
Energy	0.4813	4.3755	3.6754	0.0263		0.3325	0.3325		0.3325	0.3325		5,250.6044	5,250.6044	0.1006	0.0963	5,281.8061
Mobile	2.9429	16.7369	42.7535	0.1526	12.7115	0.1575	12.8689	3.4013	0.1479	3.5492		15,510.7471	15,510.7471	0.7796		15,530.2373
Total	**23.5386**	**21.1132**	**46.5214**	**0.1788**	**12.7115**	**0.4903**	**13.2018**	**3.4013**	**0.4807**	**3.8821**		**20,761.5484**	**20,761.5484**	**0.8808**	**0.0963**	**20,812.2535**

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	20.1145	8.5000e-004	0.0925	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004		0.1970	0.1970	5.3000e-004		0.2102
Energy	0.4813	4.3755	3.6754	0.0263		0.3325	0.3325		0.3325	0.3325		5,250.6044	5,250.6044	0.1006	0.0963	5,281.8061
Mobile	2.9429	16.7369	42.7535	0.1526	12.7115	0.1575	12.8689	3.4013	0.1479	3.5492		15,510.7471	15,510.7471	0.7796		15,530.2373
Total	**23.5386**	**21.1132**	**46.5214**	**0.1788**	**12.7115**	**0.4903**	**13.2018**	**3.4013**	**0.4807**	**3.8821**		**20,761.5484**	**20,761.5484**	**0.8808**	**0.0963**	**20,812.2535**

	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	Topside Demolition	Demolition	1/1/2018	4/1/2018	5	65	
2	Berth 238 Demolition	Demolition	3/1/2018	6/20/2018	5	80	
3	Pile Driving Deck and Dolphins	Building Construction	6/21/2018	8/8/2018	5	35	
4	Platform Deck Construction/Forms	Building Construction	7/1/2018	8/24/2018	5	40	
5	Platform Deck Construction/Concrete	Building Construction	8/27/2018	8/27/2018	5	1	
6	Platform Deck Construction/Completion	Building Construction	8/28/2018	9/27/2018	5	23	
7	Breasting Dolphins Construction	Building Construction	9/28/2018	11/7/2018	5	29	
8	Mooring Dolphins Construction	Building Construction	10/1/2018	11/1/2018	5	24	
9	Topside Construction	Building Construction	11/6/2018	6/6/2019	5	153	
10	Berth 239 Demolition	Demolition	6/10/2019	9/28/2019	5	80	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

PBF Construction - South Coast AQMD Air District, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Topside Demolition	Aerial Lifts	2	8.00	63	0.31
Topside Demolition	Air Compressors	1	8.00	78	0.48
Topside Demolition	Cranes	1	8.00	150	0.29
Topside Demolition	Cranes	1	8.00	260	0.29
Topside Demolition	Forklifts	1	8.00	89	0.20
Topside Demolition	Generator Sets	1	8.00	84	0.74
Topside Demolition	Welders	1	8.00	46	0.45
Berth 238 Demolition	Aerial Lifts	1	4.00	67	0.31
Berth 238 Demolition	Air Compressors	1	4.00	75	0.48
Berth 238 Demolition	Bore/Drill Rigs	1	8.00	595	0.50
Berth 238 Demolition	Concrete/Industrial Saws	1	4.00	65	0.73
Berth 238 Demolition	Cranes	1	8.00	297	0.29
Berth 238 Demolition	Excavators	1	8.00	220	0.38
Berth 238 Demolition	Other Construction Equipment	1	1.00	160	0.42
Pile Driving Deck and Dolphins	Aerial Lifts	1	4.00	67	0.31
Pile Driving Deck and Dolphins	Air Compressors	1	2.00	75	0.48
Pile Driving Deck and Dolphins	Bore/Drill Rigs	1	4.00	221	0.50
Pile Driving Deck and Dolphins	Bore/Drill Rigs	1	2.00	595	0.50
Pile Driving Deck and Dolphins	Cranes	1	8.00	297	0.29
Pile Driving Deck and Dolphins	Generator Sets	1	2.00	10	0.74
Pile Driving Deck and Dolphins	Other Construction Equipment	1	1.00	160	0.42
Pile Driving Deck and Dolphins	Welders	1	2.00	85	0.45
Platform Deck Construction/Forms	Aerial Lifts	1	8.00	67	0.31
Platform Deck Construction/Forms	Air Compressors	1	2.00	75	0.48
Platform Deck Construction/Forms	Cranes	1	8.00	289	0.29
Platform Deck Construction/Forms	Cranes	1	8.00	152	0.29

Platform Deck Construction/Forms	Generator Sets	1	4.00	10	0.74
Platform Deck Construction/Forms	Other Construction Equipment	1	1.00	160	0.42
Platform Deck Construction/Forms	Welders	1	2.00	85	0.45
Platform Deck Construction/Concrete	Aerial Lifts	1	8.00	67	0.31
Platform Deck Construction/Concrete	Air Compressors	1	2.00	75	0.48
Platform Deck Construction/Concrete	Cranes	1	8.00	289	0.29
Platform Deck Construction/Concrete	Cranes	1	8.00	152	0.29
Platform Deck Construction/Concrete	Generator Sets	1	4.00	10	0.74
Platform Deck Construction/Concrete	Other Construction Equipment	1	1.00	160	0.42
Platform Deck Construction/Concrete	Pumps	2	8.00	300	0.74
Platform Deck Construction/Concrete	Welders	1	2.00	85	0.45
Platform Deck Construction/Completion	Aerial Lifts	1	8.00	67	0.31
Platform Deck Construction/Completion	Air Compressors	1	2.00	75	0.48
Platform Deck Construction/Completion	Cranes	1	8.00	289	0.29
Platform Deck Construction/Completion	Cranes	1	8.00	152	0.29
Platform Deck Construction/Completion	Generator Sets	1	4.00	10	0.74
Platform Deck Construction/Completion	Other Construction Equipment	1	1.00	160	0.42
Platform Deck Construction/Completion	Welders	1	2.00	85	0.45
Breasting Dolphins Construction	Aerial Lifts	1	4.00	67	0.31
Breasting Dolphins Construction	Air Compressors	1	4.00	75	0.48
Breasting Dolphins Construction	Cranes	1	8.00	289	0.29
Breasting Dolphins Construction	Generator Sets	1	4.00	10	0.74
Breasting Dolphins Construction	Other Construction Equipment	1	1.00	160	0.42
Breasting Dolphins Construction	Welders	1	2.00	85	0.45
Mooring Dolphins Construction	Air Compressors	1	4.00	75	0.48
Mooring Dolphins Construction	Cranes	1	8.00	152	0.29
Mooring Dolphins Construction	Generator Sets	1	4.00	10	0.74

Topside Construction	Aerial Lifts	2	8.00	63	0.31
Topside Construction	Air Compressors	1	8.00	78	0.48
Topside Construction	Cranes	1	8.00	150	0.29
Topside Construction	Cranes	1	8.00	260	0.29
Topside Construction	Forklifts	1	8.00	89	0.20
Topside Construction	Generator Sets	1	8.00	84	0.74
Topside Construction	Welders	1	8.00	46	0.45
Berth 239 Demolition	Aerial Lifts	1	4.00	67	0.31
Berth 239 Demolition	Air Compressors	1	4.00	75	0.48
Berth 239 Demolition	Bore/Drill Rigs	1	8.00	595	0.50
Berth 239 Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Berth 239 Demolition	Cranes	1	8.00	297	0.29
Berth 239 Demolition	Excavators	1	8.00	220	0.38
Berth 239 Demolition	Other Construction Equipment	1	1.00	160	0.42

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
Topside Demolition	8	20.00	0.00	14.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Berth 238 Demolition	7	20.00	0.00	375.00	14.70	50.00	20.00	LD_Mix	HDT_Mix	HHDT
Pile Driving Deck and Dolphins	8	16.00	95.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Platform Deck Construction/Forms	7	40.00	95.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Platform Deck Construction/Concrete	9	40.00	186.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Platform Deck Construction/Completio	7	40.00	95.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Breasting Dolphins Construction	6	16.00	13.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Mooring Dolphins Construction	3	12.00	17.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Topside Construction	8	20.00	148.00	14.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Berth 239 Demolition	7	20.00	0.00	375.00	14.70	50.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Topside Demolition - 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					
Fugitive Dust					0.0329	0.0000	0.0329	4.9800e-003	0.0000	4.9800e-003			0.0000			0.0000
Off-Road	2.5757	22.6594	18.5220	0.0282		1.2593	1.2593		1.2047	1.2047		2,728.5220	2,728.5220	0.5945		2,743.3833
Total	**2.5757**	**22.6594**	**18.5220**	**0.0282**	**0.0329**	**1.2593**	**1.2922**	**4.9800e-003**	**1.2047**	**1.2096**		**2,728.5220**	**2,728.5220**	**0.5945**		**2,743.3833**

3.2 Topside Demolition - 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	1.9200e-003	0.0672	0.0133	1.7000e-004	3.7600e-003	2.6000e-004	4.0200e-003	1.0300e-003	2.5000e-004	1.2800e-003		18.1228	18.1228	1.3200e-003		18.1558
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	0.1172	0.0846	0.9082	2.2900e-003	0.2236	1.7800e-003	0.2253	0.0593	1.6400e-003	0.0609		228.1358	228.1358	7.7800e-003		228.3305
Total	**0.1191**	**0.1519**	**0.9215**	**2.4600e-003**	**0.2273**	**2.0400e-003**	**0.2294**	**0.0603**	**1.8900e-003**	**0.0622**		**246.2587**	**246.2587**	**9.1000e-003**		**246.4863**

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					0.0329	0.0000	0.0329	4.9800e-003	0.0000	4.9800e-003			0.0000			0.0000
Off-Road	2.5757	22.6594	18.5220	0.0282		1.2593	1.2593		1.2047	1.2047	0.0000	2,728.5220	2,728.5220	0.5945		2,743.3833
Total	**2.5757**	**22.6594**	**18.5220**	**0.0282**	**0.0329**	**1.2593**	**1.2922**	**4.9800e-003**	**1.2047**	**1.2096**	**0.0000**	**2,728.5220**	**2,728.5220**	**0.5945**		**2,743.3833**

3.2 Topside Demolition - 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	1.9200e-003	0.0672	0.0133	1.7000e-004	3.7600e-003	2.6000e-004	4.0200e-003	1.0300e-003	2.5000e-004	1.2800e-003		18.1228	18.1228	1.3200e-003		18.1558
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	0.1172	0.0846	0.9082	2.2900e-003	0.2236	1.7800e-003	0.2253	0.0593	1.6400e-003	0.0609		228.1358	228.1358	7.7800e-003		228.3305
Total	**0.1191**	**0.1519**	**0.9215**	**2.4600e-003**	**0.2273**	**2.0400e-003**	**0.2294**	**0.0603**	**1.8900e-003**	**0.0622**		**246.2587**	**246.2587**	**9.1000e-003**		**246.4863**

3.3 Berth 238 Demolition - 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					
Fugitive Dust					0.8025	0.0000	0.8025	0.1215	0.0000	0.1215			0.0000			0.0000
Off-Road	2.0073	23.6116	15.5628	0.0462		0.9372	0.9372		0.8785	0.8785		4,618.5184	4,618.5184	1.3432		4,652.0976
Total	**2.0073**	**23.6116**	**15.5628**	**0.0462**	**0.8025**	**0.9372**	**1.7396**	**0.1215**	**0.8785**	**1.0000**		**4,618.5184**	**4,618.5184**	**1.3432**		**4,652.0976**

3.3 Berth 238 Demolition - 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	0.0419	1.4634	0.2899	3.6600e-003	0.0819	5.6600e-003	0.0876	0.0225	5.4100e-003	0.0279		394.4144	394.4144	0.0287		395.1328
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	0.1172	0.0846	0.9082	2.2900e-003	0.2236	1.7800e-003	0.2253	0.0593	1.6400e-003	0.0609		228.1358	228.1358	7.7800e-003		228.3305
Total	**0.1590**	**1.5481**	**1.1980**	**5.9500e-003**	**0.3055**	**7.4400e-003**	**0.3129**	**0.0817**	**7.0500e-003**	**0.0888**		**622.5502**	**622.5502**	**0.0365**		**623.4632**

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					0.8025	0.0000	0.8025	0.1215	0.0000	0.1215			0.0000			0.0000
Off-Road	2.0073	23.6116	15.5628	0.0462		0.9372	0.9372		0.8785	0.8785	0.0000	4,618.5184	4,618.5184	1.3432		4,652.0976
Total	**2.0073**	**23.6116**	**15.5628**	**0.0462**	**0.8025**	**0.9372**	**1.7396**	**0.1215**	**0.8785**	**1.0000**	**0.0000**	**4,618.5184**	**4,618.5184**	**1.3432**		**4,652.0976**

3.3 Berth 238 Demolition - 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	0.0419	1.4634	0.2899	3.6600e-003	0.0819	5.6600e-003	0.0876	0.0225	5.4100e-003	0.0279		394.4144	394.4144	0.0287		395.1328
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	0.1172	0.0846	0.9082	2.2900e-003	0.2236	1.7800e-003	0.2253	0.0593	1.6400e-003	0.0609		228.1358	228.1358	7.7800e-003		228.3305
Total	**0.1590**	**1.5481**	**1.1980**	**5.9500e-003**	**0.3055**	**7.4400e-003**	**0.3129**	**0.0817**	**7.0500e-003**	**0.0888**		**622.5502**	**622.5502**	**0.0365**		**623.4632**

3.4 Pile Driving Deck and Dolphins - 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	1.1775	13.8908	9.5963	0.0223		0.5672	0.5672		0.5302	0.5302		2,227.0069	2,227.0069	0.6486		2,243.2219
Total	**1.1775**	**13.8908**	**9.5963**	**0.0223**		**0.5672**	**0.5672**		**0.5302**	**0.5302**		**2,227.0069**	**2,227.0069**	**0.6486**		**2,243.2219**

3.4 Pile Driving Deck and Dolphins - 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	0.4219	11.5317	3.1826	0.0242	0.6080	0.0854	0.6934	0.1751	0.0817	0.2568		2,572.1862	2,572.1862	0.1936		2,577.0251
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	**0.5156**	**11.5994**	**3.9092**	**0.0260**	**0.7869**	**0.0868**	**0.8737**	**0.2225**	**0.0830**	**0.3055**		**2,754.6949**	**2,754.6949**	**0.1998**		**2,759.6895**

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	1.1775	13.8908	9.5963	0.0223		0.5672	0.5672		0.5302	0.5302	0.0000	2,227.0069	2,227.0069	0.6486		2,243.2219
Total	**1.1775**	**13.8908**	**9.5963**	**0.0223**		**0.5672**	**0.5672**		**0.5302**	**0.5302**	**0.0000**	**2,227.0069**	**2,227.0069**	**0.6486**		**2,243.2219**

3.4 Pile Driving Deck and Dolphins - 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	0.4219	11.5317	3.1826	0.0242	0.6080	0.0854	0.6934	0.1751	0.0817	0.2568		2,572.1862	2,572.1862	0.1936		2,577.0251
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	**0.5156**	**11.5994**	**3.9092**	**0.0260**	**0.7869**	**0.0868**	**0.8737**	**0.2225**	**0.0830**	**0.3055**		**2,754.6949**	**2,754.6949**	**0.1998**		**2,759.6895**

3.5 Platform Deck Construction/Forms - 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	1.3739	15.0311	10.6476	0.0160		0.7200	0.7200		0.6714	0.6714		1,584.0304	1,584.0304	0.4447		1,595.1466
Total	**1.3739**	**15.0311**	**10.6476**	**0.0160**		**0.7200**	**0.7200**		**0.6714**	**0.6714**		**1,584.0304**	**1,584.0304**	**0.4447**		**1,595.1466**

3.5 Platform Deck Construction/Forms - 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	0.4219	11.5317	3.1826	0.0242	0.6080	0.0854	0.6934	0.1751	0.0817	0.2568		2,572.1862	2,572.1862	0.1936		2,577.0251
Worker	0.2343	0.1693	1.8164	4.5800e-003	0.4471	3.5600e-003	0.4507	0.1186	3.2900e-003	0.1219		456.2717	456.2717	0.0156		456.6609
Total	**0.6562**	**11.7010**	**4.9990**	**0.0288**	**1.0551**	**0.0890**	**1.1441**	**0.2936**	**0.0850**	**0.3786**		**3,028.4579**	**3,028.4579**	**0.2091**		**3,033.6861**

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	1.3739	15.0311	10.6476	0.0160		0.7200	0.7200		0.6714	0.6714	0.0000	1,584.0304	1,584.0304	0.4447		1,595.1466
Total	**1.3739**	**15.0311**	**10.6476**	**0.0160**		**0.7200**	**0.7200**		**0.6714**	**0.6714**	**0.0000**	**1,584.0304**	**1,584.0304**	**0.4447**		**1,595.1466**

3.5 Platform Deck Construction/Forms - 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	0.4219	11.5317	3.1826	0.0242	0.6080	0.0854	0.6934	0.1751	0.0817	0.2568		2,572.1862	2,572.1862	0.1936		2,577.0251
Worker	0.2343	0.1693	1.8164	4.5800e-003	0.4471	3.5600e-003	0.4507	0.1186	3.2900e-003	0.1219		456.2717	456.2717	0.0156		456.6609
Total	**0.6562**	**11.7010**	**4.9990**	**0.0288**	**1.0551**	**0.0890**	**1.1441**	**0.2936**	**0.0850**	**0.3786**		**3,028.4579**	**3,028.4579**	**0.2091**		**3,033.6861**

3.6 Platform Deck Construction/Concrete - 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	3.1437	33.3552	18.7995	0.0552		1.2760	1.2760		1.2274	1.2274		6,034.2773	6,034.2773	0.6013		6,049.3090
Total	**3.1437**	**33.3552**	**18.7995**	**0.0552**		**1.2760**	**1.2760**		**1.2274**	**1.2274**		**6,034.2773**	**6,034.2773**	**0.6013**		**6,049.3090**

3.6 Platform Deck Construction/Concrete - 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	0.8260	22.5779	6.2312	0.0473	1.1905	0.1672	1.3577	0.3427	0.1600	0.5027		5,036.0698	5,036.0698	0.3790		5,045.5440
Worker	0.2343	0.1693	1.8164	4.5800e-003	0.4471	3.5600e-003	0.4507	0.1186	3.2900e-003	0.1219		456.2717	456.2717	0.0156		456.6609
Total	**1.0604**	**22.7472**	**8.0476**	**0.0519**	**1.6376**	**0.1708**	**1.8084**	**0.4613**	**0.1633**	**0.6246**		**5,492.3415**	**5,492.3415**	**0.3945**		**5,502.2049**

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	3.1437	33.3552	18.7995	0.0552		1.2760	1.2760		1.2274	1.2274	0.0000	6,034.2773	6,034.2773	0.6013		6,049.3089
Total	**3.1437**	**33.3552**	**18.7995**	**0.0552**		**1.2760**	**1.2760**		**1.2274**	**1.2274**	**0.0000**	**6,034.2773**	**6,034.2773**	**0.6013**		**6,049.3089**

3.6 Platform Deck Construction/Concrete - 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	0.8260	22.5779	6.2312	0.0473	1.1905	0.1672	1.3577	0.3427	0.1600	0.5027		5,036.0698	5,036.0698	0.3790		5,045.5440
Worker	0.2343	0.1693	1.8164	4.5800e-003	0.4471	3.5600e-003	0.4507	0.1186	3.2900e-003	0.1219		456.2717	456.2717	0.0156		456.6609
Total	**1.0604**	**22.7472**	**8.0476**	**0.0519**	**1.6376**	**0.1708**	**1.8084**	**0.4613**	**0.1633**	**0.6246**		**5,492.3415**	**5,492.3415**	**0.3945**		**5,502.2049**

3.7 Platform Deck Construction/Completion - 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	1.3739	15.0311	10.6476	0.0160		0.7200	0.7200		0.6714	0.6714		1,584.0304	1,584.0304	0.4447		1,595.1466
Total	**1.3739**	**15.0311**	**10.6476**	**0.0160**		**0.7200**	**0.7200**		**0.6714**	**0.6714**		**1,584.0304**	**1,584.0304**	**0.4447**		**1,595.1466**

3.7 Platform Deck Construction/Completion - 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	0.4219	11.5317	3.1826	0.0242	0.6080	0.0854	0.6934	0.1751	0.0817	0.2568		2,572.1862	2,572.1862	0.1936		2,577.0251
Worker	0.2343	0.1693	1.8164	4.5800e-003	0.4471	3.5600e-003	0.4507	0.1186	3.2900e-003	0.1219		456.2717	456.2717	0.0156		456.6609
Total	**0.6562**	**11.7010**	**4.9990**	**0.0288**	**1.0551**	**0.0890**	**1.1441**	**0.2936**	**0.0850**	**0.3786**		**3,028.4579**	**3,028.4579**	**0.2091**		**3,033.6861**

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	1.3739	15.0311	10.6476	0.0160		0.7200	0.7200		0.6714	0.6714	0.0000	1,584.0304	1,584.0304	0.4447		1,595.1466
Total	**1.3739**	**15.0311**	**10.6476**	**0.0160**		**0.7200**	**0.7200**		**0.6714**	**0.6714**	**0.0000**	**1,584.0304**	**1,584.0304**	**0.4447**		**1,595.1466**

3.7 Platform Deck Construction/Completion - 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	0.4219	11.5317	3.1826	0.0242	0.6080	0.0854	0.6934	0.1751	0.0817	0.2568		2,572.1862	2,572.1862	0.1936		2,577.0251
Worker	0.2343	0.1693	1.8164	4.5800e-003	0.4471	3.5600e-003	0.4507	0.1186	3.2900e-003	0.1219		456.2717	456.2717	0.0156		456.6609
Total	**0.6562**	**11.7010**	**4.9990**	**0.0288**	**1.0551**	**0.0890**	**1.1441**	**0.2936**	**0.0850**	**0.3786**		**3,028.4579**	**3,028.4579**	**0.2091**		**3,033.6861**

3.8 Breasting Dolphins 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	0.9644	10.1982	7.8120	0.0123		0.4848	0.4848		0.4589	0.4589		1,201.0909	1,201.0909	0.3059		1,208.7390
Total	**0.9644**	**10.1982**	**7.8120**	**0.0123**		**0.4848**	**0.4848**		**0.4589**	**0.4589**		**1,201.0909**	**1,201.0909**	**0.3059**		**1,208.7390**

3.8 Breasting Dolphins 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	0.0577	1.5780	0.4355	3.3100e-003	0.0832	0.0117	0.0949	0.0240	0.0112	0.0351		351.9834	351.9834	0.0265		352.6455
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	**0.1515**	**1.6457**	**1.1621**	**5.1400e-003**	**0.2620**	**0.0131**	**0.2752**	**0.0714**	**0.0125**	**0.0839**		**534.4920**	**534.4920**	**0.0327**		**535.3099**

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	0.9644	10.1982	7.8120	0.0123		0.4848	0.4848		0.4589	0.4589	0.0000	1,201.0909	1,201.0909	0.3059		1,208.7390
Total	**0.9644**	**10.1982**	**7.8120**	**0.0123**		**0.4848**	**0.4848**		**0.4589**	**0.4589**	**0.0000**	**1,201.0909**	**1,201.0909**	**0.3059**		**1,208.7390**

3.8 Breasting Dolphins 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	0.0577	1.5780	0.4355	3.3100e-003	0.0832	0.0117	0.0949	0.0240	0.0112	0.0351		351.9834	351.9834	0.0265		352.6455
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	**0.1515**	**1.6457**	**1.1621**	**5.1400e-003**	**0.2620**	**0.0131**	**0.2752**	**0.0714**	**0.0125**	**0.0839**		**534.4920**	**534.4920**	**0.0327**		**535.3099**

3.9 Mooring Dolphins 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	0.7187	6.6921	4.2721	6.2300e-003		0.3850	0.3850		0.3631	0.3631		600.8132	600.8132	0.1405		604.3245
Total	**0.7187**	**6.6921**	**4.2721**	**6.2300e-003**		**0.3850**	**0.3850**		**0.3631**	**0.3631**		**600.8132**	**600.8132**	**0.1405**		**604.3245**

3.9 Mooring Dolphins 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	0.0755	2.0636	0.5695	4.3300e-003	0.1088	0.0153	0.1241	0.0313	0.0146	0.0459		460.2860	460.2860	0.0346		461.1519
Worker	0.0703	0.0508	0.5449	1.3800e-003	0.1341	1.0700e-003	0.1352	0.0356	9.9000e-004	0.0366		136.8815	136.8815	4.6700e-003		136.9983
Total	**0.1458**	**2.1144**	**1.1144**	**5.7100e-003**	**0.2429**	**0.0164**	**0.2593**	**0.0669**	**0.0156**	**0.0825**		**597.1675**	**597.1675**	**0.0393**		**598.1502**

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	0.7187	6.6921	4.2721	6.2300e-003		0.3850	0.3850		0.3631	0.3631	0.0000	600.8132	600.8132	0.1405		604.3245
Total	**0.7187**	**6.6921**	**4.2721**	**6.2300e-003**		**0.3850**	**0.3850**		**0.3631**	**0.3631**	**0.0000**	**600.8132**	**600.8132**	**0.1405**		**604.3245**

3.9 Mooring Dolphins 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	0.0755	2.0636	0.5695	4.3300e-003	0.1088	0.0153	0.1241	0.0313	0.0146	0.0459		460.2860	460.2860	0.0346		461.1519
Worker	0.0703	0.0508	0.5449	1.3800e-003	0.1341	1.0700e-003	0.1352	0.0356	9.9000e-004	0.0366		136.8815	136.8815	4.6700e-003		136.9983
Total	**0.1458**	**2.1144**	**1.1144**	**5.7100e-003**	**0.2429**	**0.0164**	**0.2593**	**0.0669**	**0.0156**	**0.0825**		**597.1675**	**597.1675**	**0.0393**		**598.1502**

3.10 Topside 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	2.5757	22.6594	18.5220	0.0282		1.2593	1.2593		1.2047	1.2047		2,728.5220	2,728.5220	0.5945		2,743.3833
Total	**2.5757**	**22.6594**	**18.5220**	**0.0282**		**1.2593**	**1.2593**		**1.2047**	**1.2047**		**2,728.5220**	**2,728.5220**	**0.5945**		**2,743.3833**

3.10 Topside 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	8.2000e-004	0.0286	5.6600e-003	7.0000e-005	5.0200e-003	1.1000e-004	5.1300e-003	1.2800e-003	1.1000e-004	1.3800e-003		7.6992	7.6992	5.6000e-004		7.7133
Vendor	0.6573	17.9652	4.9582	0.0377	0.9473	0.1331	1.0803	0.2727	0.1273	0.4000		4,007.1953	4,007.1953	0.3015		4,014.7339
Worker	0.1172	0.0846	0.9082	2.2900e-003	0.2236	1.7800e-003	0.2253	0.0593	1.6400e-003	0.0609		228.1358	228.1358	7.7800e-003		228.3305
Total	**0.7753**	**18.0784**	**5.8720**	**0.0400**	**1.1758**	**0.1349**	**1.3108**	**0.3333**	**0.1290**	**0.4623**		**4,243.0304**	**4,243.0304**	**0.3099**		**4,250.7776**

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	2.5757	22.6594	18.5220	0.0282		1.2593	1.2593		1.2047	1.2047	0.0000	2,728.5220	2,728.5220	0.5945		2,743.3833
Total	**2.5757**	**22.6594**	**18.5220**	**0.0282**		**1.2593**	**1.2593**		**1.2047**	**1.2047**	**0.0000**	**2,728.5220**	**2,728.5220**	**0.5945**		**2,743.3833**

3.10 Topside 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	8.2000e-004	0.0286	5.6600e-003	7.0000e-005	5.0200e-003	1.1000e-004	5.1300e-003	1.2800e-003	1.1000e-004	1.3800e-003		7.6992	7.6992	5.6000e-004		7.7133
Vendor	0.6573	17.9652	4.9582	0.0377	0.9473	0.1331	1.0803	0.2727	0.1273	0.4000		4,007.1953	4,007.1953	0.3015		4,014.7339
Worker	0.1172	0.0846	0.9082	2.2900e-003	0.2236	1.7800e-003	0.2253	0.0593	1.6400e-003	0.0609		228.1358	228.1358	7.7800e-003		228.3305
Total	**0.7753**	**18.0784**	**5.8720**	**0.0400**	**1.1758**	**0.1349**	**1.3108**	**0.3333**	**0.1290**	**0.4623**		**4,243.0304**	**4,243.0304**	**0.3099**		**4,250.7776**

3.10 Topside Construction - 2019

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	2.3256	20.9168	18.0739	0.0282		1.1152	1.1152		1.0657	1.0657		2,704.2958	2,704.2958	0.5800		2,718.7949
Total	**2.3256**	**20.9168**	**18.0739**	**0.0282**		**1.1152**	**1.1152**		**1.0657**	**1.0657**		**2,704.2958**	**2,704.2958**	**0.5800**		**2,718.7949**

3.10 Topside Construction - 2019

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	7.7000e-004	0.0270	5.5200e-003	7.0000e-005	2.0300e-003	1.0000e-004	2.1300e-003	5.4000e-004	1.0000e-004	6.4000e-004		7.6080	7.6080	5.5000e-004		7.6219
Vendor	0.5961	16.9467	4.5593	0.0373	0.9472	0.1139	1.0612	0.2727	0.1090	0.3817		3,971.0808	3,971.0808	0.2907		3,978.3474
Worker	0.1067	0.0747	0.8108	2.2200e-003	0.2236	1.7400e-003	0.2253	0.0593	1.6000e-003	0.0609		220.9312	220.9312	6.9000e-003		221.1037
Total	**0.7035**	**17.0483**	**5.3755**	**0.0396**	**1.1728**	**0.1158**	**1.2886**	**0.3325**	**0.1107**	**0.4432**		**4,199.6200**	**4,199.6200**	**0.2981**		**4,207.0730**

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	2.3256	20.9168	18.0739	0.0282		1.1152	1.1152		1.0657	1.0657	0.0000	2,704.2958	2,704.2958	0.5800		2,718.7949
Total	**2.3256**	**20.9168**	**18.0739**	**0.0282**		**1.1152**	**1.1152**		**1.0657**	**1.0657**	**0.0000**	**2,704.2958**	**2,704.2958**	**0.5800**		**2,718.7949**

3.10 Topside Construction - 2019

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	7.7000e-004	0.0270	5.5200e-003	7.0000e-005	2.0300e-003	1.0000e-004	2.1300e-003	5.4000e-004	1.0000e-004	6.4000e-004		7.6080	7.6080	5.5000e-004		7.6219
Vendor	0.5961	16.9467	4.5593	0.0373	0.9472	0.1139	1.0612	0.2727	0.1090	0.3817		3,971.0808	3,971.0808	0.2907		3,978.3474
Worker	0.1067	0.0747	0.8108	2.2200e-003	0.2236	1.7400e-003	0.2253	0.0593	1.6000e-003	0.0609		220.9312	220.9312	6.9000e-003		221.1037
Total	**0.7035**	**17.0483**	**5.3755**	**0.0396**	**1.1728**	**0.1158**	**1.2886**	**0.3325**	**0.1107**	**0.4432**		**4,199.6200**	**4,199.6200**	**0.2981**		**4,207.0730**

3.11 Berth 239 Demolition - 2019

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					0.8025	0.0000	0.8025	0.1215	0.0000	0.1215			0.0000			0.0000
Off-Road	2.1306	23.2172	17.2108	0.0499		0.9695	0.9695		0.9169	0.9169		4,905.8337	4,905.8337	1.3645		4,939.9465
Total	**2.1306**	**23.2172**	**17.2108**	**0.0499**	**0.8025**	**0.9695**	**1.7719**	**0.1215**	**0.9169**	**1.0384**		**4,905.8337**	**4,905.8337**	**1.3645**		**4,939.9465**

3.11 Berth 239 Demolition - 2019

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	0.0397	1.3830	0.2826	3.6100e-003	0.0819	5.1600e-003	0.0871	0.0225	4.9400e-003	0.0274		389.7422	389.7422	0.0283		390.4498
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	0.1067	0.0747	0.8108	2.2200e-003	0.2236	1.7400e-003	0.2253	0.0593	1.6000e-003	0.0609		220.9312	220.9312	6.9000e-003		221.1037
Total	**0.1463**	**1.4577**	**1.0934**	**5.8300e-003**	**0.3055**	**6.9000e-003**	**0.3124**	**0.0817**	**6.5400e-003**	**0.0883**		**610.6733**	**610.6733**	**0.0352**		**611.5535**

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					0.8025	0.0000	0.8025	0.1215	0.0000	0.1215			0.0000			0.0000
Off-Road	2.1306	23.2172	17.2108	0.0499		0.9695	0.9695		0.9169	0.9169	0.0000	4,905.8337	4,905.8337	1.3645		4,939.9465
Total	**2.1306**	**23.2172**	**17.2108**	**0.0499**	**0.8025**	**0.9695**	**1.7719**	**0.1215**	**0.9169**	**1.0384**	**0.0000**	**4,905.8337**	**4,905.8337**	**1.3645**		**4,939.9465**

3.11 Berth 239 Demolition - 2019

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	0.0397	1.3830	0.2826	3.6100e-003	0.0819	5.1600e-003	0.0871	0.0225	4.9400e-003	0.0274		389.7422	389.7422	0.0283		390.4498
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	0.1067	0.0747	0.8108	2.2200e-003	0.2236	1.7400e-003	0.2253	0.0593	1.6000e-003	0.0609		220.9312	220.9312	6.9000e-003		221.1037
Total	**0.1463**	**1.4577**	**1.0934**	**5.8300e-003**	**0.3055**	**6.9000e-003**	**0.3124**	**0.0817**	**6.5400e-003**	**0.0883**		**610.6733**	**610.6733**	**0.0352**		**611.5535**

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	2.9429	16.7369	42.7535	0.1526	12.7115	0.1575	12.8689	3.4013	0.1479	3.5492		15,510.7471	15,510.7471	0.7796		15,530.2373
Unmitigated	2.9429	16.7369	42.7535	0.1526	12.7115	0.1575	12.8689	3.4013	0.1479	3.5492		15,510.7471	15,510.7471	0.7796		15,530.2373

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	1,350.00	1,350.00	1350.00	5,978,175	5,978,175
Total	1,350.00	1,350.00	1,350.00	5,978,175	5,978,175

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
General Heavy Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

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	0.4813	4.3755	3.6754	0.0263		0.3325	0.3325		0.3325	0.3325		5,250.6044	5,250.6044	0.1006	0.0963	5,281.8061
NaturalGas Unmitigated	0.4813	4.3755	3.6754	0.0263		0.3325	0.3325		0.3325	0.3325		5,250.6044	5,250.6044	0.1006	0.0963	5,281.8061

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					
General Heavy Industry	44630.1	0.4813	4.3755	3.6754	0.0263		0.3325	0.3325		0.3325	0.3325		5,250.6044	5,250.6044	0.1006	0.0963	5,281.8061
Total		**0.4813**	**4.3755**	**3.6754**	**0.0263**		**0.3325**	**0.3325**		**0.3325**	**0.3325**		**5,250.6044**	**5,250.6044**	**0.1006**	**0.0963**	**5,281.8061**

5.2 Energy by Land Use - NaturalGas

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					
General Heavy Industry	44.6301	0.4813	4.3755	3.6754	0.0263		0.3325	0.3325		0.3325	0.3325		5,250.6044	5,250.6044	0.1006	0.0963	5,281.8061
Total		**0.4813**	**4.3755**	**3.6754**	**0.0263**		**0.3325**	**0.3325**		**0.3325**	**0.3325**		**5,250.6044**	**5,250.6044**	**0.1006**	**0.0963**	**5,281.8061**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	20.1145	8.5000e-004	0.0925	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004		0.1970	0.1970	5.3000e-004		0.2102
Unmitigated	20.1145	8.5000e-004	0.0925	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004		0.1970	0.1970	5.3000e-004		0.2102

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	2.2858					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	17.8200					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.7000e-003	8.5000e-004	0.0925	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004		0.1970	0.1970	5.3000e-004		0.2102
Total	**20.1145**	**8.5000e-004**	**0.0925**	**1.0000e-005**		**3.3000e-004**	**3.3000e-004**		**3.3000e-004**	**3.3000e-004**		**0.1970**	**0.1970**	**5.3000e-004**		**0.2102**

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	2.2858					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	17.8200					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.7000e-003	8.5000e-004	0.0925	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004		0.1970	0.1970	5.3000e-004		0.2102
Total	**20.1145**	**8.5000e-004**	**0.0925**	**1.0000e-005**		**3.3000e-004**	**3.3000e-004**		**3.3000e-004**	**3.3000e-004**		**0.1970**	**0.1970**	**5.3000e-004**		**0.2102**

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX C
Historic Resources Evaluation

DUDEK

38 NORTH MARENGO
PASADENA, CALIFORNIA 91101
T: 626.204.9800

June 27, 2017 10016.0003

Erin Sheehy
Environmental Management Division
Port of Los Angeles
425 S. Palos Verdes Street
San Pedro, California 90731

Subject: Cultural Resources Updated Assessment for Berths 238-239 [PBF Energy] Marine Oil Terminal Wharf Improvements Project and Lease Renewal.

Dear Ms. Sheehy:

Dudek was retained by the Los Angeles Harbor Department (LAHD) to provide an updated cultural resources assessment for Berths 238-239 at the Port of Los Angeles (POLA), as part of the proposed Environmental Impact Report (EIR) for the Berths 238-239 [PBF Energy] Marine Oil Terminal Wharf Improvements Project and Lease Renewal. This assessment updates the previous evaluation of Berths 238-239 completed by ESA in 2010.

This study was completed under the provisions of the California Environmental Quality Act (CEQA). Public Resources Code (PRC) Section 5024.1, Title 14 California Code of Regulations (CCR) Section 15064.5 of the CEQA Guidelines, and in consideration of LAHD's Built Environment Historic, Architectural, and Cultural Resource Policy.

This report was prepared by Dudek Senior Architectural Historian and Archaeologist Samantha Murray, MA, RPA, who meets the Secretary of the Interior's Professional Qualification Standards for both architectural history and archaeology (36 CFR 61).

INTRODUCTION

Project Location

The overall Project site is located within the Port of Los Angeles Community Plan area in the City of Los Angeles, within Planning Area 3, which is adjacent to the City of Los Angeles communities of San Pedro and Wilmington (Figures 1 and 2, Attachment A). The Project site occupies various areas (pipelines) commencing at the northerly limits of LAHD's jurisdiction and along the western side of Terminal Island along the east side of the Main Channel at Berth 238-239. The Project site is generally bounded by the Main Channel and the Ports O' Call Village to the south and west; the former Southwest Marine Shipyard to the southeast; and the

Evergreen Container Terminal (Berth 236) to the north; and from the northerly limits of LAHD's jurisdiction between Figueroa Street and Marine Avenue south across the east basin channel into Terminal Island.

Land access to and from the Project site is provided by a network of freeways and arterial routes. The freeway network consists of the Harbor Freeway (Interstate-110), the Long Beach Freeway (Interstate-710), the San Diego Freeway (Interstate-405), and the Terminal Island Freeway (State Route103/State Route 47). Local access is provided by Ferry Street and South Seaside Avenue. Access on the Project site is via Wharf Street.

Project Description

Project Objectives

The proposed Project would address the Project objectives, as summarized below.

- PBF Energy proposes to renew its lease for a 30-year term for sites Southwestern Terminal (SWT)-I and SWT-II and its related pipelines (Figure 3, Attachment A).
- Comply with Marine Oil Terminal Engineering & Maintenance Standards (MOTEMS) requirements, which would ensure better resistance to earthquakes, protect the public and the environment, and reduce the potential for an oil spill, and consequently maintain the operation and viability of the marine oil terminal facility (primary objective).
- Optimize the use of existing land at the terminal and associated waterways in a manner that is consistent with the LAHD's public trust obligations by maintaining the existing facility's throughput capabilities and operational parameters through a new, long-term lease.
- Ensure continued reliability and availability of fuel supplies to help meet Southern California's energy needs given evolving market conditions and business cycle variability.

Together, these objectives define the project need, and are consistent with those set forth by LAHD for marine oil terminal operations.

Project Components

The proposed Improvement Project involves the construction and operation of a new, MOTEMS-compliant wharf structure (herein referred to as an unloading platform) at Berth 238

(Figure 4, Attachment A). Construction would consist of demolishing the existing Berth 238 platform, breasting dolphins (BD)1 and BD2, and landside mooring anchors and constructing a new concrete unloading platform, access ramp, berthing structures, landside mooring anchors, and associated catwalks. The new unloading platform at Berth 238 would be capable of handling Panamax class vessels along with various barges at its existing fender line elevation. The proposed facility would have an approximate 1,000-ft long berth area including a MOTEMS compliant unloading platform (approximate dimensions 130 feet long by 60 feet wide) to accommodate the proposed vessel classes.

The proposed Improvement Project consists of the following components to meet MOTEMS requirements:

- Demolition of the concrete wharf at Berth 238 including the concrete wharf structure, access trestle and removal of concrete piles at Berth 238. Piles that cannot be extracted would be cut at the mudline.
- Demolition of breasting dolphin BD1 and BD2 and their associated catwalks.
- Construction of a new deck including steel-reinforced concrete loading platform, access trestles, catwalks, and topside equipment required for loading and unloading operations at and adjacent to the new loading platform.
- Installation of a new fendering system, BDs and landside mooring anchors.
- Possible clean-up dredging to restore the existing berth of 35-foot depth.
- Demolition of the concrete wharf at Berth 239 after successful completion and commissioning of new Berth 238

BACKGROUND RESEARCH

As part of the cultural resources update 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 area. 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.

Previously Conducted Cultural Resources Studies

A review of records on file at the SCCIC indicate that one previously conducted study overlaps the current project area:

- 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 2000). This study found that areas within and around the current project area are not considered sensitive for archaeological resources because it is built atop fill material.

LAHD also informed Dudek of another previous study that overlaps the project area, but was not identified via the SCCIC records search. The study, identified below and provided by LAHD, is being updated by this study:

- *Port of Los Angeles Berths 118-120, 148-149, 187-191, and 238-239 Historic Resources Evaluation Report* (ESA 2010).

Previously Recorded Cultural Resources

Records provided from SCCIC and LAHD indicate that there are three previously recorded resources that overlap the current project area. 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, including:

- P-19-167314: the location of a Japanese fishing community from the early 1900s (recorded by Fujita, K.M. 1979; eligibility status unknown). This resource will not be impacted by the proposed project;

- P-19-173042: the steam propulsion system of the Sierra Nevada ferryboat (recorded by Schwartz, S.J. n.d.; determined eligible for the NRHP). This resource will not be impacted by the proposed project;

- Berths 238-239: constructed for General Petroleum Corporation in 1925 (recorded by ESA 2010; recommended not eligible for NRHP and CRHR). This resource will be impacted by the proposed project and is being evaluated as part of the current update.

HISTORY OF BERTHS 238-239

The ESA 2010 Historic Resources Evaluation Report includes a complete historic context for LAHD, which includes a discussion of commercial shipping, containerization, oil production and

shipping, and use of timber wharves at LAHD. Below is an excerpt from that context regarding the history of Berths 238 and 239:

> Berths 238 and 239 were constructed in 1925 for the General Petroleum Corporation (Board of Harbor Commissioners, 1925). The General Petroleum Company was founded by Captain John Barneson, a former whaler and shipping captain. He was responsible for the first oil pipeline constructed between Coalinga and Monterey in California. The pipeline was later expanded south over the Tejon Pass. In 1913, General Petroleum completed the first pipeline from the San Joaquin Valley to the Los Angeles Harbor. At that time, the company's port was in the Outer Harbor (Board of Harbor Commissioners, 1932). Captain Barneson was a pioneer in the use of oil as fuel for ocean-going vessels and eventually became the president and then chairman of the board of General Petroleum Corporation (LAT, November 1, 1926; February 26, 1941).
>
> In 1925, General Petroleum's harbor facility included three pipelines: one 8-inch for crude oil, one 8-inch for fuel oil, and one 6-inch for gasoline. The facility held 14 tanks with a total storage capacity of 975,000 barrels. Three ships could be loaded simultaneously (Board of Harbor Commissioners, 1925). On Christmas Day of that year, the corporation set an oil-loading record by simultaneously loading four tankers with a total capacity of 271,114 (LAT, December 26, 1925).
>
> By 1928, the facilities included 16 storage tanks with a total capacity of 1,050,000 barrels (Board of Harbor Commissioners, 1928). In 1929, an additional 6-inch gasoline pipeline was added, increasing total pumping capacity to 12,000 barrels per hour (Board of Harbor Commissioners, 1929).
>
> In 1930 and 1931, General Petroleum Corporation expanded its harbor facilities. The corporation constructed four new steel oil tanks and firewalls just north of Berth 238, at a total cost of $68,743. The four new steel tanks included two 40,000 barrel tanks and two 20,000 barrel tanks for refined oil storage (Drake, June 26, 1930). Other additions included mooring blocks at Berths 239-240 at a cost of $6,000 and a waste-water separator at Berth 238, which cost $19,410 (Cave, October 8, 1931; December 24, 1931). By the end of the fiscal year in 1931, General Petroleum had five pipelines (three 6-inch and two 8-inch) leading from its refineries to the loading stations at the harbor (Berths 238, 239, 240a, and 240b); seven pipelines for loading vessels at the dock (one 18-inch, four 12-inch, one 8-inch, and one 6-inch); and a total storage capacity of 1,263,000 barrels (Board of Harbor Commissioners, 1931).

> In 1945, General Petroleum erected a rack and catwalk for tank-car unloading at Berth 238 for $6500 (LAT, May 6, 1945). The total number of pipelines and storage capacity remained the same from 1931 to 1951 (Board of Harbor Commissioners, 1951). By 1952, over 30 millions barrels of oil were shipped from the General Petroleum terminal (Board of Harbor Commissioners, 1952).
>
> General Petroleum eventually became part of Mobil Oil, which was formed in 1960, and merged with Exxon in 1999 to become ExxonMobil. ExxonMobil currently operates the facilities at Berths 238-239.

On July 1, 2016, PBF Energy acquired Exxon-Mobil's California assets including the refinery in Torrance and the project site and related infrastructure, including pipelines, which provide access to sources of crude oil.

CULTURAL RESOURCES SURVEY

On June 5, 2017, Dudek Senior Architectural Historian and Archaeologist Samantha Murray, MA, RPA, conducted a pedestrian survey of the project area for both archaeological and built environment resources. Ms. Murray was accompanied by Erin Sheehy and Nicole Enciso from LAHD, and all parties were escorted by Michael Chumley, Southwest Terminal Supervisor.

The archaeological survey included a reconnaissance-level survey of the entire project site. The project area is fully developed with facilities and infrastructure related to the functions of the current tenant (PBF Energy) and exhibits 0% ground surface visibility. This portion of Terminal Island was not developed until the 1920s and is built entirely atop historic fill material. No archaeological resources were identified during the survey.

The built-environment survey entailed walking all portions of the project site and documenting each building and all visible portions of the wharfs with notes and photographs. Each element was assessed for significant changes in condition since the 2010 evaluation. Mr. Chumley confirmed that there have been no major changes (i.e., infrastructure removal/demolition or modifications) to the site since the 2010 evaluation. As a result of the built environment survey, Ms. Murray concluded that there have been no significant or noteworthy changes to Berths 238 and 239 since the 2010 ESA evaluation.

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.

Description of Surveyed Resources

The following description of Berths 238-239 is extracted from the ESA 2010 report. Dudek reviewed this description and concurs with the information provided. Further, Dudek did not identify any changes in the resources' condition. This was confirmed by the Southwest Terminal Supervisor, who stated that he was not aware of any major changes to the site since the 2010 evaluation.

> Located to the east of Wharf Street, Berths 238-239 are two separate concrete wharves each approximately 225 feet long by 30 feet wide. Plans for these wharves, designed by the engineering department of the General Petroleum Corporation, are dated March 12, 1925. The wharves are supported by asphalt impregnated and reinforced concrete pilings that are square in plan, although many of the pilings on Berth 239 in particular have been encased in concrete to provide additional strength, giving them a wider circular plan. Each wharf can be approached by two concrete ramps constructed in the same manner at the wharves. The decking on both wharves and the ramps is concrete with exposed aggregate, with evidence of more recent concrete patches. Recently constructed concrete bullrails are located along the waterside of the wharves, and painted iron cleats are interspersed along the bullrails at regular intervals. The fendering system along the length of both wharves consists of newer wood piles and rubber blocks. A steel hose tower is located near the southern end of Berth 239 which supports numerous steel pipes and rubber hoses. The tower assembly and piping system appears to have been constructed in the 1960s. Both berths contain one corrugated steel dock house each with a shed roof, aluminum sliding windows, and a steel door. The dock houses also appear to have been added in the 1960s. The seawall opposite Berth 239 is constructed of horizontal board-formed concrete, and appears to be in original condition, while the seawall opposite Berth 238 has generally the same dimensions but has been covered in newer concrete. Evidence of the location of former oil pipelines leading from the land to the water is apparent in the Berth 239 seawall, but these openings have been sealed off with brick and concrete. One square, concrete breasting dolphins was added to the northern end of Berth 238, while a similar dolphin was added to the southern end of Berth 239, which essentially lengthened each berth by about 75 feet. Both dolphins are accessed from the berths by wood frame walkways. Engineering plans from the Port of LA Engineering Division date the construction of the dolphins to 1963.
>
> Two timber pile wharves, Berths 240A and 240B, are located immediately west of and parallel to Wharf Street. These timber wharves are each about 230 feet by 40 feet wide, and are accessed by two ramps each. Constructed on top of Berth 240A is a large, wood framed warehouse about 160 feet long by 60 feet wide with a gable roof and wood siding.

Aerial photos of this facility in 1925 show one long timber wharf with a large, gable-roofed transit shed, which by 1957, had been replaced by two smaller timber wharfs (Berths 240A and B) and a transit shed atop Berth 240B.

The tank farm is encircled by a spill containment wall about 25 feet high. The wall is constructed of horizontal board formed concrete which is angled inward slightly. The walls divide the tank farm into approximately seven sections. The tank farm consists of 19 tanks clustered to the northeast of Berth 238. Tanks are mostly riveted and welded steel construction, most of which are about 40 feet high and about 120 feet in diameter. Most of the tanks date to the mid-1920s and early 1930s, except for one which was added in the 1990s, according to the facility operator. Many of them appear altered with newer aluminum insulation siding and new roofs covered by geodomes which were added in the 1980s and 1990s to reduce emissions. A pipe valve field is located to the south and east of the tank farm, consisting of numerous painted steel valve wheels. Located to the southeast of the tank farm is a single-story control house with a rectangular plan, flat roof, and painted concrete block walls with a roman brick base. The building is about 35 feet by 45 feet in dimension. The north-facing elevation of this building has a series of large observatory windows consisting of fixed panes set in aluminum frames. Doors are steel. The control house appears to have been constructed in the early 1960s.

According to plans dated to 2007 from the Port of LA Engineering Division, numerous repairs occurred to Berth 238, including piling replacement, repair of the seawall, abandonment of the northern dolphin, fender system rehabilitation, sealing of topside deck surfaces, and installation of containment berms. Plans also indicate that repairs to the fendering system to Berth 239 was also completed at this same time.

FINDINGS AND RECOMMENDATIONS

Archaeological Resources

No archaeological resources were identified within the project area as a result of the records search or survey. The entire project area is developed atop historic fill materials and has a very low potential for encountering archaeological resources at subsurface levels. Regardless, standard protection measures for unanticipated discoveries of archaeological resources and human remains have been provided below.

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.

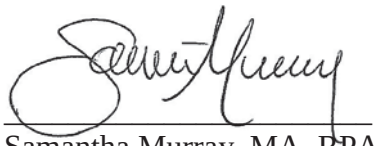
Built Environment Resources

A qualified architectural historian reviewed the previous evaluation of Berths 238-239 prepared by ESA in 2010 (Attachment B). After conducting a site visit, talking with the Southwest Terminal Supervisor, reviewing updated records search results, and examining aerial photographs to assess changes to the site, Dudek confirmed that there have been no significant changes to the site since 2010, and that the original site description and evaluation are still relevant/accurate. Dudek finds that Berths 238-239 (including the wharves) are not eligible for NRHP, CRHR, or local designation, as either individual resources or as contributors to an historic district (Attachment C).

In summary, this evaluation update finds that Berths 238-239 are not eligible under all NRHP, CRHR, and City of Los Angeles designation criteria. Therefore, they are not considered historical resources under CEQA and impacts resulting from the proposed project will be considered less-than-significant. No additional study or mitigation is recommended for built environment resources within the proposed project area.

If you have any questions about this report please contact me directly at smurray@dudek.com or (626) 204-9826.

Sincerely,



Samantha Murray, MA, RPA
Senior Architectural Historian and Archaeologist

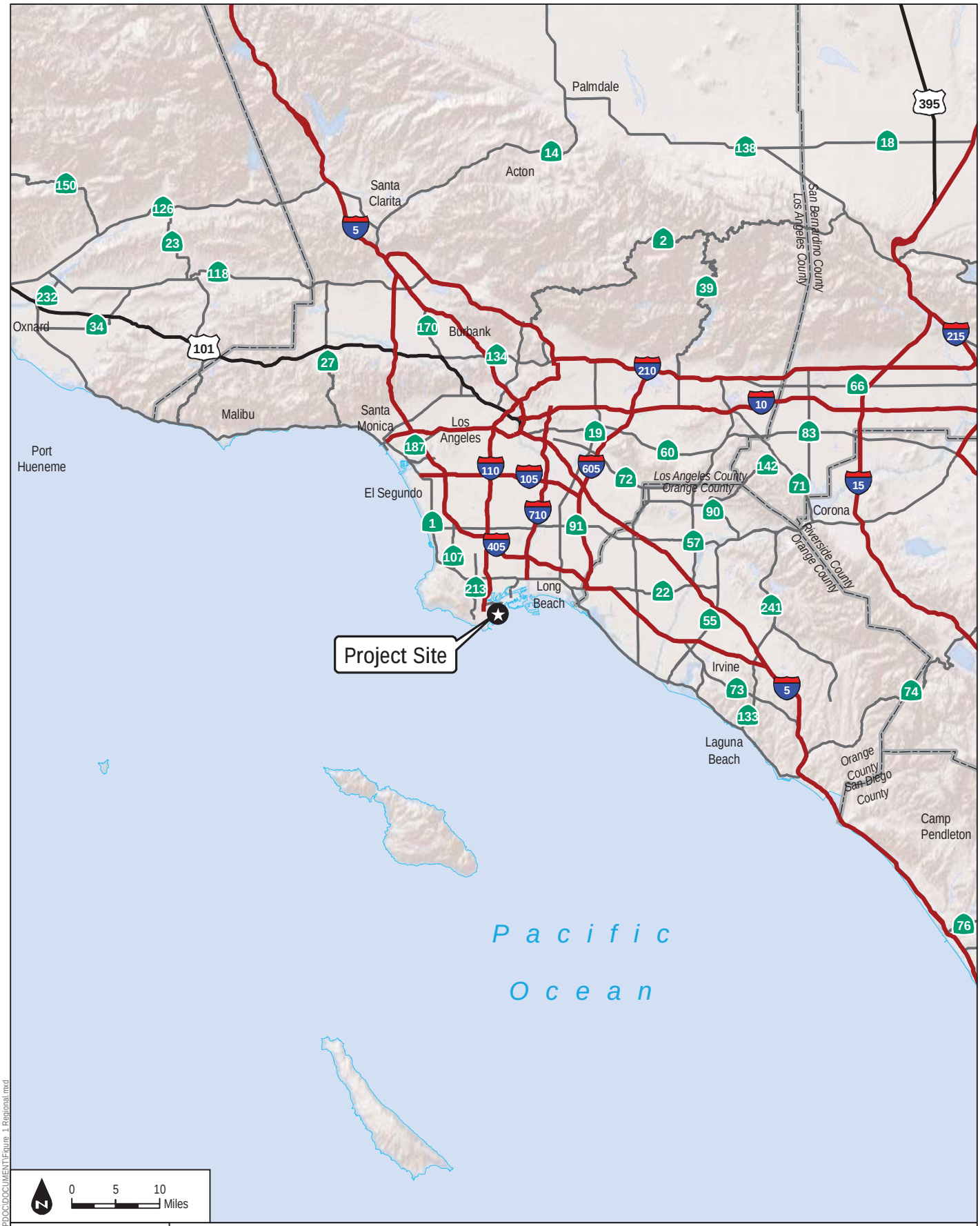
Attachment A: Maps and Figures
Attachment B: ESA 2010 Evaluation of Berths 238-239
Attachment C: Updated DPR form for Berths 238-239

cc: Matthew Valerio, Dudek

REFERENCES

ESA.2010. *Port of Los Angeles Berths 118-120, 148-149, 187-191, and 238-239 Historic Resources Evaluation Report*. Prepared for POLA by ESA.

ATTACHMENT A
MAPS AND FIGURES



SOURCE: ESRI 2016

FIGURE 1

Regional Map

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POLA MOTEMS

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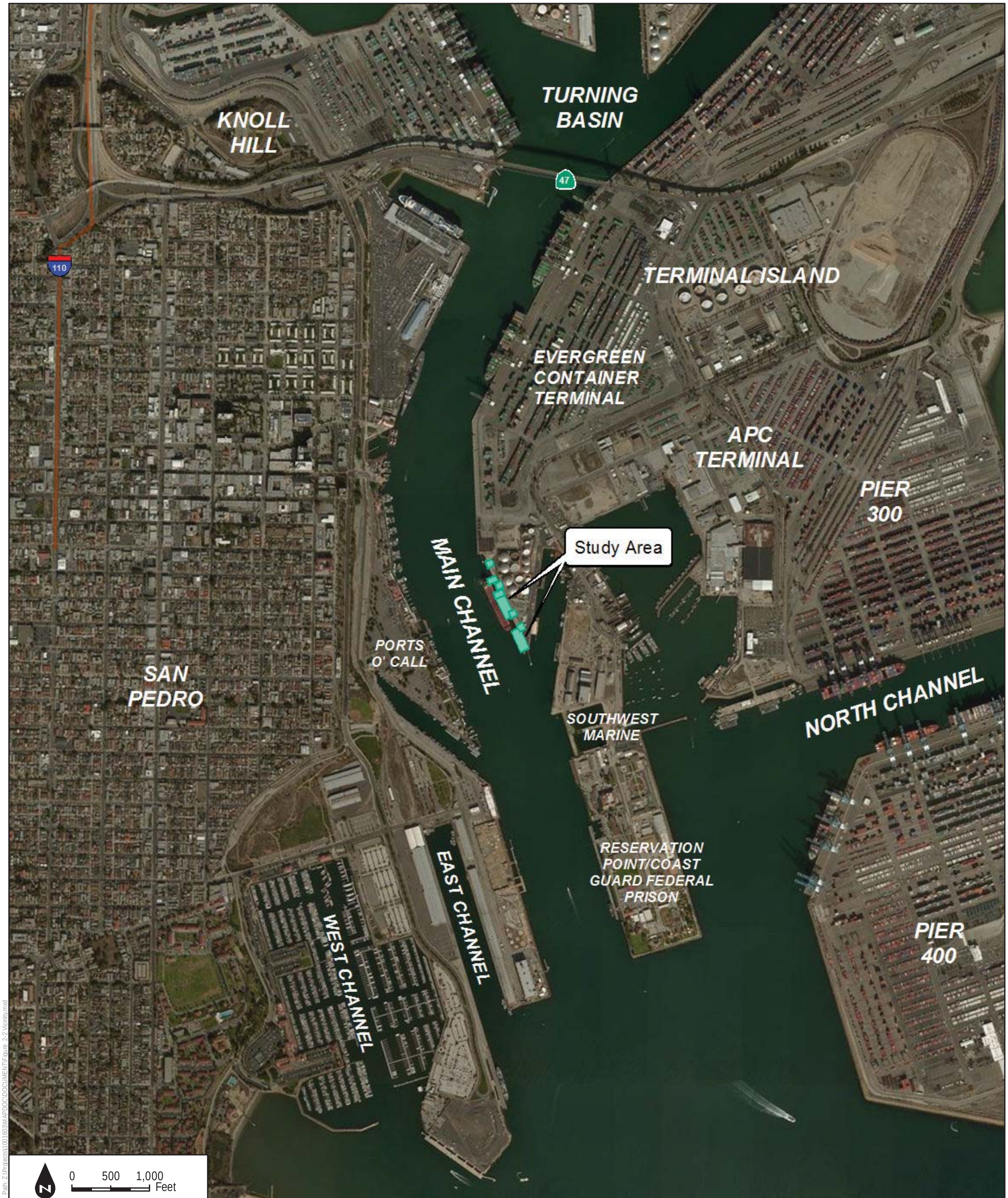

SOURCE: USGS 7.5-Minute Series San Pedro Quadrangle

DUDEK

FIGURE 2
Vicinity Map

POLA MOTEMS

SOURCE: Bing Maps, 2017

FIGURE 3
Existing Conditions

DUDEK

POLA MOTEMS

DUDEK

SOURCE: Bing Maps, 2017

POLA MOTEMS

FIGURE 4

Existing Conditions

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ATTACHMENT B
ESA 2010 EVALUATION OF BERTHS 238-239

Final

PORT OF LOS ANGELES BERTHS 118-120, 148-149, 187-191, AND 238-239

Historic Resources Evaluation Report

ADP# 090821-774
Agreement # 2528
PD# 7

Prepared for
Port of Los Angeles

May 2010

Source: Port of Los Angeles, 1941

ESA

Final

PORT OF LOS ANGELES BERTHS 118-120, 148-149, 187-191, AND 238-239

Historic Resources Evaluation Report

ADP# 090821-774
Agreement # 2528
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Prepared for
Port of Los Angeles

May 2010

225 Bush Street
Suite 1700
San Francisco, CA 94104
415.896.5900
www.esassoc.com

Los Angeles

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HISTORIC RESOURCES EVALUATION

Port of Los Angeles Berths 118-120, 148-149, 187-191, and 238-239

1. Introduction

The Los Angeles Harbor Department (LAHD) has contracted with ESA to perform a historic resources survey and evaluation of wharves at Berths 118-120, 148-149, 187-191, and 238-239 (see Figure 1, Location Map). The LAHD is planning the Marine Oil Terminal Engineering Maintenance Standards (MOTEMS) project that would make a number of alterations to these wharves, including new fendering and dolphin systems to accommodate greater shipping loads.

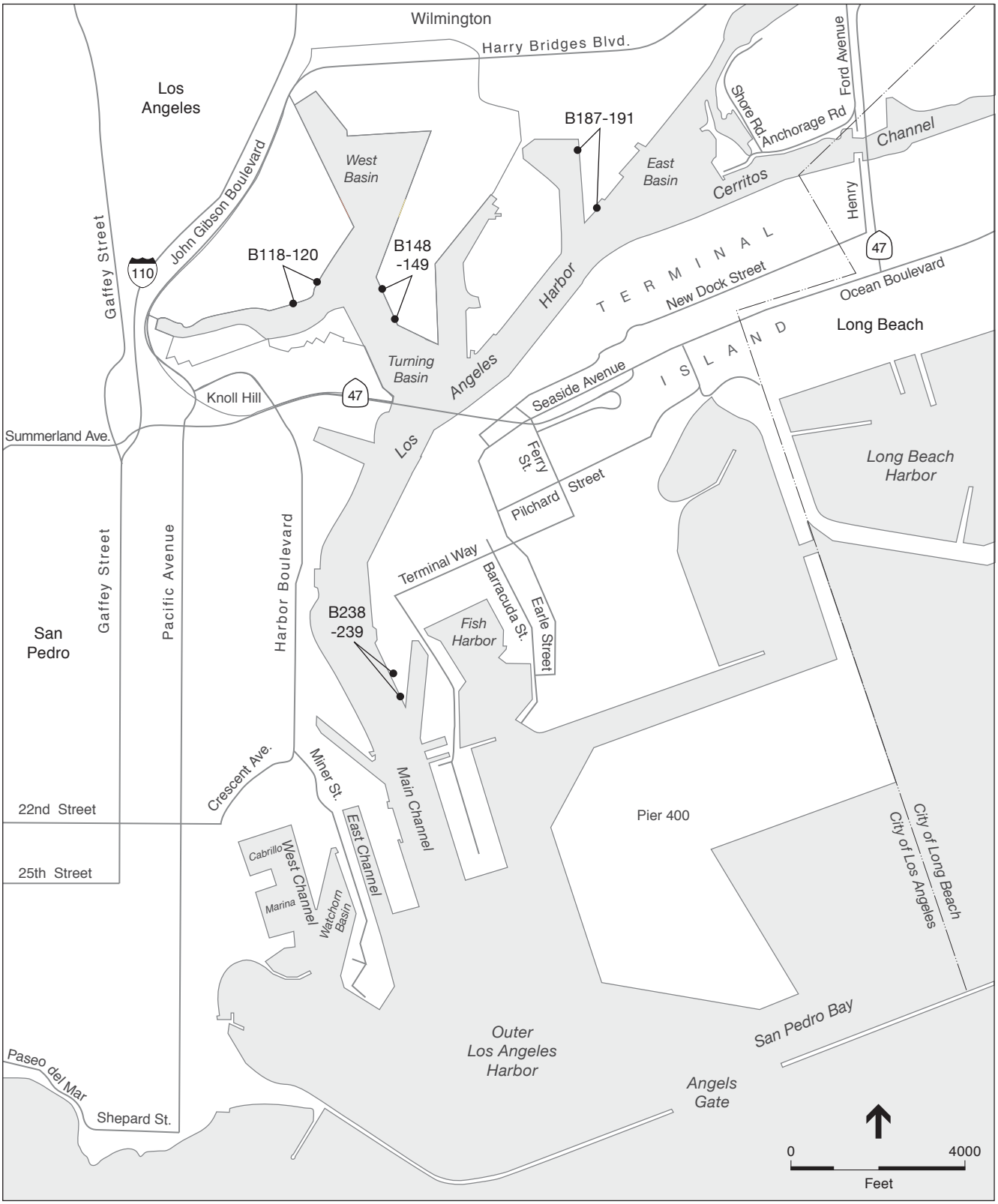
Previous studies of the site concluded that the timber wharves at the Port of Los Angeles (Port) may be eligible for listing in the National Register of Historic Places (NRHP) as part of a noncontiguous district composed of timber wharves located throughout the Port. The LAHD requested that ESA provide a conclusive evaluation of the eligibility of properties at Berths 118-120, 148-149, 187-191, and 238-239.

This report documents ESA's methods and findings of an intensive architectural survey and evaluation of Berths 118-120, 148-149, 187-191, and 238-239. Efforts included performing a review of previous studies; conducting additional archival research; surveying each of the buildings and structures at Berths 118-120, 148-149, 187-191, and 238-239; and applying the eligibility criteria for listing in the NRHP. All survey and evaluation work was conducted by ESA's senior preservation specialist, Brad Brewster, who meets the Secretary of Interior's professional qualification standards for both architectural history and preservation planning. Mr. Brewster supervised additional research conducted by Candace Ehringer, Registered Professional Archaeologist, who have more than 25 years of combined experience working on cultural resources studies.

1.1 Methods

Previous Study Findings

ESA reviewed previous inventories and evaluations of the various timber wharves at the Port of Los Angeles, including those by San Buenaventura Research Associates in 1996, and by Jones & Stokes in the early 2000s.



SOURCE: POLA; ESA, 2009

Historic Resources Evaluation Report for Port of Los Angeles
Berths 118-120, 148-149, 187-191, and 238-239 . 206278.06

Figure 1
Location Map

Between 1992 and 1996, San Buenaventura Research Associates inventoried the timber wharves at the Port of Los Angeles and Berths 108-109, 115, and 120 as part of a larger, Portwide reconnaissance survey to identify areas with a potential for historical significance. San Buenaventura concluded that the timber wharves at the Port of Los Angeles formed a noncontiguous wharf district under Criterion A (events) because they "are a direct reflection of historic shipping technologies and represent an essential functional link in the maritime shipping process." As such, the wharves "are one of the most significant extant physical manifestations of the precontainerization era of Harbor development" (San Buenaventura Research Associates, 1997). Regarding the wharf at Berth 120 in particular, San Buenaventura recommended that it be "regarded as potentially eligible for the NRHP as a contributor to the wharf district pending further research on the historically related buildings and land uses" (San Buenaventura Research Associates, 1997).

In 2000, Jones & Stokes inventoried and evaluated the timber wharves at Berths 118-120, as part of an intensive-level survey to confirm the findings of the previous study by San Buenaventura Research Associates. Jones & Stokes found that none of the buildings or structures at Berths 118-120 appear to meet the criteria for listing in the NRHP because their integrity of setting has been compromised due to the many of the buildings that were constructed in the mid-1950s at the terminal, and were less than 50 years old at the time the report was prepared in 2000.

In 2001, Jones & Stokes inventoried and evaluated Berths 148- 151 and in anticipation of proposed project at that time which involved removal of the tank farm and associated buildings and structures. Jones & Stokes concluded that Berths 148-149 do not appear eligible for listing in the NRHP because they were constructed in 1955, after the period of significance, and did not meet the 50-year age threshold at the time the report was prepared in 2001 (Jones & Stokes, 2001).

1.2 Archival Research

Archival research for the current evaluation of Berths 118-120, 148-149, 187-191, and 238-239 was conducted at the Port of Los Angeles, the Los Angeles Public Library, and the South Central Coastal Information Center (SCCIC) at California State University at Fullerton.

1.3 Fieldwork

On December 9-10, 2009, Mr. Brewster conducted an intensive survey of the facilities at Berths 118-120, 148-149, 187-191, and 238-239. As part of this survey, Mr. Brewster took photographs and prepared descriptions of the wharves and structures at the berths. These descriptions are provided in Section 4, below, as well as in California Department of Parks and Recreation (DPR) forms 523A and B, located in Appendix A. With over 15 years of experience surveying and evaluating historic resources throughout the West Coast, Mr. Brewster meets the Secretary of the Interior's qualifications for architectural history.

1.4 Area of Potential Effects (APE)

The Area of Potential Effects (APE) was delineated for each of the facilities at Berths 118-120, 148-149, 187-191, and 238-239. The APE maps for each facility are show in Figures 2 through 5, below. Five separate APEs were identified for each of the five oil terminals that would be potentially affected by the proposed project. The APE includes the geographic areas within which the undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist, including all ground-disturbing activities, staging areas, and construction zones. As such, the APEs included not only the wharfs, but also the tank farms and all other facilities associated with each separate oil terminal, including a small buffer area surrounding each of the facilities.

1.5 Consultation Efforts

Letters requesting cultural and historical information about the project areas were sent to nine local Native American groups and seven local governmental groups, historical societies, and/or historic preservation advocacy groups on January 13, 2010 (see Appendix C – Consultation Letters). The only response received to date was a phone call from Robert Dorame, Tribal Chairman of the Gabrielino Tongva Indians of California, who said he might have information about concerning the MOTEMS work. Mr. Dorame said will he be sending comments to the port on or about February 8. As of March 22, 2010, no responses were received.

SOURCE: POLA; ESA, 2009

Historic Resources Evaluation Report for Port of Los Angeles Berths 118-120, 148-149, 187-191, and 238-239 . 206278.06

Figure 4

Port of Los Angeles Berths 187-191

SOURCE: POLA; ESA, 2009

Historic Resources Evaluation Report for Port of Los Angeles Berths 118-120, 148-149, 187-191, and 238-239 . 206278.06

Figure 3
Port of Los Angeles Berths 148-149

SOURCE: POLA; ESA, 2009

Historic Resources Evaluation Report for Port of Los Angeles Berths 118-120, 148-149, 187-191, and 238-239 . 206278.06

Figure 2
Port of Los Angeles Berths 118-120

SOURCE: POLA; ESA, 2009

Historic Resources Evaluation Report for Port of Los Angeles Berths 118-120, 148-149, 187-191, and 238-239 . 206278.06

Figure 5
Port of Los Angeles Berths 238-239

2. Historic Setting

The following historical setting has been adapted from the intensive-level surveys of the Port of Los Angeles prepared by Jones & Stokes in the early 2000's, as well the reconnaissance-level surveys by San Buenaventura Research Associates from 1992 to 1996. Additional historical information by ESA has been inserted into the historic setting where appropriate.

2.1 Early History

The Port of Los Angeles is located approximately 20 miles from downtown Los Angeles, at the southernmost point in Los Angeles County. Due to its location on the Pacific Ocean, the surrounding area historically served as a port facility to varying degrees. Commonly referred to as San Pedro, the port is located within the boundaries of three historic ranchos: Rancho San Pedro, Rancho Los Palos Verdes, and Rancho Los Cerrios. These ranchos, conferred by Governor Pedro Fages to three veterans of the 1769 Portola expedition, possessed combined acreage equaling almost 84,000 acres (Beck and Haase 1974). Owners of the rancho lands earned a living through the raising of cattle and participation in the hide and tallow trade, and by 1830, San Pedro was considered a leading hide center on the west coast (Rawls and Bean 1993; Queenan 1986).

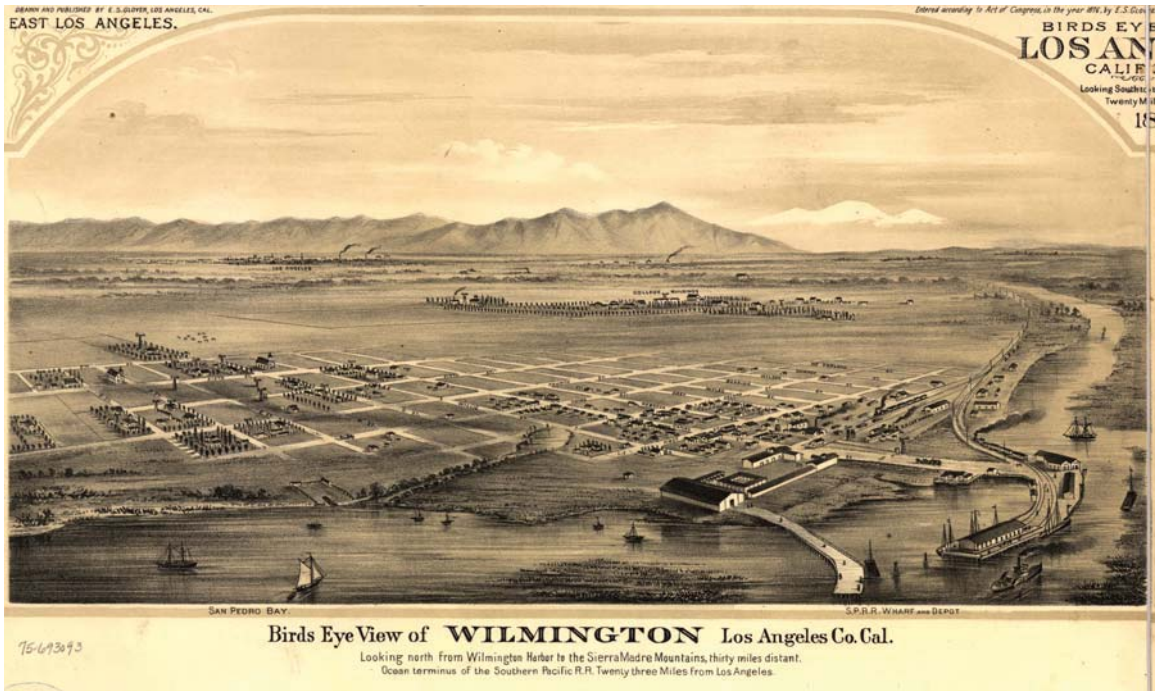
Following the annexation of California by the United States and the subsequent Gold Rush, an influx of new settlers descended upon the San Pedro area. While some residents realized the area's potential as a port area, the region was underused as a port during this period. Cattle and sheep ranching continued to dominate the economy, with one of the largest sheep operations in California, Flint, Bixby & Company, establishing the largest portion of its operation in San Pedro (Queenan 1986; Beck and Hasse 1974).

2.2 Commercial Shipping, 1857–1897

Arriving from Delaware in 1851, Phineas Banning, realized the potential of the area as a commercial shipping port, and in 1857, constructed docks in what would become Wilmington to take advantage of the increasing trade coming in and out of Los Angeles. Two primary routes to the southwest gold fields, the Gila River Trail and the Old Spanish Trail, ended in Los Angeles. Banning shuttled materials on smaller boats from his base in Wilmington to and from a second location on the Rancho San Pedro waterfront.

Banning also realized the importance of rail transportation between his operation on the bay and the growing city of Los Angeles. In 1869, Banning and his investors organized the Los Angeles & San Pedro Railroad (LA&SP), marking the beginning of a period of fierce rail competition in the San Pedro and Los Angeles area. Banning's LA&SP was the first route to establish a reliable means of moving cargo from the ships coming into San Pedro Harbor to the City of Los Angeles.

Although the LA&SP was the first short line in southern California, by 1872 it had been purchased by the Southern Pacific Railroad (SPRR). In an attempt to break the stranglehold that the SPRR had on shipping in the area, Senator John P. Jones from Nevada established the Los Angeles and



Library of Congress Map of Wilmington, Los Angeles County, CA (1877)

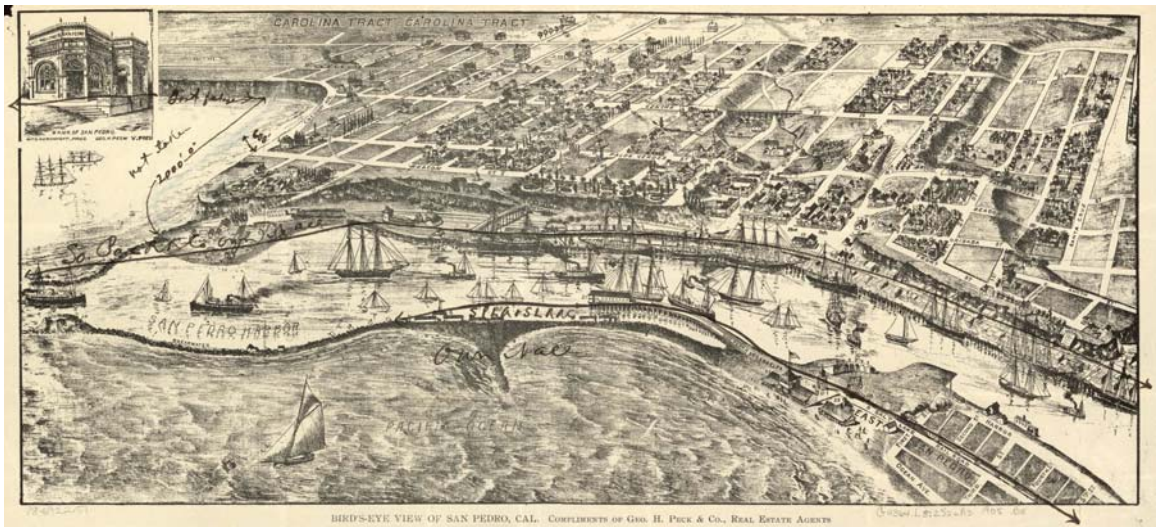
Independence Railroad (LA&I) a year before the SPRR's acquisition of the LA&SP. However, like the LA&SP, the LA&I soon was part of the SPRR system (Queenan, 1986).

Due in part to the improved transportation to and from the harbor, Los Angeles experienced rapid growth during the late nineteenth century. From a population in 1880 of 11,000, the city grew to 50,000 by 1890 and to 102,000 by the turn of the century (Matson, 1920). The increased population brought with it the need for more construction and living supplies, much of which came from ships destined for San Pedro shores.

2.3 San Pedro Bay and the Founding of Port of Los Angeles, 1897–1913

Growing commerce in Los Angeles eventually required the formal establishment of a shipping port. The federal government agreed to assist the City of Los Angeles by establishing its official harbor in San Pedro after several studies recommended it over other sites, including a Santa Monica site pursued by Collis Huntington, an influential member of the "Big Four" railroad barons. Following an extensive battle with Huntington, the San Pedro Harbor site won authorization from Congress in March 1897.

In 1906, in preparation for the opening of the Panama Canal, the City of Los Angeles extended its boundaries to coastal tidewaters when it annexed San Pedro. The Port of Los Angeles and the Los Angeles Harbor Commission were officially created in December 1907, and numerous harbor improvements followed, including the completion of the 2.11-mile breakwater, the broadening and dredging of the main channel, the completion of the first major wharf by the



Library of Congress Map of San Pedro, CA (ca. 1905)

SPRR, construction of the Angel's Gate lighthouse, and the construction of the first municipal pier and wholesale fish market. The construction of the breakwater was a "monumental engineering feat" requiring crane operators to place large boulders in precise locations 40 to 50 feet below the surface of the water. Both Wilmington and San Pedro were part of the City of Los Angeles by 1909, and because of this citywide growth, the Port of Los Angeles became the world's largest lumber importer by 1913 (Marquez and de Turenne, 2007; Matson 1920).

A 9-mile outer breakwater was completed in 1913, splitting the harbor into Inner and Outer Harbors. The Inner Harbor was known as Wilmington Harbor and the Outer Harbor was known as San Pedro Bay. The same year, dredging and filling of Mormon Island (Inner Harbor) allowed for its conversion from swamp land to land suitable for wharves and sheds (Marquez and de Turenne, 2007.) The first industries to use these new wharves and sheds were boatbuilding companies.

The opening of the Panama Canal in August 1914 decreased the amount of time spent by ships traveling between eastern and western U.S. ports, and promised to open up new trade opportunities worldwide. In preparation for this new trade, the City of Los Angeles completed one of many large municipal terminals in the harbor. However, the outbreak of World War I that same year temporarily stalled the movement toward expanded worldwide trade (Queenan, 1986).

2.4 Wartime Changes, 1914 – 1950

The principal use of the port changed again when England declared war on Germany. At the onset of World War I, the U.S. Navy took possession of a portion of the harbor for a training and submarine base in order to establish a significant presence on the Pacific coast. During the war, the Port was one of the chief sources of employment for residents of the area, with shipbuilding enterprises turning out vessels by the dozens for the war effort. The Port of Long Beach,

established only two years before the onset of the war, offered the only southern California competition to the Port of Los Angeles in terms of shipping or shipbuilding.

Despite the previous use of the Port for the shipment of goods, it was not until 1915 that the Port of Los Angeles began constructing its first warehouse. Warehouse No. 1, located on 60 acres, was six stories in height, with a total storage capacity of 500,000 square feet. Warehouse No. 1 opened on March 6, 1917 to great fanfare with over 10,000 people in attendance. The completion of this building symbolized the Port's transition to a significant seaport able to handle deep sea ships of varied cargo (Marquez and de Turenne, 2007; Queenan, 1986).

In 1917, Terminal Island was dredged and filled. Boatbuilding companies moved their facilities from Mormon Island to Terminal Island. Oil terminals and petroleum facilities took their place on Mormon Island (Marquez and de Turenne, 2007).

Between 1917 and 1930, distributors constructed a large number of new wharves, warehouses and sheds, indicating a significant increase in trade at the Port. By the end of the 1920s, over 25 million tons of cargo passed through the port yearly (Marquez and de Turenne, 2007).

Transportation systems improvements also encouraged the growth of the import and export trade in the harbor area. By 1917, a vast railroad network existed around the harbor and Los Angeles, which facilitated the efficient movement of goods throughout the country. Los Angeles had an advantage over the Port of San Francisco in that it did not have the Sierra Nevada posing an impediment to cargo shipments en route to the east coast (San Buenaventura Research Associates, 1992).

During the period following the end of World War I in 1918, the Port was increasingly used for importing lumber and other types of raw materials. Similar to the prewar period, the vast majority of inbound cargo to the Port consisted of lumber to satisfy the rapid growth of the Los Angeles area. Exceptional levels of new construction of houses and factories necessitated the importation of lumber on a large scale (Matson, 1920). Comparatively, the biggest export product passing through the Port during the postwar years was petroleum.

Following the end of the war, many trade restrictions were lifted, and the Port provided for the transportation of a wide variety of products. Although lumber and petroleum were the biggest commodities to pass through the Port at the time, Los Angeles featured almost all types of industry. Soon after the war's end, many different types of commerce and business activities developed in the area. Although existing harbor facilities continued to be used for products such as oil, lumber, ships, and fish, new facilities were developed to handle products such as cotton, borax, citrus crops, and steel. In 1923, the City of Los Angeles passed a harbor improvement bond measure, resulting in the construction of additional wharves to meet the demands of increased imports and exports. In order to streamline the railroad portion of shipping in the harbor, the various railroad companies serving the Port consolidated operations by 1929 under the title the Harbor Belt Line Railroad. (Queenan, 1986; San Buenaventura Research Associates, 1992).

Harbor traffic slowed during the Depression years and the harbor witnessed a sharp decline in international trade. The Harbor Commission continued to make improvements, however, including

a new breakwater extension, completed by 1937, and the construction of new cargo and passenger terminals. The federal government's Works Progress Administration (WPA) helped the Port finance improvements, including passenger and freight terminals and wharves (Queenan, 1986).

As one of the major American ports closest to the fighting in the Pacific Ocean, San Pedro experienced new life and distinction during World War II. Ship and aircraft production facilities in the harbor area worked day and night between 1941 and 1945 to manufacture more than 15 million tons of war equipment. In addition, hundreds of thousands of personnel passed through the Port when departing for and returning from combat.

The LAHD launched a broad restoration program following the war, as many facilities in the harbor required maintenance which had been delayed during the war years. During this time, the LAHD improved several of its buildings and removed many temporary wartime buildings (Queenan, 1986).

2.5 Containerization: 1950 to Present

With the rise of containerization following the end of World War II, methods of shipping changed dramatically. Prior to this new method, cargo loading was labor intensive, with individual pieces of cargo, drums, boxes, bags or crates, loaded into ships. Cargo was brought to the dock by truck or train and the individual pieces of cargo were unloaded into transit sheds, sorted and organized, and then moved to the wharf for loading as individual packages into the ship's cargo holds by either ship-based or shore-based cranes where it was then stowed. Alternatively, longshoremen would place the individual pieces of cargo in cargo nets that were hoisted into the ship where the individual pieces of cargo were unloaded and stowed. Some efficiency was achieved by placing several individual containers (e.g., drums, bags, or boxes) on a pallet and then loading the pallet into the cargo hold.

Containerization ships appropriate cargo in standard sized, sealable steel boxes, typically 20 or 40 feet long. Special trailers transport these boxes to and from the port by trucks or rail. An empty container is delivered by truck to a location (manufacture, warehouse, or other enterprise), is loaded with cargo and sealed, then transported by truck or train to the port, where shore-based cranes lift the container from the trailer and place it in the ship's cargo hold or on the ship's deck. After the container is delivered to the destination port, the process was repeated in reverse. This consolidation of cargo in standard-sized containers improves the overall efficiency of transport and allows greater integration of transport by truck, train, and ship.

The adaptation of the maritime industry to containerization involved not only the creation of new ships, truck trailers, rail cars, and cargo cranes designed and built specifically to handle the standard cargo containers, but also the construction of new port facilities. As the loading and unloading of ships and the associated handling was the most time consuming aspect of moving cargo through the Port, under the old loading methods, cargo terminals were designed to maximize the "surface area" of the terminal by providing as much berthing space as possible, with little backland (transit sheds) to service each wharf.

The containerization method required large-volume terminals, with extensive backlands, and internal roadways to service each wharf. The increased backlands reflected the need for storage of trailers and containers awaiting a ship's arrival, area needed for the loading and unloading of containers onto ships, and area needed to process the containers into and out of the terminal by truck or train. With the increased efficiency, the limiting factor of transferring of cargo became the organization and optimization of storage of containers awaiting shipment, movement to and from the wharf, and cargo flow into and out of the terminal via road or rail. This meant that ports had to either develop new terminals to meet the needs of the new geometry required by containerization or redevelop older terminals. In addition, with containerization, the weight of cargo "packages" (i.e., containers) increased dramatically, requiring much larger cranes and a corresponding move from timber to concrete wharves.

Major improvements to the Port in the 1970s included the deepening of the main channel to accommodate the larger container vessels entering the bay, the purchase of land to expand terminals, and the replacement of older wharves that could not bear the increased weight of newer containers.

Worldwide shipments through the Port increased during the latter half of the 20th century as ocean-going vessels grew to sizes no longer able to negotiate the Panama Canal. Using a "land-bridge" system, shippers wishing to pass materials from the Pacific Ocean to the Atlantic Ocean employed the more efficient practice of unloading at the Port of Los Angeles, moving materials cross country via truck or train, and loading materials onto ships on the east coast.

2.6 Port of Los Angeles Oil Production and Shipping

Oil production in Los Angeles encompasses an area know as the Los Angeles Basin; an area which is approximately 22 miles wide and 42 miles long and sits in the southern portion of Los Angeles County and the northwestern portion of Orange County. The Basin is bounded by the Santa Ana Mountains on the east and the Pacific Ocean on the southwest. Although not the first to be discovered in California, the Los Angeles Basin oilfields were important to California's petroleum industry during the first two decades of the 20th century, helping California in leading the nation in oil production for many years during the first four decades of the 20th century (Franks and Lambert, 1985).

Oil drilling began in the Los Angeles Basin before the turn of the century, and the Los Angeles area being considered a major refining center as early as 1909. The refining process of crude oil allowed for the production of many different types of usable products, including kerosene, grease, lubricating oils, and asphalt, and the constant growth of southern California led to an expanding need for these products.

Two major factors helped to increase the desirability of crude oil from California following the turn of the century: the conversion of many ocean-going vessels and west coast railroads from coal to oil and the dramatic rise of automobile use during the 1920s (Franks and Lambert, 1985; Rawls and Bean, 1993). Oil companies recognized the need for port facilities able to handle the increasing quantities of oil leaving the Los Angeles area, and in 1909, the Union Oil Company

authorized the financing of the Outer Harbor and Dock and Wharf Company. The company was organized in order to create a terminal adequate for accommodating larger and heavier ocean-going steamers produced at the time, and also provided other improvements to the Port, such as new sea walls, wharves, and industrial sites (Welty and Taylor, 1956).

In 1919, the majority of California's oil came from the lower San Joaquin Valley, with the major refineries concentrated in the San Francisco Bay Area. However, the predominance of all aspects of the oil industry passed to the Los Angeles region by the 1920s. In 1923, oil from Signal Hill, Santa Fe Springs, and Huntington Beach, combined with the remaining smaller pools of the Los Angeles Basin, accounted for 20% of the world's total production of crude (Franks and Lambert 1985). Only the state of Oklahoma was able to compete with California in terms of total production numbers at the time, and in 1925, the value of oil refinery products was twice the value of the output of California's second-largest branch of manufacturing; the canning and preserving of fruits and vegetables (Rawls and Bean, 1993; Federal Trade Commission, 1921). Exports of oil from the Port of Los Angeles made it the largest oil port in the world.

Larger regional producers, including Standard Oil of California and Union Oil (both now Chevron), dominated the Port of Los Angeles during the 1920s. Many smaller local producers, including California Petroleum, Julian Oil, Hancock Oil, General Petroleum, Pan-American Oil (later, Richfield Oil), and Associated Oil, also used port facilities. The largest out-of-state producers located in the region were Texas Oil Company and Shell Oil (San Buenaventura Research Associates, 1995). California had firmly established itself as a major supplier of crude oil and the center of America's petroleum industry by the end of the 1920s (Franks and Lambert, 1985). Destinations across the country and around the globe received oil out of the Port of Los Angeles, and in light of this seemingly insatiable market, companies on both the east and west coasts acquired ships able to handle the larger oil cargoes (Oil Age, 1923).

Storage of oil was not initially considered an important priority, with some of the earliest tanks simply concrete-lined excavations covered with steel tops (Franks and Lambert, 1985). However, overproduction became a problem in the 1920s, and by 1930, California's oil wells were producing an amount of crude that was far in excess of what the market could absorb (Welty and Taylor, 1956). Worldwide, there was a lower demand for oil in the post-World War I era, and storage problems quickly becoming a primary concern (Franks and Lambert, 1985; Oil Age, 1922). Many of the major oil companies drafted plans to increase their storage in the southern portion of the state following the increased production in the Los Angeles Basin in the 1920s. In addition, many oil companies produced new terminals in an attempt to counteract the problem, some costing as much as $1,000,000 (Oil Age, 1924).

Seeking new sources of local oil at the end of the 1920s, the oil production companies began looking northward, and in 1936, the General Petroleum Company found the last major oil find in the Los Angeles Basin, the Wilmington Oil Field, marking the end of the Los Angeles Basin oil boom (Franks and Lambert, 1985).

2.7 Timber Wharves at the Port of Los Angeles

The Harbor Commission authorized the construction of many new facilities to accommodate the economic growth at the port following World War I. Partially funded by the $1,500,000 harbor improvement bond measure of 1923, this construction effort included projects such as wharf construction. When individual berths were leased, the Commission approved the building of new wharves at the terminals. As Port industry expanded so did wharf construction. In 1926, the municipal wharves measured 24,460 linear feet. By 1931, the wharves increased to 41,921 feet, and in 1940, the municipal wharves covered a total of 50,606 feet. By this time, the Port equipped all docks with truck loading ramps and railroad tracks and paved all areas surrounding the docks and terminals (Board of Harbor Commissioners, 1926; 1931; 1940).

Constructed between 1914 and 1950, the wharves at the Port of Los Angeles are composed of timber and poured concrete. Wharves vary from roughly 60 feet to more than 1,200 feet in length and typically range from 20 feet to 70 feet wide. In many cases, the Harbor Engineer's Office designed the structures, and the Los Angeles Harbor Department constructed them, with construction consisting primarily of creosoted timber piles driven vertically into the channels.

The wharves are arranged parallel to the shoreline and are accessed by ramps or aprons connecting the wharves to the landside or 'backlands' area. Some wharves obtained additional structural integrity and stability by driving piles diagonally into the channel bottoms. The decking materials are composed primarily of heavy milled timber planks set on timber girder and joist systems.

Attached fender pilings, ramps, stairways, railings, and platforms or floats are typical details included in the design of the wharves. Associated structures on or near the wharves include pipes, pumping equipment, concrete or riprap sea walls, and small buildings, such as pump houses, dock houses, and longshore toilets. An early harbor report stated, "Many of the older [wharf] structures have reached the stage when it is more economical to reconstruct extensive portions thereof, rather than continue innumerable and frequent small repairs" (Board of Harbor Commissioners, 1930). Removal and replacement of rotted or damaged timber pilings and decking material is part of the routine repair and maintenance of the wharves require.

The steady evolution of maritime shipping techniques over time have placed a greater reliance on mechanization and a reduced dependence on labor, leading to the progressive obsolescence of protected intermediate storage and traditional wharfage.

3. Regulatory Context and Significance Criteria

3.1 Federal Regulations

To establish the significance of a property, the National Register of Historic Places (National Register) criteria for evaluation set forth in 36 CFR Part 60.4 must be applied. The following criteria are designed to guide the states, federal agencies, and the Secretary of the Interior in evaluating potential entries for the National Register. The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects that possess at least one of the following:

A. that are associated with events that have made 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.

The question of integrity is a another factor that must be addressed when determining the eligibility of a resource for listing in the National Register. The Secretary of the Interior describes integrity as "the ability of a property to convey its significance." A property must retain certain intact physical features in order to convey its significance under one or more of the NRHP criteria. Integrity is judged on seven aspects; location, design, setting, workmanship, materials, feeling, and association.

If a particular resource meets one of these criteria and retains sufficient integrity to convey its historic significance, it is considered as an eligible "historic property" for listing in the National Register. Additionally, unless exceptionally significant, a property must be at least 50 years old to be eligible for listing.

Section 106

Section 106 of the National Historic Preservation Act (NHPA) of 1966 requires that a federal agency with direct or indirect jurisdiction over a proposed federal or federally-assisted undertaking, or issuing licenses or permits, must consider the effect of the proposed undertaking on historic properties. An historic site or property may include a prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register maintained by the U.S. Secretary of the Interior. Federal agencies must also allow the Advisory Council on Historic Preservation (ACHP) to comment on the proposed undertaking and its potential effects on historic properties.

The implementing regulations for Section 106 of the NHPA (36 CFR 800) require consultation with the State Historic Preservation Officer (SHPO), the ACHP, federally recognized Indian

tribes and other Native Americans, and interested members of the public throughout the compliance process. The four principal steps are:

- initiate the Section 106 process (36 CFR 800.3);
- identify historic properties, resources eligible for inclusion in the NRHP (36 CFR Section 800.4);
- assess the effects of the undertaking on historic properties within the area of potential effect (36 CFR 800.5); and
- resolve adverse effects (36 CFR 800.6).

Adverse effects on historic properties are often resolved through preparation of a memorandum of agreement or programmatic agreement developed in consultation between the federal agency, the SHPO, Indian tribes, and interested members of the public. The ACHP is also invited to participate. The agreement describes stipulations to mitigate adverse effects on historic properties or listing in the National Register of Historic Places (36 CFR §60).

Significance Criteria under NHPA

A significant impact would occur if a proposed action results in an adverse effect to a property that is listed in or eligible for inclusion in the National Register. The specific Criteria of Effect and Adverse Effect, as defined in 36 CFR 800.9, used to evaluate an undertaking's effect on a historic property, are as follows:

- An undertaking has an effect on a historic property when it may alter the characteristics of the property that qualify the property for inclusion in the National Register. For the purpose of determining effect, alteration to features of the property's location, setting, or use may be relevant depending on a property's significant characteristics and should be considered.
- An undertaking is considered to have an adverse effect when the effect on a historic property may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects on historic properties include, but are not limited to:

    (1) Physical destruction, damage, or alteration of all or part of the property;

    (2) Isolation of the property from or alteration of the character of the property's setting when that character contributes to the property's qualification for the National Register;

    (3) Introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting;

    (4) Neglect of a property resulting in its deterioration or destruction; and

    (5) Transfer, lease, or sale of the property.

3.2 State Regulations

The State implements the NHPA through its statewide comprehensive cultural resources surveys and preservation programs. The California Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historic Resources Inventory. The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the State's jurisdictions.

California Register of Historical Resources

The CRHR includes resources that are listed in or formally determined eligible for listing in the NRHP and some resources designated as California State Landmarks and Points of Historical Interest (PRC Section 5024.1, 14 California Code of Regulations [CCR] Section 4850). Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be significant resources for purposes of CEQA unless a preponderance of evidence indicates otherwise (State CEQA Guidelines Section 15064.5[a][2]). The eligibility criteria for listing in the CRHR are similar to those for NRHP listing but focus on the importance of the resources to California history and heritage. A cultural resource may be eligible for listing in the CRHR if it (see 14 CCR Section 4852):

(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; or

(4) has yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one of the four criteria listed above, a resources eligible for listing in the California Register must retain historic integrity, and is typically fifty years old or older, except where it can be demonstrated that sufficient time has passed to understand the historical importance of the resource.

Significance Criteria under CEQA

The California Environmental Quality Act (CEQA) specifically addresses the protection of historic resources. Based on the Appendix G of the CEQA Guidelines, a project would have a significant impact on historic resources if it would, "result in a substantial adverse change in the significance of a historical resource that is either listed or eligible for listing on the National Register of Historic Places, the California Register of Historic Resources or a local register of historic resources."

3.3 Local Regulations

The Los Angeles Municipal and Administrative Codes address the preservation of historic and cultural monuments, and Preservation Zones. A list of historical and cultural monuments has been compiled and is maintained by the Cultural Heritage Commission, a board of five persons appointed by the Mayor and approved by the City Council. It is the responsibility of the Cultural Heritage Commission to oversee and approve the establishment of Preservation zones (LA Municipal Code Sec. 12.20.3) and to preserve monuments when such action is not in conflict with the public health, safety, and general welfare (LA Administrative Code Sec. 22.128).

According to Section 22.130 of the Los Angeles Municipal Code, a historical or cultural monument is "any site (including significant trees or other plant life located thereon), building or structure of particular historic or cultural significance to the City of Los Angeles, such as 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 are identified with historic personages or with important events in the main currents of national, State or local history or which embody 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 age."

According to Section 22.171 of the Los Angeles Municipal Code, 'The [Historic Preservation] Commission shall take all steps necessary to preserve Monuments not in conflict with the public health, safety and general welfare, powers and duties of the City of Los Angeles, or its several boards, officers or departments. These steps may include assistance in the creation of civic citizens' committees; assistance in the establishment of a private fund for the acquisition or restoration of designated Monuments; and recommendation that a Monument be acquired by a governmental agency where private acquisition is not feasible."

3.4 Period of Significance and Significant Resource Types

The historic significance of the Port relates to the role that the Port facilities played in expanding the commercial and economic success of Los Angeles, which coincided with Los Angeles' emergence as an "international" city between the early 1920s and the beginning of containerization in the 1950s. This period also coincides with the establishment of the Port for the transshipment of oil, an industry which played a major part in the development of Los Angeles in the first half of the twentieth century. The development of the oil terminals at the Port of Los Angeles helped establish the city as a major economic force in the region. By the 1950s the use of the Port of Los Angeles for the transshipment and storage of oil had been well established and had reached a mature state. As such, the period of significance for the theme of oil transshipment at the Port is 1920 to 1950. Facilities typically associated with this theme include wharves, seawalls, tanks and tank farms, spill containment walls, pipelines and pipe valves, pumphouses, dockhouses, offices, and warehouses.

4. Historic Resources

4.1 Berths 118–120

History

Plans dated October 1922 by the Associated Oil Company Engineering and Construction Department identify the layout and design of the timber wharves at Berths 118-120 (Associated Oil Company, 1922). At the time, the area was identified as the "Marine Loading Station, LA Harbor." The Associated Oil Company not only designed Berths 118-120, but also leased them from the Port to function as oil loading wharves. Within three years, Associated Oil installed two oil pipelines at Berth 120 to load both crude and fuel oil, and by 1930, additional pipelines accessed Berths 118 and 119. The Associated Oil Company had a storage capacity of 512,000 barrels and could load three vessels simultaneously. By 1935, the company installed more pipelines and increased storage space to 531,000 barrels. (Board of Harbor Commissioners, 1923; 1926; 1930; 1935).

In 1936, Associated Oil Company and Tide Water Oil Company merged with their former parent company, Tide Water Associated Oil Company, which stored up to 587,100 barrels at the harbor. The company supplied bunker fuel oil to vessels at a rate of 1,200 barrels per hour through use of a 3,000-barrel barge. By 1947, the harbor installed facilities for filling drums as well as railroad car loading racks and tank truck racks (Board of Harbor Commissioners, 1947). A fire occurred at the berths on June 25, 1954 that burned for 2 days and destroyed 11 oil storage tanks operated by Tide Water Associated Oil Company (Ditzel, 1986). Tide Water Associated Oil Company continued to lease the berths until at least 1957, when Time Oil Company assumed occupancy (see photo below).

Aerial Photo of Berths 118-120 (1957)

A review of plans on file with the Port of Los Angeles for Berths 118-120 indicate that an open storage areas behind Berths 112 – 118 was created in 1977, and that the rear (landside) area of Berths 118-120 was graded and paved in 1988. In 2005, plans indicated that Berths 118-119 underwent a rehabilitation project which made numerous repairs to the piles and deck, replaced a number of cap beams, and wrapped batter piles in 3 layers of "TYFO;" a type of PVC plastic wrap (Port of Los Angeles, 1977, 1988, 2005).

Over the years, handfuls of oil companies have leased this site including Time Oil Company (1957); Westoil Terminals (1974); GATX (2000), and most recently Kinder Morgan, which occupies the site today. Berths 118-119 are still used for the transshipment of oil, although Berth 120 has been abandoned and fenced off due to its deteriorated condition.

Description

Berths 118-119 consists of a continuous timber wharf approximately 820 feet long by 20 feet wide and about 15 feet above the water line. The deck and piles are of timber construction. The fendering system also consists of timber piles. Many of the timber piles are wrapped in PVC plastic. Most of the decking is horizontally-oriented wood decking, although welded steel plates cover the wood decking in the vicinity of the pipe, valve, and hoist machinery. Wood bullrails are located along the outer edges of both wharves, interspersed with iron cleats located at regular intervals. Four approach ramps constructed of similar timber piles and decking as the wharves, connect the structure to the land.

Located about 150 feet northeast from Berth 119 is the wharf at Berth 120. This structure is 400 feet long and 20 feet wide, and is constructed of identical materials as Berths 118-119, although it is more dilapidated. Four, small, corrugated metal dock houses are located on Berth 120, as are a number of steel cranes. As mentioned above, this berth has been abandoned and fenced off due to its deteriorated condition.

A number of structures are located on the landside or 'backlands' portion of Berths 118-120. Located immediately to the north of the Berth 119 is a small valve house with a rectangular plan, gable roof, and corrugated metal siding and roofing. Windows are metal sash. Located further to the north of Berth 119 is a large tank farm consisting of 12 steel tanks encircled by a spill containment wall. The wall is made of horizontal board-formed reinforced concrete about 15 feet tall and about 1 foot thick. The tanks are a combination of welded and riveted steel, range in size from about 25 feet to 135 feet in diameter, and are about 40 to 50 feet tall. Three of the tanks are topped with newer steel geodomes, and some of them are wrapped in corrugated aluminum insulation. A cluster of six smaller tanks are located immediately north of Berth 118, which are also encircled by a spill containment wall.

Other structures include an administration building, a pump house, heater units, a storage facility, an offload black-product rack, and an offload clean-product rack. The administration building is a one-story wood frame structure with stucco siding, a hip roof, and 1/1 woodframe windows. This building appears to date to the mid-1920s. The interior of the building appears to be highly

altered. A concrete block warehouse with a flat roof and roll-up style doors was added to the rear of the administration building. This addition appears to date to the mid-1950s.

Evaluation

Many of the structures affiliated with Associated Oil and Tidewater Associated Oil were demolished after a fire occurred in the 1950s. The tank farm and other existing buildings were constructed after that period and are associated with Time Oil (which leased the site as early as 1957), Westoil, (which arrived in 1974), GATX, or Kinder Morgan (the current occupant). The remaining elements of the oil terminal from the 1920s include the wharves at Berths 119-120, the administration building (altered), and a small valve house. The 1950s fire destroyed tanks built in the early part of the century, resulting in the construction of new storage facilities and other buildings at the site circa 1955. While these newly constructed tanks and other buildings are now more than 50 years old as of 2009, they were built outside of the period of significance (1920 – 1950) and do not appear to retain historical significance on an individual basis or as a grouping of facilities. Lacking historical significance, the buildings and structures at Berths 118-120 do not appear to be eligible for listing in the NRHP.

The wharves located at Berths 118-120 also do not appear to meet the criteria for listing in the NRHP. Originally constructed in 1922 as a component of an oil terminal, the wharves would need to be evaluated as contributors to a terminal district to be considered eligible for listing in the NRHP. The integrity of setting at Berths 118-120 has been compromised because many of the many buildings and structures at the terminal have been constructed outside of the period of significance, as discussed above. No historical district can be formed because integrity of setting has been compromised. Thus, the wharves at Berths 118-120 do not appear to be eligible for listing in the NRHP. For similar reasons, the wharves at Berths 118-120 do not appear to be eligible for listing in the California Register or as a City of Los Angeles historical or cultural monument.

4.2 Berths 148–149

History

Union Oil, founded in California in 1890, purchased a 200-acre site in 1916 for a new refinery in Wilmington, adjacent to the Los Angeles Harbor during the Southern California oil boom. In 1920, Union Oil leased a 4-acre site adjacent to the Inner Harbor at Berths 148-151 with the intention to develop an oil receiving terminal. The site was an ideal location for the oil receiving terminal because it offered an easy approach, ample mooring space, and deep water for tankers. The site had also been previously used as a repair dock for Union Oil tankers. In addition, no rail or highway facilities were necessary because all loading and discharging could be accomplished through pipe lines (Board of Harbor Commissioners, 1940; 1952). The development of the oil terminal helped establish Union Oil's position as a prime shipper of petroleum products through the Port of Los Angeles.

Construction on the site began immediately. The Harbor constructed a 300 by 40-foot wharf (the wharf at Berth 150), and Union Oil installed storage tanks with a holding capacity of 335,000 barrels, as well as a number of outbuildings. In addition, the oil company installed six pipelines (two 10-inch field lines and one 12-, one 8-, and two 6-inch lines) which supplied oil from the berths to the nearby refinery. When the site was completed in 1920, it had the capacity to load three vessels simultaneously. By 1930, the company had increased tank storage capacity of petroleum products to 350,000 barrels. By 1931, Union Oil leased and constructed a wharf at Berth 149 as their operations expanded (Board of Harbor Commissioners, 1920; 1931).

Aerial Photo of Berths 148-149. Upper left side of photo. (1938)

One 19-inch oil field pipe line and five (12-, 10-, 8-, 6-, and 4-inch) refinery lines supplied the site in 1947. Barge services for 20,000 barrels were available for bunkering either diesel oil or fuel oil. The terminal also provided a storage capacity of 25,000 barrels of lubricating oil (Board of Harbor Commissioners, 1948).

The site was substantially modified and expanded in 1955 when Union Oil leased an additional 6 acres at the west end of pier A. Plans from the Office of the Harbor Engineer identify that the original 1930s wharf at Berth 149 was demolished and replaced with a new 600-foot, reinforced concrete wharf for Berths 148-149. Plans dated from 1955 show that a new tank farm with

approximately 9 steel tanks, a spill containment wall, and many new associated outbuildings were constructed at this time (City of Los Angeles Harbor Department, 1955). The newer tanks are currently referred to as the "west end" tank farm, while the original 1920s tank farm is called the "east end" tank farm. The development of Berths 148-149 increased the total number of Union Oil tanks to 31 and storage capacity to 1,675,000 barrels which greatly improved Union Oil's operations (Board of Harbor Commissioners, 1959). Approximately 3 million barrels of petroleum products were handled at the site each month, including crude oil, fuel oil, lubricants, gasoline, diesel, and other petroleum products (Welty and Taylor, 1956).

Tosco Corporation purchased Union Oil's refinery business activities in 1997 and began official operation at Berths 148–149. ConocoPhillips, which occupies the site today, purchased the site from Tosco.

Description

Berths 148-149

The wharf at Berths 148-149 measures approximately 600 feet long by 35 feet wide, and stands approximately 15 high above the waterline. It features concrete construction throughout, including the deck. Concrete vehicular access ramps extend from the land to the wharf at two points. Two pedestrian-scale steel ramps or gangways also extend to the wharf. Wood bullrails are located along the outer edge of the wharf, interspersed with iron cleats located at regular intervals. The fendering system consists of timber piles and rubber blocks. Located on Berth 149 is a small metal frame dock house with a corrugated shed roof and metal sash windows. Also located on Berth 149 are numerous pipe manifolds, hoses, cranes, a steel joist, and a boom. Other steel pipes supported by concrete piles and beams run parallel to the wharf, between it and the land. These pipes transport oil and other petroleum products from the wharf to the nearby tanks and to the refinery in Wilmington. The wharf at Berth 148 was constructed in 1930 and reconstructed as a concrete wharf in 1955, the same year the wharf at Berth 149 was constructed.

Located to the northeast of Berths 148-149 are a number of facilities, including the west-end tank farm. The tank farm consists of approximately 9 welded steel storage tanks, accessed by metal stairs. Some tanks feature corrugated aluminum insulated siding to keep heavy oils viscous and easier to pump. Other tanks are topped with steel geodomes added to the tanks in 1993. The structures vary in diameter and are generally 40-50 feet in height. The tank farm is encircled by a spill containment wall about 15 feet in height. These west-end tanks were constructed circa 1955 according to site plans, and are used to store lighter oil products. Other facilities on the site include a dock house, gatehouse, and substation. These are described below.

Dock House

A dock house located on the wharf at Berth 149 measures approximately 10 by 8 feet in size by about 8 feet in height. It is a metal frame structure with a shed- roof clad in vertical-seamed transite. Windows are metal sash and the single entry door is solid steel. The building was constructed as a wharfman's shelter house in circa 1955, and is currently used as a control house.

Gatehouse

Located at the entrance to the facility is the gatehouse, which is a small, shed-roofed building measuring approximately 10 by 10 feet in size and about 12 feet in height. The building has a flat roof with wide eaves. Walls are comprised of wood panels and are supported by a concrete perimeter foundation. It includes a single-entry door and a single-pane window. This building was likely was constructed circa 1955 when this part of the site was developed.

Substation

Located near the west-end tank farm is a small electrical substation building measuring approximately 15 by 10 feet. The building has a shed roof, transite siding, a single-entry door, and metal-framed multi-light windows. A tall vent is on the roof. The building is supported by a concrete foundation. This building was likely was constructed circa 1955 when this part of the site was developed.

Evaluation

Berths 148-149

The facility located at Berths 148-149 was constructed in 1955, after the period of significance (1920-1950). This development replaced an earlier and smaller timber wharf with a larger and more modern concrete wharf. An entirely new tank farm (the west-end tank farm) was also constructed at this time, as was the dock house, the substation, and gate house. By the 1950s the use of the Port of Los Angeles for the transshipment and storage of oil had been well established and had reached a mature state. While the facility at Berths 148-149 expanded Union Oil's existing operation at the site, these berths do not appear to retain historical significance on an individual basis or as a grouping of related facilities. Lacking historical significance, the buildings and structures at Berths 148-149 do not appear to be eligible for listing in the NRHP. For similar reasons, the buildings and structures at Berths 148-149 do not appear to be eligible for listing in the California Register or as a City of Los Angeles historical or cultural monument.

4.3 Berths 187–191

History

By the early 1920s, the handling capacity of the harbor was under great strain. Several improvements were planned during this decade in the vicinity of Berths 187-191 to increase the capacity of its shipping facilities. The Vegetable Oil Products Company, which was founded in 1919, purchased a 30-year lease from the city in 1920 at Berth 187 to establish a vegetable oil plant for the handling of imported vegetable oil. Construction plans included both wood and concrete wharves, an Umbrella shed, new pavement, piping, drainage, and tracks. An extension from the Canal Avenue water main would supply water to the plant (Board of Harbor Commissioners, 1920). The Belt Line Railroad was also extended directly parallel to this facility along today's Canal Street, and a railroad turntable was installed at the southernmost tip of Berths 190-191.

Aerial Photo of Berths 187-191 (1941)

Construction of the wharves and sheds associated with the Vegetable Oil Products Company at Berth 187, and Pacific Mail Steamship Company at Berth 188, were completed in July 1922 (LAT, July 20, 1922; November 26, 1922). Aside from the smaller umbrella shed at Berth 187, two large sheds were constructed on top of Berths 188 and 190, both of which were designed by the harbor engineer and built by the Austin Construction Company of California. Construction of the sheds was financed by the city and then leased to companies operating at the port. The shed at Berth 188 measured 480 feet long by 120 feet wide. The shed at Berth 190 measured 554 feet long by 120 feet wide. The sheds was constructed of a steel frame with corrugated steel walls and concrete foundation and floors (LAT, November 26, 1922).

The Vegetable Oil Products Company was the first of its kind on the west coast and its establishment eliminated the need to import vegetable oils from England (LAT, July 1, 1923). By 1923, the plant had a capacity to produce 35,000 to 40,000 pounds of edible product per day. Raw materials were imported from the Philippines and refined at the plant. In 1926, the company began to import whale oil, including "the first consignment of whale oil of importance brought to the port" (LAT, June 8, 1926).

By 1928 the exportation of vegetable oil outgrew the capacity of Berth 187 and new permanent facility was sought (LAT, August 23, 1928). In 1929, Vegetable Oil Products Company requested a lease and permission to construct a copra (coconut) crushing and vegetable-oil extraction plant at Berth 188, adjoining its current plant (Drake, July 25, 1929). By 1952, the Vegetable Oil Products

Company, Inc. was one of the largest importers and crushers of copra in the US. The terminal at Berth 187 included an industrial oil department at that time called the Vopcolene Division which produced fatty acids, industrial oils and refined glycerin (Board of Harbor Commissioners, 1952).

By 1925, Berth 188 was being utilized by the Garland Steamship Company and the Panama Mail Steamship Company (LAT, July 4, 1925). In 1929, the Norton, Lilly & Co., requested the Harbor Department install steel cargo masts at Berths 189 and 190 to facilitate the handling of heavy steel shipments (Drake, July 11, 1929).

Changes to the facilities at Berth 187 and 188 in the 1930s included the improvements of ramps, the resurfacing of the transit shed floor, the construction of a storage tank measuring 50 feet in diameter by 20 feet in height, and the enlargement of offices (LAT, January 11, 1934; December 20, 1934). Other improvements to Berths 188 and 189 in the 1930s included the replacement of track and ramp widening at a cost of $3,300 (LAT, January 5, 1933). Plans from 1937 also indicate that the wharf at Berth 191 was raised and widened at this time.

In the 1930s, Berths 187-191 were used by various shipping companies, including the Hammond Shipping Company at Berth 187, The Royal Mail-Holland-America-Furness lines at Berth 188, and the North, Lilly & Co. at Berths 189-191. United Fruit Company, Mitsui Bussan Kaisha, Donaldson Line, and other services served by the Banning Company stevedores continued to use Berths 187, 188 and 189 on secondary assignment (Drake, January 5, 1933).

By the early 1970s, the smaller umbrella shed on Berth 187 was demolished, and the larger transit sheds on piers 188 – 190 were used by the Coos Head Lumber and Plywood Company. By 1979, Berths 187-191 were used by the Wilmington Liquid Bulk Terminals, Inc. By the early 1980s, plans indicated that the larger transit sheds as well as most of the railroad tracks were intended for demolition. By the mid-1980s, the large, metal-clad warehouse which currently exists adjacent to Berth 188-190 was constructed. The Berth 187-191 facility is currently used by Vopak North America, which handles liquid oil products, chemicals, vegetable oils, and liquefied gases.

Description

Berths 187-191 consist of four continuous wharves located just west of, and parallel to, Canal Street in Los Angeles Harbor's East Basin. Berths 187-190 run north-south, while Berth 191 runs at an angle from northeast to southwest. Berths 190 and 191 meet at point at the southernmost end of the facility.

The wharves at berths 187-189 are constructed of reinforced concrete pilings with concrete decking. They are approximately 50 wide and 1,150 feet long in total length. The outer edge of the decking consists concrete bullrails about 1 foot high, interspersed with iron cleats located at regular intervals along both wharves. The fendering system consists of wood pilings with rubber blocks. Unlike other oil terminals at the Port of LA, no open water exists between the wharves and the backlands. The backlands to the east of the wharves are entirely paved and fenced. A steel pipe bridge located at berth 188 contains pipes and pipe valves. Other machinery in the area includes manifolds and a steel crane.

The wharves at berths 190-191 are constructed of timber pilings and wood decking covered by asphalt. Berth 190 is about 750 feet long (as determined by the length of the asphalt decking) and about 50 feet wide. Berth 191 is about 500 feet long and about 50 feet wide. Wood bullrails are located along the entire length of the outer edge of both wharves, interspersed with iron cleats located at regular intervals. The fendering system consists of wood pilings connected by wood chucks. Two rows of railroad tracks are embedded in the asphalt decking of berth 190. The separation between Berth 190 and 189 and 191 is evident by a clear break in railroad tracks. The decking on Berth 191 consists of recently-applied asphalt with painted lanes, and the wood bull rails appear to be of relatively recent vintage. According to the Port, approximately 20 original timber piles on Berth 191 were replaced with new timber piles within the last six months.[1] The entire backlands area of Berths 191 is open and paved.

Buildings in the vicinity include a two story office building which is located at the northern end of Berth 187. The office building, about 200 feet long by about 70 feet wide, is rectangular in plan with a flat roof, and consists of horizontal board-formed poured concrete and concrete block construction. Ribbon windows are located on the eastern and western elevation, and consist of awning-type units made with metal sashes. Other windows are aluminum sliders. The office was originally a warehouse in the 1920s, but converted into an office building in the 1950s, which is evidenced by the concrete block infill of many original openings and the installation of the ribbon windows.

Other structures at Berths 187-191 include a large, two story cement warehouse toward the southern end of the facility near Berth 190 – 191. This building, about 460 feet long by about 200 feet wide, has an irregular plan, a shallow gable roof, and is clad in corrugated metal siding. Plans indicate this warehouse was constructed in the mid-1980s. At the southern end of this structure is a large, moveable piece of steel machinery called a Kovaco Pump which is used to suction powdered cement from ships and transport it to and from the warehouse. The pump runs along the length of Berth 191.

Other structures in the vicinity include a series of about 15 welded steel tanks each about 50 feet high. These tanks are located parallel to Berths 187-189 and west of Canal Street. Most of the tanks are about 40 feet in diameter, while two are about 60 feet in diameter. Other structures on the wharves include a small, corrugated metal operator's office (dock house) located at Berth 187, and a small, stucco-clad restroom structure located at Berth 189. Both the dock house and the restroom structure appear to have been constructed in the 1970s.

Evaluation

The facilities at Berths 187-191 were originally built in the early 1920s for the Vegetable Oil Products Company and the Pacific Mail Steamship Company, which operated two large sheds located atop the wharves. Numerous railroad tracks once encircled theses facilities. Although the original concrete wharf structures are generally intact, the sheds were demolished and replaced

[1] Personal communication, Lily Becaria, Port of Los Angeles Engineering Department, with Brad Brewster, ESA, December 9, 2009.

with newer warehouse facilities in the 1980s. The majority of railroad tracks, as well as the railroad turntable at the intersection of Berths 190-191, were also removed around this same time. The decking, fendering system, and some of the pilings have also undergone various alterations over the years. The transshipment of food oils and mail were secondary, rather than primary, activities of the Port which were relatively short-lived. As such, these activities do not have a separate period of significance nor do they share the historical theme of petroleum transshipment as do the other terminals evaluated in this report.

The wharves at Berths 187-191 would need to be evaluated as contributors to a terminal district to be considered eligible for listing in the NRHP. As described above, the wharves at Berths 187-191 are not strongly associated with important historical themes at the Port, and their integrity has been compromised because all of the original terminal sheds have been demolished and replaced by newer facilities. No historical district can be formed due to a lack of important historical associations and reduced physical integrity. Thus, the wharves at Berths 187-191 do not appear to be eligible for listing in the NRHP. For similar reasons, the wharves at Berths 187-191 do not appear to be eligible for listing in the California Register or as a City of Los Angeles historical or cultural monument.

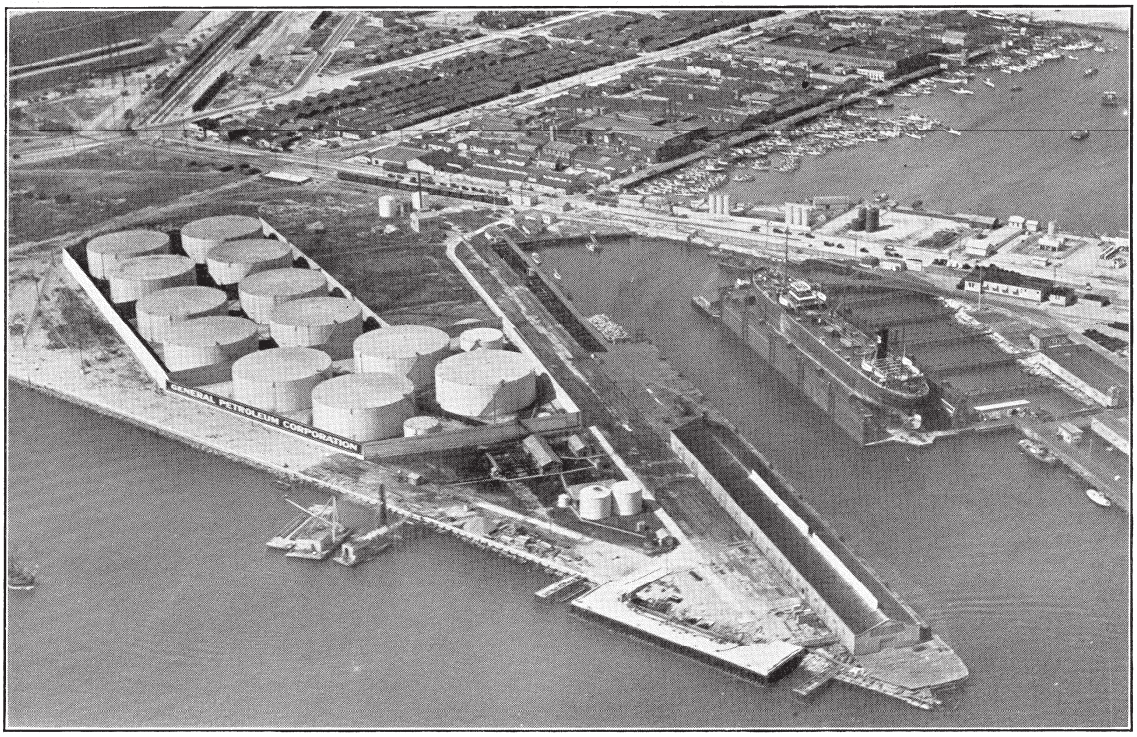
4.5 Berths 238–239

History

Berths 238 and 239 were constructed in 1925 for the General Petroleum Corporation (Board of Harbor Commissioners, 1925). The General Petroleum Company was founded by Captain John Barneson, a former whaler and shipping captain. He was responsible for the first oil pipeline constructed between Coalinga and Monterey in California. The pipeline was later expanded south over the Tejon Pass. In 1913, General Petroleum completed the first pipeline from the San Joaquin Valley to the Los Angeles Harbor. At that time, the company's port was in the Outer Harbor (Board of Harbor Commissioners, 1932). Captain Barneson was a pioneer in the use of oil as fuel for ocean-going vessels and eventually became the president and then chairman of the board of General Petroleum Corporation (LAT, November 1, 1926; February 26, 1941).

In 1925, General Petroleum's harbor facility included three pipelines: one 8-inch for crude oil, one 8-inch for fuel oil, and one 6-inch for gasoline. The facility held 14 tanks with a total storage capacity of 975,000 barrels. Three ships could be loaded simultaneously (Board of Harbor Commissioners, 1925). On Christmas Day of that year, the corporation set an oil-loading record by simultaneously loading four tankers with a total capacity of 271,114 (LAT, December 26, 1925).

By 1928, the facilities included 16 storage tanks with a total capacity of 1,050,000 barrels (Board of Harbor Commissioners, 1928). In 1929, an additional 6-inch gasoline pipeline was added, increasing total pumping capacity to 12,000 barrels per hour (Board of Harbor Commissioners, 1929).



General Petroleum Corporation, Loading Wharves

Aerial Photo of Berth 239 (1925)

In 1930 and 1931, General Petroleum Corporation expanded its harbor facilities. The corporation constructed four new steel oil tanks and firewalls just north of Berth 238, at a total cost of $68,743. The four new steel tanks included two 40,000 barrel tanks and two 20,000 barrel tanks for refined oil storage (Drake, June 26, 1930). Other additions included mooring blocks at Berths 239-240 at a cost of $6,000 and a waste-water separator at Berth 238, which cost $19,410 (Cave, October 8, 1931; December 24, 1931). By the end of the fiscal year in 1931, General Petroleum had five pipelines (three 6-inch and two 8-inch) leading from its refineries to the loading stations at the harbor (Berths 238, 239, 240a, and 240b); seven pipelines for loading vessels at the dock (one 18-inch, four 12-inch, one 8-inch, and one 6-inch); and a total storage capacity of 1,263,000 barrels (Board of Harbor Commissioners, 1931).

Aerial Photo of Berth 238-239 (1957)

In 1945, General Petroleum erected a rack and catwalk for tank-car unloading at Berth 238 for $6500 (LAT, May 6, 1945). The total number of pipelines and storage capacity remained the same from 1931 to 1951 (Board of Harbor Commissioners, 1951). By 1952, over 30 millions barrels of oil were shipped from the General Petroleum terminal (Board of Harbor Commissioners, 1952).

General Petroleum eventually became part of Mobil Oil, which was formed in 1960, and merged with Exxon in 1999 to become ExxonMobil. ExxonMobil currently operates the facilities at Berths 238-239.

Description

Located to the east of Wharf Street, Berths 238-239 are two separate concrete wharves each approximately 225 feet long by 30 feet wide. Plans for these wharves, designed by the engineering department of the General Petroleum Corporation, are dated March 12, 1925. The wharves are supported by asphalt impregnated and reinforced concrete pilings that are square in plan, although many of the pilings on Berth 239 in particular have been encased in concrete to provide additional strength, giving them a wider circular plan. Each wharf can be approached by two concrete ramps constructed in the same manner at the wharves. The decking on both wharves and the ramps is concrete with exposed aggregate, with evidence of more recent concrete patches. Recently constructed concrete bullrails are located along the waterside of the wharves, and painted iron cleats are interspersed along the bullrails at regular intervals. The fendering system

along the length of both wharves consists of newer wood piles and rubber blocks. A steel hose tower is located near the southern end of Berth 239 which supports numerous steel pipes and rubber hoses. The tower assembly and piping system appears to have been constructed in the 1960s. Both berths contain one corrugated steel dock house each with a shed roof, aluminum sliding windows, and a steel door. The dock houses also appear to have been added in the 1960s. The seawall opposite Berth 239 is constructed of horizontal board-formed concrete, and appears to be in original condition, while the seawall opposite Berth 238 has generally the same dimensions but has been covered in newer concrete. Evidence of the location of former oil pipelines leading from the land to the water is apparent in the Berth 239 seawall, but these openings have been sealed off with brick and concrete. One square, concrete breasting dolphins was added to the northern end of Berth 238, while a similar dolphin was added to the southern end of Berth 239, which essentially lengthened each berth by about 75 feet. Both dolphins are accessed from the berths by wood frame walkways. Engineering plans from the Port of LA Engineering Division date the construction of the dolphins to 1963.

Two timber pile wharves, Berths 240A and 240B, are located immediately west of and parallel to Wharf Street. These timber wharves are each about 230 feet by 40 feet wide, and are accessed by two ramps each. Constructed on top of Berth 240A is a large, wood framed warehouse about 160 feet long by 60 feet wide with a gable roof and wood siding. Aerial photos of this facility in 1925 show one long timber wharf with a large, gable-roofed transit shed, which by 1957, had been replaced by two smaller timber wharfs (Berths 240A and B) and a transit shed atop Berth 240B.

The tank farm is encircled by a spill containment wall about 25 feet high. The wall is constructed of horizontal board formed concrete which is angled inward slightly. The walls divide the tank farm into approximately seven sections. The tank farm consists of 19 tanks clustered to the northeast of Berth 238. Tanks are mostly riveted and welded steel construction, most of which are about 40 feet high and about 120 feet in diameter. Most of the tanks date to the mid-1920s and early 1930s, except for one which was added in the 1990s, according to the facility operator.[2] Many of them appear altered with newer aluminum insulation siding and new roofs covered by geodomes which were added in the 1980s and 1990s to reduce emissions. A pipe valve field is located to the south and east of the tank farm, consisting of numerous painted steel valve wheels. Located to the southeast of the tank farm is a single-story control house with a rectangular plan, flat roof, and painted concrete block walls with a roman brick base. The building is about 35 feet by 45 feet in dimension. The north-facing elevation of this building has a series of large observatory windows consisting of fixed panes set in aluminum frames. Doors are steel. The control house appears to have been constructed in the early 1960s.

According to plans dated to 2007 from the Port of LA Engineering Division, numerous repairs occurred to Berth 238, including piling replacement, repair of the seawall, abandonment of the northern dolphin, fender system rehabilitation, sealing of topside deck surfaces, and installation of containment berms. Plans also indicate that repairs to the fendering system to Berth 239 was also completed at this same time.

2 Personal communication, Steve Brett, ExxonMobile, with Brad Brewster, ESA, December 9, 2010.

Evaluation

Berths 238-239 have been used continuously for the transshipment of oil since their original construction in the mid-1920s by the General Petroleum Corporation. The former General Petroleum Corporation facility is one of a few remaining oil terminals constructed at the Port of Los Angeles during the oil boom of the 1920s, a period which helped to establish the city as a major economic force in the region. As such, these berths may be eligible for listing in the NRHP Criteria A at the local level. However, while the original 1920s-era concrete wharf structures are generally intact, they have undergone various alterations over the years which have reduced their integrity. Changes which occurred in the 1960s, outside the facility's period of significance, include a newer tower assembly and piping system on Berth 239, two aluminum-clad dock houses (one on each wharf), and the addition of large, concrete breasting dolphins which essentially lengthened both wharves by about 75 feet each to accommodate larger ships. More recent changes include the encasement of the original square concrete pilings on Berth 239 with a wider, circular form, newer concrete bullrails along the waterside of both wharves, a newer fendering system along the length of both wharves consisting of replacement wood piles and rubber blocks, and alterations to the concrete seawall opposite Berth 238. Other changes to the setting have also occurred outside of this facility's period of significance, including alterations of many of the tanks with newer aluminum insulation siding and new roofs covered by geodomes which were added in the 1980s and 1990s. Other changes included the removal of a number of smaller facilities and three free-standing tanks just south of the tank farm (in the location of today's valve field), as well as the addition of a modern control house in the early 1960s. Alterations to adjacent Berths 240A and B are also apparent by 1957. The cumulative effect of these changes has resulted in a facility which looks significantly different from the one which operated in this location from the mid-1920s to 1950.

The wharves at Berths 238-239 would need to be evaluated as contributors to a terminal district to be considered eligible for listing in the NRHP. As described above, the integrity of the wharves at Berths 238-239 and their setting have been compromised to the extent that the facility no longer appears similar to when it was operated by the General Petroleum Corporation during the period of significance. No historical district can be formed because the integrity of materials, design, and setting has been substantially altered. Thus, the wharves at Berths 238-239 do not appear to be eligible for listing in the NRHP.

For similar reasons as described above, the wharves at Berths 238-239 to not appear eligible for listing in the CRHR, or as a City Monument.

5. Conclusions and Recommendations

Based on an intensive-level survey and evaluation, Berths 118-120, 148-149, 187-191, and 238-239 do not appear eligible for listing in the NRHP, CRHR, or as City Monuments due to a lack of historical significance, or a lack of physical integrity resulting from alterations which occurred to these facilities outside of the period of significance.

As none of these facilities are considered historic resources per federal, state, or local criteria, any changes that would occur to these facilities as a result of the proposed MOTEMS project would have no impact to historic resources. No project design changes for these berths are recommended.

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_____ 1922

_____ 1923

_____ 1924

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APPENDIX A
Site Record Forms

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code

Other Listings
Review Code | Reviewer | Date

 ***Resource Name or #:** Port of Los Angeles, Berths 118-120

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** ; M.D. **B.M.**

c. Address: City: Zip:

d. UTM: Zone: 10 ; mE/ mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

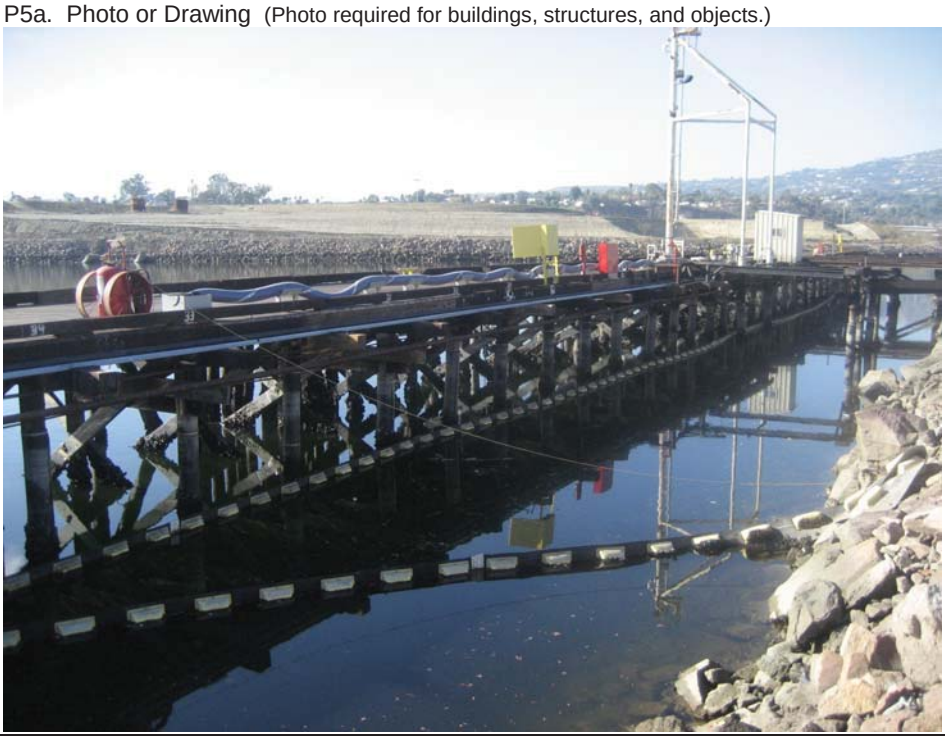
Berths 118-119 consists of a continuous timber wharf approximately 820 feet long by 20 feet wide and about 15 feet above the water line. The deck and piles are of timber construction. The fendering system also consists of timber piles. Many of the timber piles are wrapped in PVC plastic. Most of the decking appears to be original, although welded steel plates cover the decking in the vicinity of the pipe, valve, and hoist machinery. Wood bullrails are located along the outer edges of both wharves, interspersed with iron cleats located at regular intervals. Four approach ramps constructed of similar timber piles and decking as the wharves connect this structure with the land.

Located about 150 feet northeast from Berth 119 is the wharf at Berth 120. This structure is 400 feet long and 20 feet wide, and is constructed of identical materials as Berths 118-119, although it is more dilapidated. Four, small, corrugated metal dock houses are located on Berth 120, as are a number of steel cranes. A number of structures are located on the landside or 'backlands' portion of Berths 118-120. Located immediately to the north of the Berth 119 is a small valve house with a rectangular plan, gable roof, and corrugated metal siding and roofing. Windows are metal sash. Located further to the north of Berth 119 is a large tank farm consisting of 12 steel tanks encircled by a spill containment wall. The wall is made of horizontal board-formed (see continuation form)

***P3b. Resource Attributes:** (List attributes and codes) HP 11 Engineering Structure, HP 4 Ancillary Building

***P4. Resources Present:** ■Building ■Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #)
Looking southeast 12/9/10

***P6. Date Constructed/Age and Sources:** ■Historic ☐Prehistoric ☐Both
1923

***P7. Owner and Address:**
Port of Los Angeles
425 Palos Verdes Street
San Pedro, CA 90733

***P8. Recorded by:** (Name, affiliation, and address)

Brad Brewster, ESA
225 Bush Street, Suite 1700
San Francisco, CA 94110

***P9. Date Recorded:** 12/4/09

***P10. Survey Type:** (Describe)
Intensive

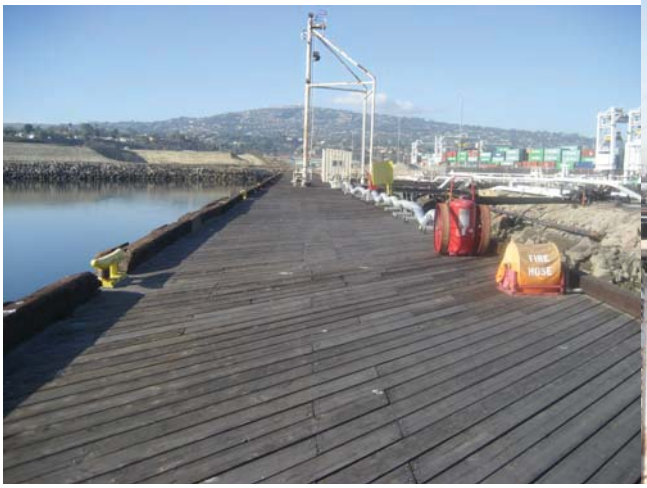
***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")

ESA. *Historic Resources Evaluation Report for Berths 118-120, 148-149, 187-191, and 238-239. Port of Los Angeles.* 2010.

***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):

reinforced concrete about 15 feet tall and about 1 foot thick. The tanks are a combination of welded and riveted steel, range in size from about 25 feet to 135 feet in diameter, and are about 40 to 50 feet tall. Three of the tanks are topped with newer steel geodomes, and some of them are wrapped in corrugated aluminum insulation. A cluster of six smaller tanks are located immediately north of Berth 118, which are also encircled by a spill containment wall.

Other structures include an office building, a pump house, heater units, a storage facility, an offload black-product rack, and an offload clean-product rack. The administration building is a one-story wood frame structure with stucco siding, a hip roof, and 1/1 woodframe windows. This building appears to date to the mid-1920s. The interior of the building appears to be highly altered. A concrete block warehouse with a flat roof and roll-up style doors was added to the rear of the administration building. This addition appears to date to the mid-1950s.



Berth 118

Berth 120

Tank Farm

Office Building

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code** 6Z

***Resource Name or #** (Assigned by recorder) Port of Los Angeles, Berths 118-120

B1. Historic Name: Berths 118-120
B2. Common Name:
B3. Original Use: Transshipment of oil
B4. Present Use: Transshipment of oil
***B5. Architectural Style:** Utilitarian
***B6. Construction History:** (Construction date, alterations, and date of alterations)

(see continuation sheet)

***B7. Moved?** ■No ☐Yes ☐Unknown **Date:** **Original Location:**
***B8. Related Features:**

B9a. Architect: Associated Oil Company
b. Builder: Los Angeles Harbor Department
***B10. Significance: Theme:** Transshipment of oil
Area: Los Angeles, CA
Period of Significance: 1920 – 1950 **Property Type:** Wharves **Applicable Criteria:** N/A
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Many of the structures affiliated with Associated Oil and Tidewater Associated Oil were demolished after a fire occurred in the 1950s. The tank farm and other existing buildings were constructed after that period and are associated with Time Oil (which leased the site as early as 1957), Westoil, (which arrived in 1974), GATX, or Kinder Morgan (the current occupant). The remaining elements of the oil terminal from the 1920s include the wharves at Berths 119-120, the administration building (altered), and a small valve house. The 1950s fire destroyed tanks built in the early part of the century, resulting in the construction of new storage facilities and other buildings at the site circa 1955. While these newly constructed tanks and other buildings are now more than 50 years old as of 2009, they were built outside of the period of significance (1920 – 1950) and do not appear to retain historical significance on an individual basis or as a grouping of facilities. Lacking historical significance, the buildings and structures at Berths 118-120 do not appear to be eligible for listing in the NRHP.

The wharves located at Berths 118-120 also do not appear to meet the criteria for listing in the NRHP. Originally constructed in 1922 as a component of an oil terminal, the wharves would need to be evaluated as contributors to a terminal district to be considered eligible for listing in the NRHP. The integrity of setting at Berths 118-120 has been compromised because many of the many buildings and structures at the terminal have been constructed outside of the period of significance, as discussed above. No historical district can be formed because integrity of setting has been compromised. Thus, the wharves at Berths 118-120 do not appear to be eligible for listing in the NRHP. For similar reasons, the wharves at Berths 118-120 do not appear to be eligible for listing in the California Register or as a City of Los Angeles historical or cultural monument.

B11. Additional Resource Attributes: (List attributes and codes) HP 11 Engineering Structure, HP 4 Ancillary Building

***B12. References:**

See References in evaluation report.

B13. Remarks:

***B14. Evaluator:** Brad Brewster, ESA
225 Bush Street, Suite 1700
San Francisco, CA 94110
***Date of Evaluation:** December, 2009

(Sketch Map with north arrow required.)

(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

Other Listings
Review Code | Reviewer | Date

***Resource Name or #:** Port of Los Angeles, Berths 148-149

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** ; M.D. **B.M.**

c. Address: City: Zip:

d. UTM: Zone: 10 ; mE/ mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The wharf at Berths 148-149 measures approximately 600 feet long by 35 feet wide, and stands approximately 15 high above the waterline. It features concrete construction throughout, including the deck. Concrete vehicular access ramps extend from the land to the wharf at two points. Two pedestrian-scale steel ramps or gangways also extend to the wharf. Wood bullrails are located along the outer edge of the wharf, interspersed with iron cleats located at regular intervals. The fendering system consists of timber piles and rubber blocks. Located on Berth 149 is a small metal frame dock house with a corrugated shed roof and metal sash windows. Also located on Berth 149 are numerous pipe manifolds, hoses, cranes, a steel joist, and a boom. Other steel pipes supported by concrete piles and beams run parallel to the wharf, between it and the land. These pipes transport oil and other petroleum products from the wharf to the nearby tanks and to the refinery in Wilmington. The wharf at Berth 148 was constructed in 1930 and reconstructed as a concrete wharf in 1955, the same year the wharf at Berth 149 was constructed. Located to the northeast of Berths 148-149 are a number of facilities, including the west end tank farm. The tank farm consists of approximately 9 welded steel storage tanks, accessed by metal stairs. Some tanks feature corrugated aluminum insulated siding to keep heavy oils viscous and easier to pump. Other tanks are topped with steel geodomes. The structures vary in diameter and are generally 40-50 feet in height. The tank farm is encircled by a spill containment wall about 15 feet in height.

***P3b. Resource Attributes:** (List attributes and codes) HP 11 Engineering Structure, HP 4 Ancillary Building

***P4. Resources Present:** ■Building ■Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, date, accession #)
Berth 148-149 looking west. 12/09/09

***P6. Date Constructed/Age and Sources:** ■Historic ☐Prehistoric ☐Both
1955

***P7. Owner and Address:**
Port of Los Angeles
425 Palos Verdes Street
San Pedro, CA 90733

***P8. Recorded by:** (Name, affiliation, and address)
Brad Brewster, ESA
225 Bush Street, Suite 1700
San Francisco, CA 94110

***P9. Date Recorded:** 12/4/09

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
ESA. *Historic Resources Evaluation Report for Berths 118-120, 148-149, 187-191, and 238-239. Port of Los Angeles*. 2010.

***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):

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code** 6Z.

***Resource Name or #** (Assigned by recorder) Port of Los Angeles, Berths 148-149

B1. Historic Name: Berths 148-149
B2. Common Name:
B3. Original Use: Transshipment of oil
B4. Present Use: Transshipment of oil
***B5. Architectural Style:** Utilitarian
***B6. Construction History:** (Construction date, alterations, and date of alterations)

Original Berth 149 constructed in 1931, demolished and rebuilt at 148-149 in 1955.

***B7. Moved?** ■No ☐Yes ☐Unknown **Date:** **Original Location:**
***B8. Related Features:**

B9a. Architect: Los Angeles Harbor Engineer's Office
b. Builder: Los Angeles Harbor Department
***B10. Significance: Theme:** Transshipment of oil **Area:** Los Angeles, CA
Period of Significance: 1920 – 1950 **Property Type:** Wharves **Applicable Criteria:** N/A
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Berths 148-149. The facility located at Berths 148-149 was constructed in 1955, after the period of significance (1920-1950). This development replaced an earlier and smaller timber wharf with a larger and more modern concrete wharf. An entirely new tank farm (the west-end tank farm) was also constructed at this time, as was the dock house, the substation, and gate house. By the 1950s the use of the Port of Los Angeles for the transshipment and storage of oil had been well established and had reached a mature state. While the facility at Berths 148-149 expanded Union Oil's existing production capabilities, it does not appear to retain historical significance on an individual basis or as a grouping of related facilities. Lacking historical significance, the buildings and structures at Berths 148-149 do not appear to be eligible for listing in the NRHP. For similar reasons, the buildings and structures at Berths 148-149 do not appear to be eligible for listing in the California Register or as a City of Los Angeles historical or cultural monument.

B11. Additional Resource Attributes: (List attributes and codes) HP 11 Engineering Structure, HP 4 Ancillary Building

***B12. References:**

See References in evaluation report.

B13. Remarks:

***B14. Evaluator:** Brad Brewster, ESA
225 Bush Street, Suite 1700
San Francisco, CA 94110
***Date of Evaluation:** December, 2009

(Sketch Map with north arrow required.)

(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
Other Listings
Review Code | Reviewer | Date

 ***Resource Name or #:** Port of Los Angeles, Berths 187-191

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** ; M.D. **B.M.**
c. Address: City: Zip:
d. UTM: Zone: 10 ; mE/ mN (G.P.S.)
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Berths 187-191 consist of four continuous wharves located just west of, and parallel to, Canal Street in Los Angeles Harbor's East Basin. Berths 187-190 run north-south, while Berth 191 runs at an angle from northeast to southwest. Berths 190 and 191 meet at point at the southernmost end of the facility. The wharves at berths 187-189 are constructed of reinforced concrete pilings with concrete decking. They are approximately 50 wide and 1,150 feet long in total length. The outer edge of the decking consists concrete bullrails about 1 foot high, interspersed with iron cleats located at regular intervals along both wharves. The fendering system consists of wood pilings with rubber blocks. Unlike other oil terminals at the Port of LA, no open water exists between the wharves and the backlands. The backlands to the east of the wharves are entirely paved and fenced. A steel pipe bridge located at berth 188 contains pipes and pipe valves. Other machinery in the area includes manifolds and a steel crane.

The wharves at berths 190-191 are constructed of timber pilings and wood decking covered by asphalt. Berth 190 is about 750 feet long (as determined by the length of the asphalt decking) and about 50 feet wide. Berth 191 is about 500 feet long and about 50 feet wide. Wood bullrails are located along the entire length of the outer edge of both wharves, interspersed with iron cleats located at regular intervals. The fendering system consists of wood pilings connected by wood chucks. Two rows of railroad tracks are embedded in the asphalt decking of berth 190. The separation between Berth 190 and 189 and 191 is evident by a clear break in
(see continuation sheet)

***P3b. Resource Attributes:** (List attributes and codes) HP 11 Engineering Structure, HP 4 Ancillary Building
***P4. Resources Present:** ■Building ■Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, date, accession #)
Looking northeast on Berth 191 12/9/10

***P6. Date Constructed/Age and Sources:** ■Historic ☐Prehistoric ☐Both
1922

***P7. Owner and Address:**
Port of Los Angeles
425 Palos Verdes Street
San Pedro, CA 90733

***P8. Recorded by:** (Name, affiliation, and address)
Brad Brewster, ESA
225 Bush Street, Suite 1700
San Francisco, CA 94110

***P9. Date Recorded:** 12/4/09

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
ESA. *Historic Resources Evaluation Report for Berths 118-120, 148-149, 187-191, and 238-239. Port of Los Angeles*. 2010.

***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):

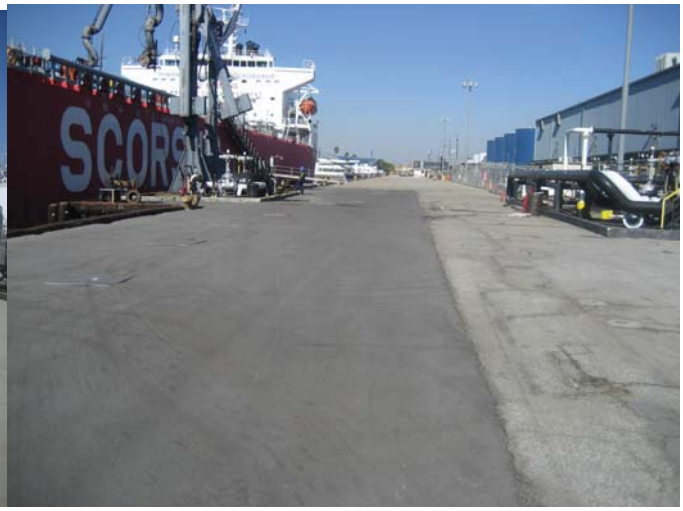
the railroad tracks. The decking on Berth 191 consists of recently-applied asphalt with painted lanes, and the wood bull rails appear to be of relatively recent vintage. According to the Port, approximately 20 original timber piles on Berth 191 were replaced with new timber piles within the last six months. The entire backlands area of Berths 191 is open and paved.

Buildings in the vicinity include a two story office building which is located at the northern end of Berth 187. The office building, about 200 feet long by about 70 feet wide, is rectangular in plan with a flat roof, and consists of horizontal board-formed poured concrete and concrete block construction. Ribbon windows are located on the eastern and western elevation, and consist of awning-type units made with metal sashes. Other windows are aluminum sliders. The office was originally a warehouse in the 1920s, but converted into an office building in the 1950s, which is evidenced by the concrete block infill of many original openings and the installation of the ribbon windows.

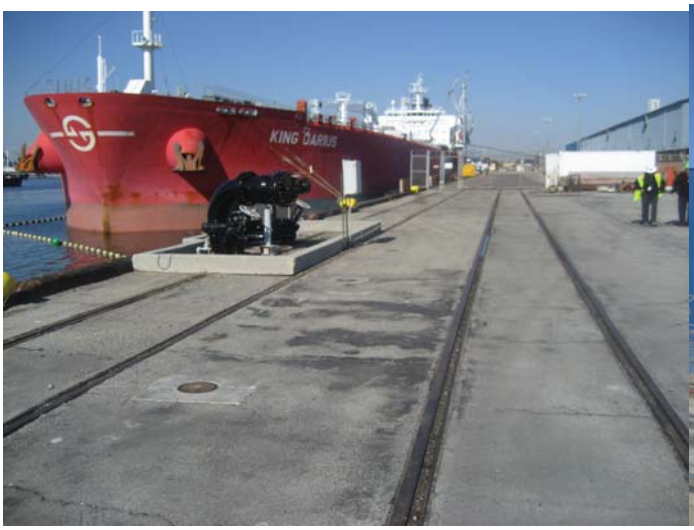
Other structures at Berths 187-191 include a large, two story cement warehouse toward the southern end of the facility near Berth 190 – 191. This building, about 460 feet long by about 200 feet wide, has an irregular plan, a shallow gable roof, and is clad in corrugated metal siding. Plans indicate this warehouse was constructed in the mid-1980s. At the southern end of this structure is a large, moveable piece of steel machinery called a Kovaco Pump which is used to suction powdered cement from ships and transport it to and from the warehouse. The pump runs along the length of Berth 191.

Other structures in the vicinity include a series of about 15 welded steel tanks each about 50 feet high. These tanks are located parallel to Berths 187-189 and west of Canal Street. Most of the tanks are about 40 feet in diameter, while two are about 60 feet in diameter. Other structures on the wharves include a small, corrugated metal operator's office (dock house) located at Berth 187, and a small, stucco-clad restroom structure located at Berth 189. Both the dock house and the restroom structure appear to have been constructed in the 1970s.

Berth 188



Berth 189



Berth 190

Tank Farm By Berth 188


Office Building by Berth 187


Cement Warehouse by Berth 190-191

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code** 6Z

***Resource Name or #** (Assigned by recorder) Port of Los Angeles, Berths 187-191

B1. Historic Name: Berths 187-191
B2. Common Name: Same
B3. Original Use: Transshipment of food oil and mail
B4. Present Use: Transshipment of chemicals, vegetable oils, and liquefied gases
***B5. Architectural Style:** Utilitarian
***B6. Construction History:** (Construction date, alterations, and date of alterations)

***B7. Moved?** ■No ☐Yes ☐Unknown **Date:** **Original Location:**
***B8. Related Features:**

B9a. Architect: Los Angeles Harbor Engineer's Office
b. Builder: Los Angeles Harbor Department
***B10. Significance: Theme:** Transshipment of food oils and mail
Area: Los Angeles, CA
Period of Significance: N/A **Property Type:** N/A **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 facilities at Berths 187-191 were originally built in the early 1920s for the Vegetable Oil Products Company and the Pacific Mail Steamship Company, which operated two large sheds located atop the wharves. Numerous railroad tracks once encircled theses facilities. Although the original concrete wharf structures are generally intact, the sheds were demolished and replaced with newer warehouse facilities in the 1980s. The majority of railroad tracks, as well as the railroad turntable at the intersection of Berths 190-191, were also removed around this same time. The decking, fendering system, and some of the pilings have also undergone various alterations over the years. The transshipment of food oils and mail were secondary, rather than primary, activities of the Port which were relatively short-lived. As such, these activities do not have a separate period of significance nor do they share the historical theme of petroleum transshipment as do the other terminals evaluated in this report.

The wharves at Berths 187-191 would need to be evaluated as contributors to a terminal district to be considered eligible for listing in the NRHP. As described above, the wharves at Berths 187-191 are not strongly associated with important historical themes at the Port, and their integrity has been compromised because all of the original terminal sheds have been demolished and replaced by newer facilities. No historical district can be formed due to a lack of important historical associations and reduced physical integrity. Thus, the wharves at Berths 187-191 do not appear to be eligible for listing in the NRHP. For similar reasons, the wharves at Berths 187-191 do not appear to be eligible for listing in the California Register or as a City of Los Angeles historical or cultural monument.

B11. Additional Resource Attributes: (List attributes and codes) HP 11 Engineering Structure, HP 4 Ancillary Building

***B12. References:**

See References in evaluation report.

B13. Remarks:

***B14. Evaluator:** Brad Brewster, ESA
225 Bush Street, Suite 1700
San Francisco, CA 94110
***Date of Evaluation:** December, 2009

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code

Other Listings
Review Code | Reviewer | Date

 ***Resource Name or #:** Port of Los Angeles, Berths 238-239

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** ; M.D. **B.M.**

c. Address: City: Zip:

d. UTM: Zone: 10 ; mE/ mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

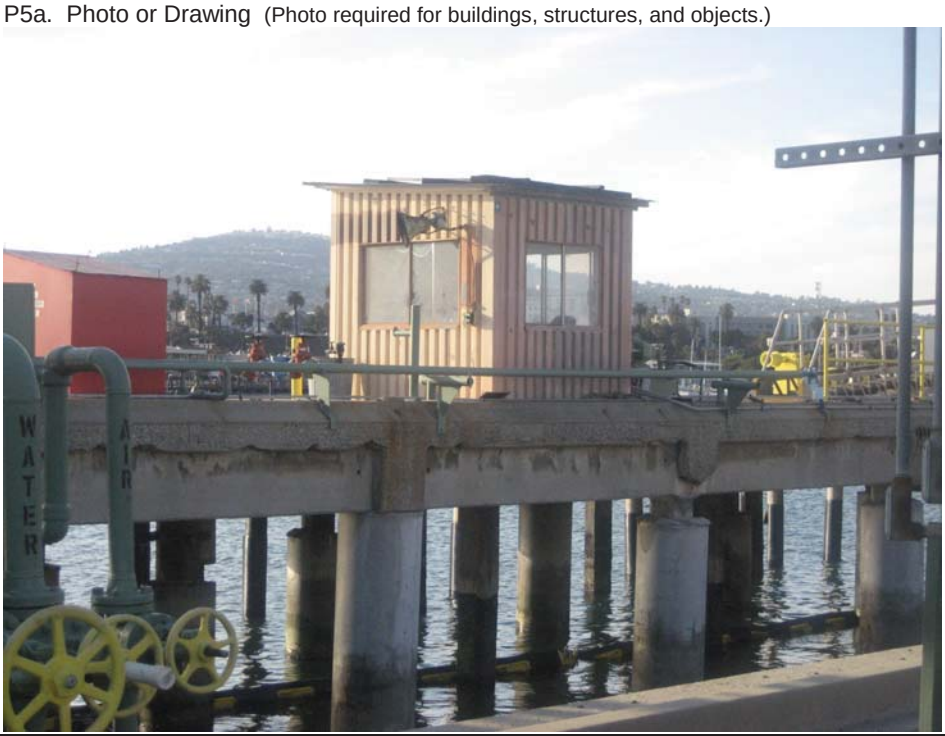
Located to the east of Wharf Street, Berths 238-239 are two separate concrete wharves each approximately 225 feet long by 30 feet wide. Plans for these wharves, designed by the engineering department of the General Petroleum Corporation, are dated March 12, 1925. The wharves are supported by asphalt impregnated and reinforced concrete pilings that are square in plan, although many of the pilings on Berth 239 in particular have been encased in concrete to provide additional strength, giving them a wider circular plan. Each wharf can be approached by two concrete ramps constructed in the same manner at the wharves. The decking on both wharves and the ramps is concrete with exposed aggregate, with evidence of more recent concrete patches. Recently constructed concrete bullrails are located along the waterside of the wharves, and painted iron cleats are interspersed along the bullrails at regular intervals. The fendering system along the length of both wharves consists of newer wood piles and rubber blocks. A steel hose tower is located near the southern end of Berth 239 which supports numerous steel pipes and rubber hoses. The tower assembly and piping system appears to have been constructed in the 1960s. Both berths contain one corrugated steel dock house each with a shed roof, aluminum sliding windows, and a steel door. The dock houses also appear to have been added in the 1960s. The seawall opposite Berth 239 is constructed of horizontal board-formed concrete, and appears to be in original condition, while the seawall opposite Berth 238 has generally the same dimensions but has been covered in newer concrete. Evidence of the location of former oil pipelines leading from the land to the water is apparent in the Berth 239 seawall, but these

(see continuation sheet)

***P3b. Resource Attributes:** (List attributes and codes) HP 11 Engineering Structure, HP 4 Ancillary Building

***P4. Resources Present:** ■Building ■Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #)
Looking northwest at Berth 238. 12/9/10

***P6. Date Constructed/Age and Sources:** ■Historic ☐Prehistoric ☐Both
1925

***P7. Owner and Address:**
Port of Los Angeles
425 Palos Verdes Street
San Pedro, CA 90733

***P8. Recorded by:** (Name, affiliation, and address)
Brad Brewster, ESA
225 Bush Street, Suite 1700
San Francisco, CA 94110

***P9. Date Recorded:** 12/4/09

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")

ESA. *Historic Resources Evaluation Report for Berths 118-120, 148-149, 187-191, and 238-239. Port of Los Angeles.* 2010.

***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):

openings have been sealed off with brick and concrete. One square, concrete breasting dolphin was added to the northern end of Berth 238, while a similar dolphin was added to the southern end of Berth 239, which essentially lengthened each berth by about 75 feet. Both dolphins are accessed from the berths by wood frame walkways. Engineering plans from the Port of LA Engineering Division date the construction of the dolphins to 1963.

Two timber pile wharves, Berths 240A and 240B, are located immediately west of and parallel to Wharf Street. These timber wharves are each about 230 feet by 40 feet wide, and are accessed by two ramps each. Constructed on top of Berth 240A is a large, wood framed warehouse about 160 feet long by 60 feet wide with a gable roof and wood siding. Aerial photos of this facility in 1925 show one long timber wharf with a large, gable-roofed transit shed, which by 1957, had been replaced by two smaller timber wharfs (Berths 240A and B) and a transit shed atop Berth 240B.

The tank farm is encircled by a spill containment wall about 25 feet high. The wall is constructed of horizontal board formed concrete which is angled inward slightly. The walls divide the tank farm into approximately seven sections. The tank farm consists of 19 tanks clustered to the northeast of Berth 238. Tanks are mostly riveted and welded steel construction, most of which are about 40 feet high and about 120 feet in diameter. Most of the tanks date to the mid-1920s and early 1930s, except for one which was added in the 1990s, according to the facility operator. Many of them appear altered with newer aluminum insulation siding and new roofs covered by geodomes which were added in the 1980s and 1990s to reduce emissions. A pipe valve field is located to the south and east of the tank farm, consisting of numerous painted steel valve wheels. Located to the southeast of the tank farm is a single-story control house with a rectangular plan, flat roof, and painted concrete block walls with a roman brick base. The building is about 35 feet by 45 feet in dimension. The north-facing elevation of this building has a series of large observatory windows consisting of fixed panes set in aluminum frames. Doors are steel. The control house appears to have been constructed in the early 1960s.

According to plans dated to 2007 from the Port of LA Engineering Division, numerous repairs occurred to Berth 238, including piling replacement, repair of the seawall, abandonment of the northern dolphin, fender system rehabilitation, sealing of topside deck surfaces, and installation of containment berms. Plans also indicate that repairs to the fendering system to Berth 239 was also completed at this same time.

Berth 238

Tank Farm (background) and Valve Field (foreground)

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code** 6Z

***Resource Name or #** (Assigned by recorder) Port of Los Angeles, Berths 238-239

B1. Historic Name: Berths 238-139
B2. Common Name:
B3. Original Use: Transshipment of oil
B4. Present Use: Transshipment of oil
***B5. Architectural Style:** Utilitarian
***B6. Construction History:** (Construction date, alterations, and date of alterations)

(see continuation sheet)

***B7. Moved?** ■No ☐Yes ☐Unknown **Date:** **Original Location:**
***B8. Related Features:**

B9a. Architect: Los Angeles Harbor Engineer's Office
b. Builder: Los Angeles Harbor Department
***B10. Significance: Theme:** Shipping of oil
Area: Los Angeles, CA
Period of Significance: 1920 – 1950
Property Type: Wharves
Applicable Criteria: N/A
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Berths 238-239 have been used continuously for the transshipment of oil since their original construction in the mid-1920s by the General Petroleum Corporation. The former General Petroleum Corporation facility is one of a few remaining oil terminals constructed at the Port of Los Angeles during the oil boom of the 1920s, a period which helped to establish the city as a major economic force in the region. As such, these berths may be eligible for listing in the NRHP Criteria A at the local level. However, while the original 1920s-era concrete wharf structures are generally intact, they have undergone various alterations over the years which have reduced their integrity. Changes which occurred in the 1960s, outside the facility's period of significance, include a newer tower assembly and piping system on Berth 239, two aluminum-clad dock houses (one on each wharf), and the addition of large, concrete breasting dolphins which essentially lengthened both wharves by about 75 feet each to accommodate larger ships. More recent changes include the encasement of the original square concrete pilings on Berth 239 with a wider, circular form, newer concrete bullrails along the waterside of both wharves, a newer fendering system along the length of both wharves consisting of replacement wood piles and rubber blocks, and alterations to the concrete seawall opposite Berth 238. Other changes to the setting have also occurred outside of this facility's period of significance, including alterations of many of the tanks with newer aluminum insulation siding and new roofs covered by geodomes which were added in the 1980s and 1990s. (see continuation sheet)

B11. Additional Resource Attributes: (List attributes and codes) HP 11 Engineering Structure, HP 4 Ancillary Building

***B12. References:**

See References in evaluation report.

B13. Remarks:

(Sketch Map with north arrow required.)

***B14. Evaluator:** Brad Brewster, ESA
225 Bush Street, Suite 1700
San Francisco, CA 94110
***Date of Evaluation:** December, 2009

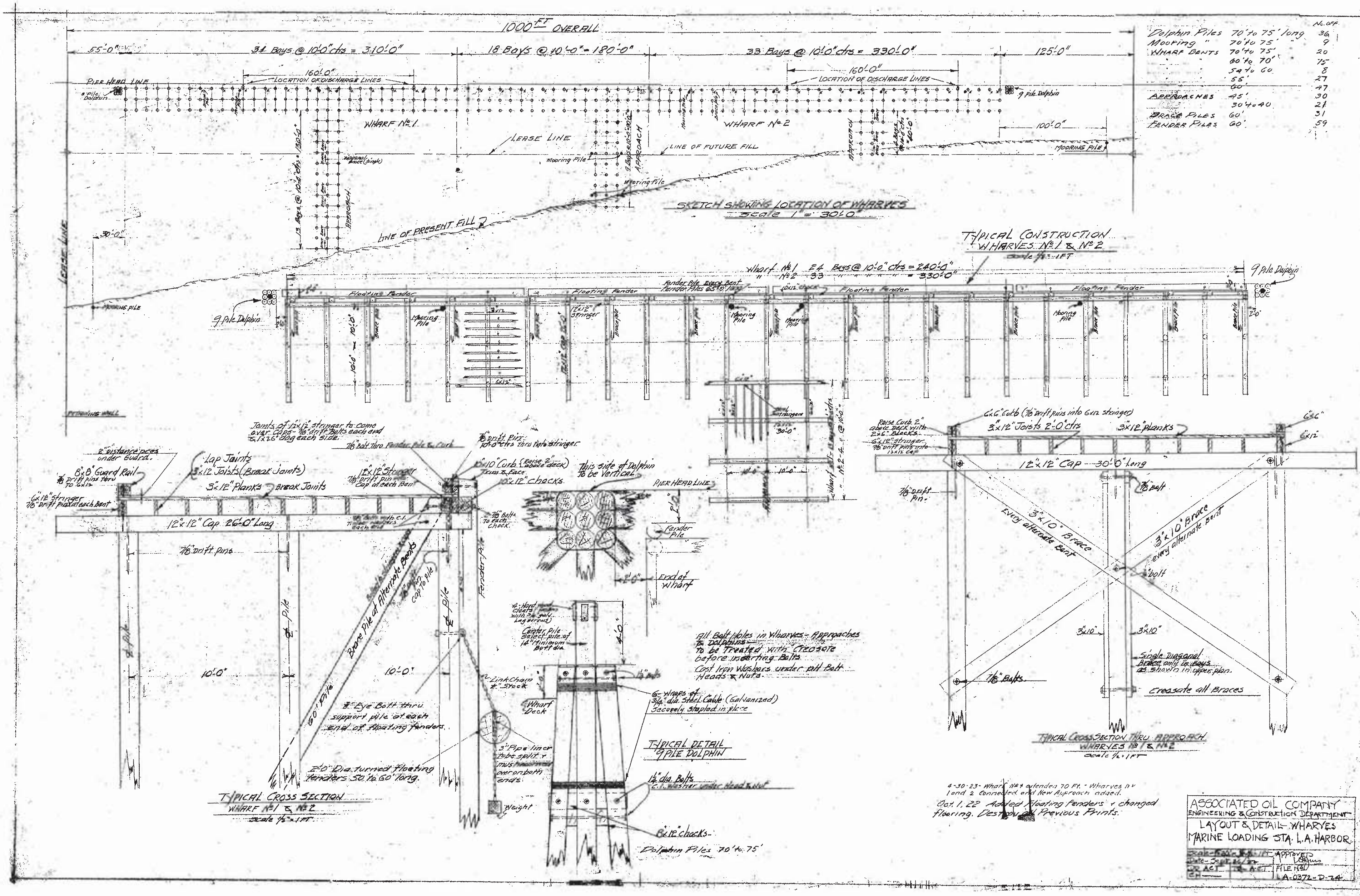
(This space reserved for official comments.)

Other changes included the removal of a number of smaller facilities and three free-standing tanks just south of the tank farm (in the location of today's valve field), as well as the addition of a modern control house in the early 1960s. Alterations to adjacent Berths 240A and B are also apparent by 1957. The cumulative effect of these changes has resulted in a facility which looks significantly different from the one which operated in this location from the mid-1920s to 1950.

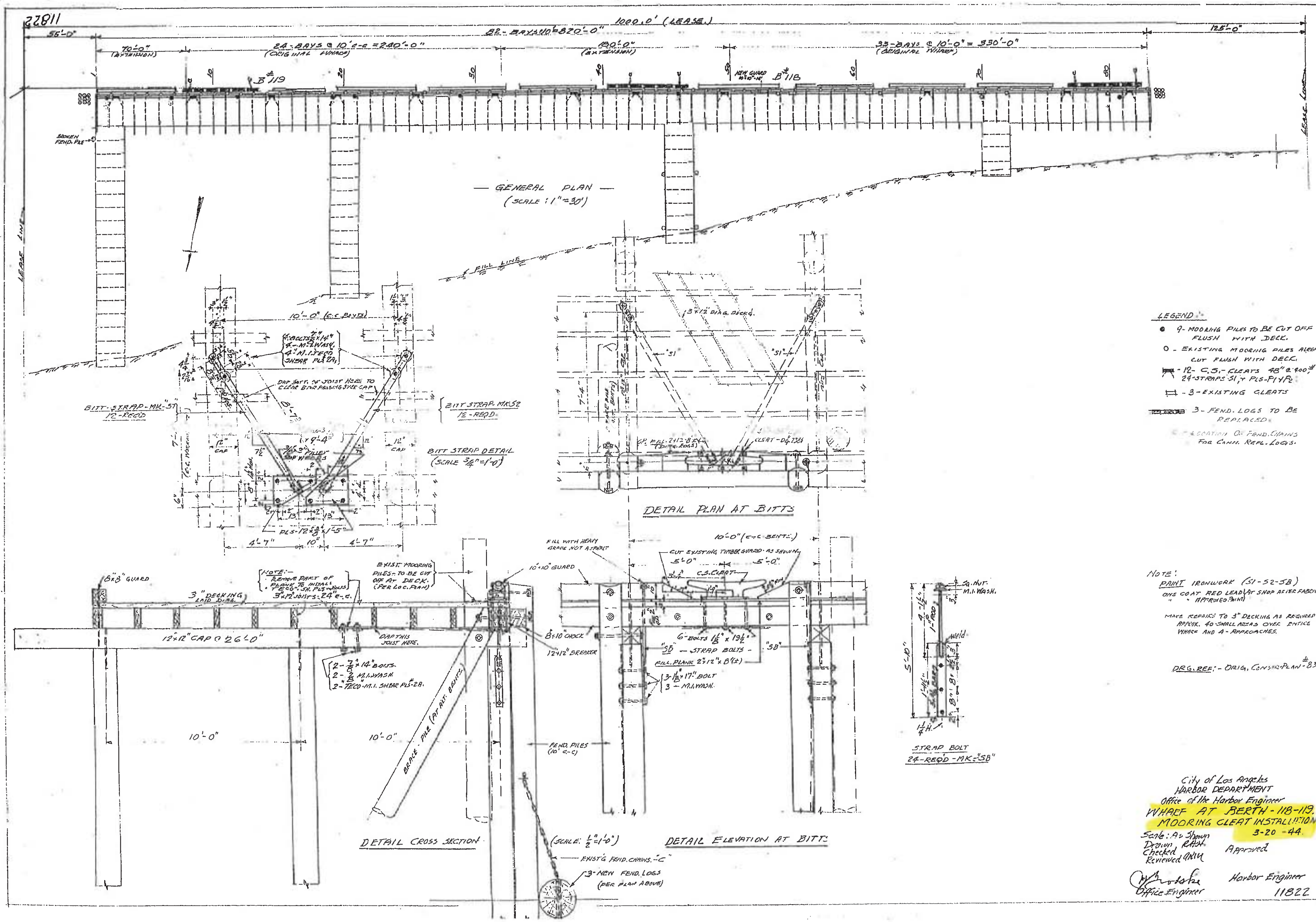
The wharves at Berths 238-239 would need to be evaluated as contributors to a terminal district to be considered eligible for listing in the NRHP. As described above, the integrity of the wharves at Berths 238-239 and their setting have been compromised to the extent that the facility no longer appears similar to when it was operated by the General Petroleum Corporation during the period of significance. No historical district can be formed because the integrity of materials, design, and setting has been substantially altered. Thus, the wharves at Berths 238-239 do not appear to be eligible for listing in the NRHP.

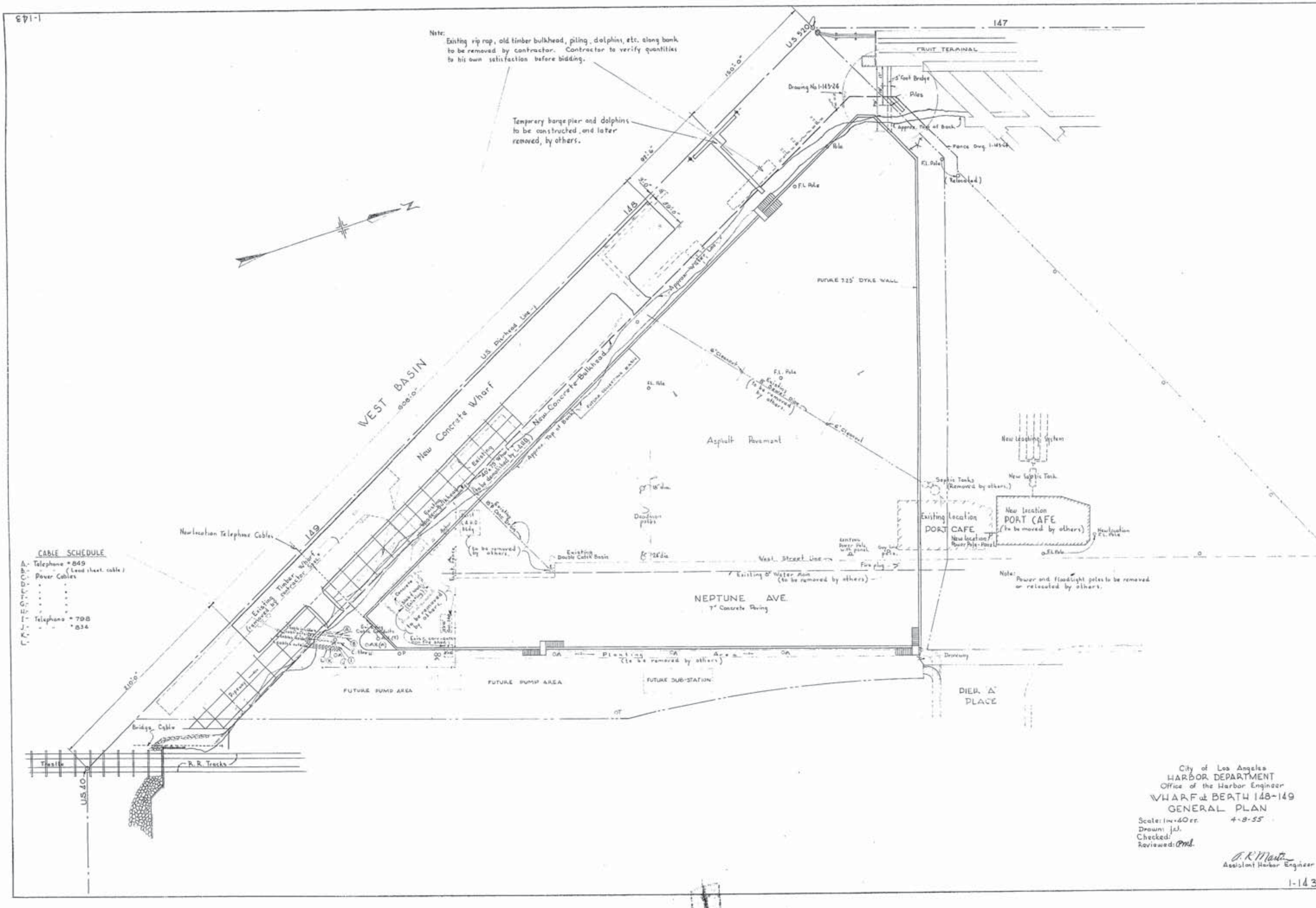
For similar reasons as described above, the wharves at Berths 238-239 to not appear eligible for listing in the CRHR, or as a City Monument.

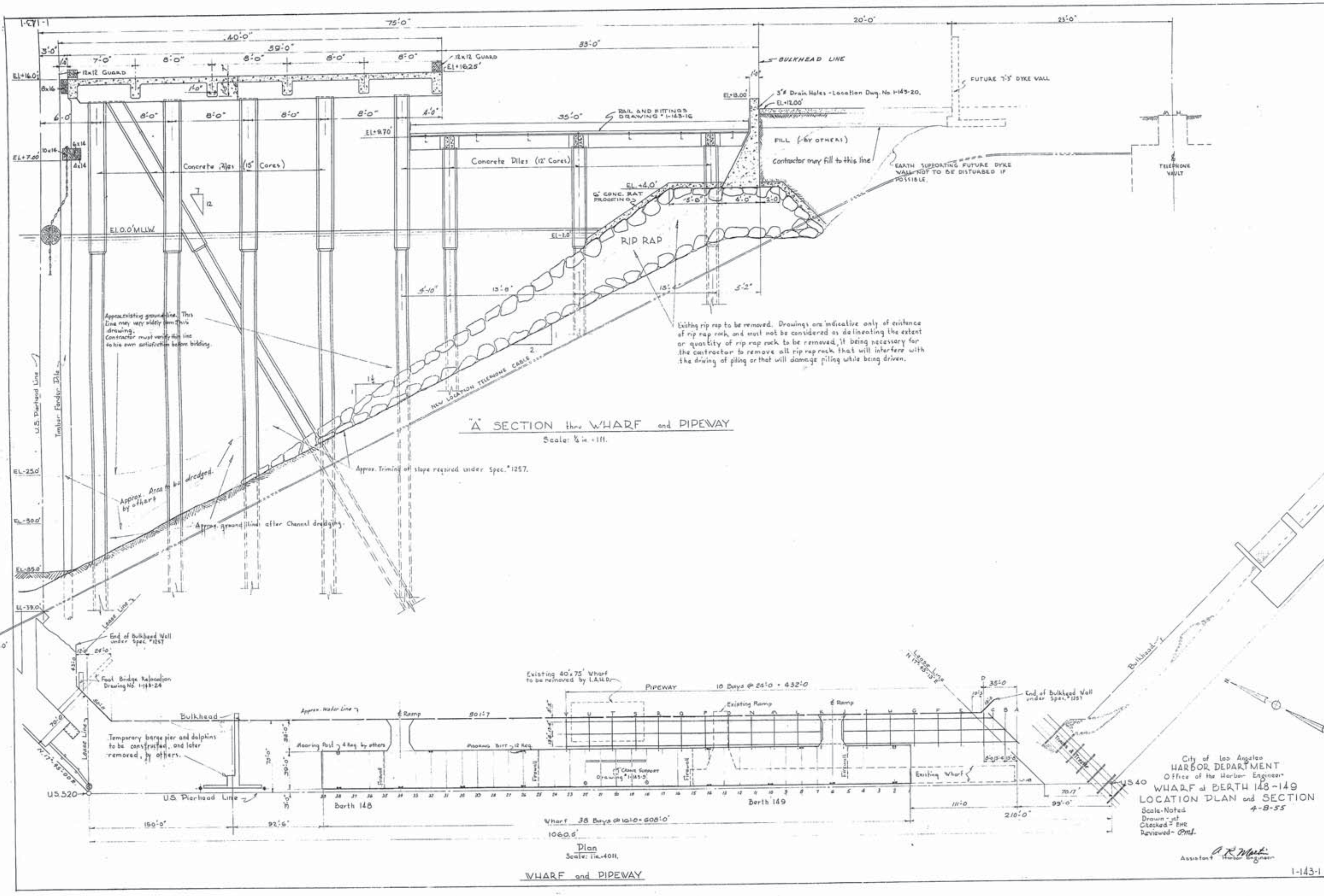
APPENDIX B
Plans and Drawings

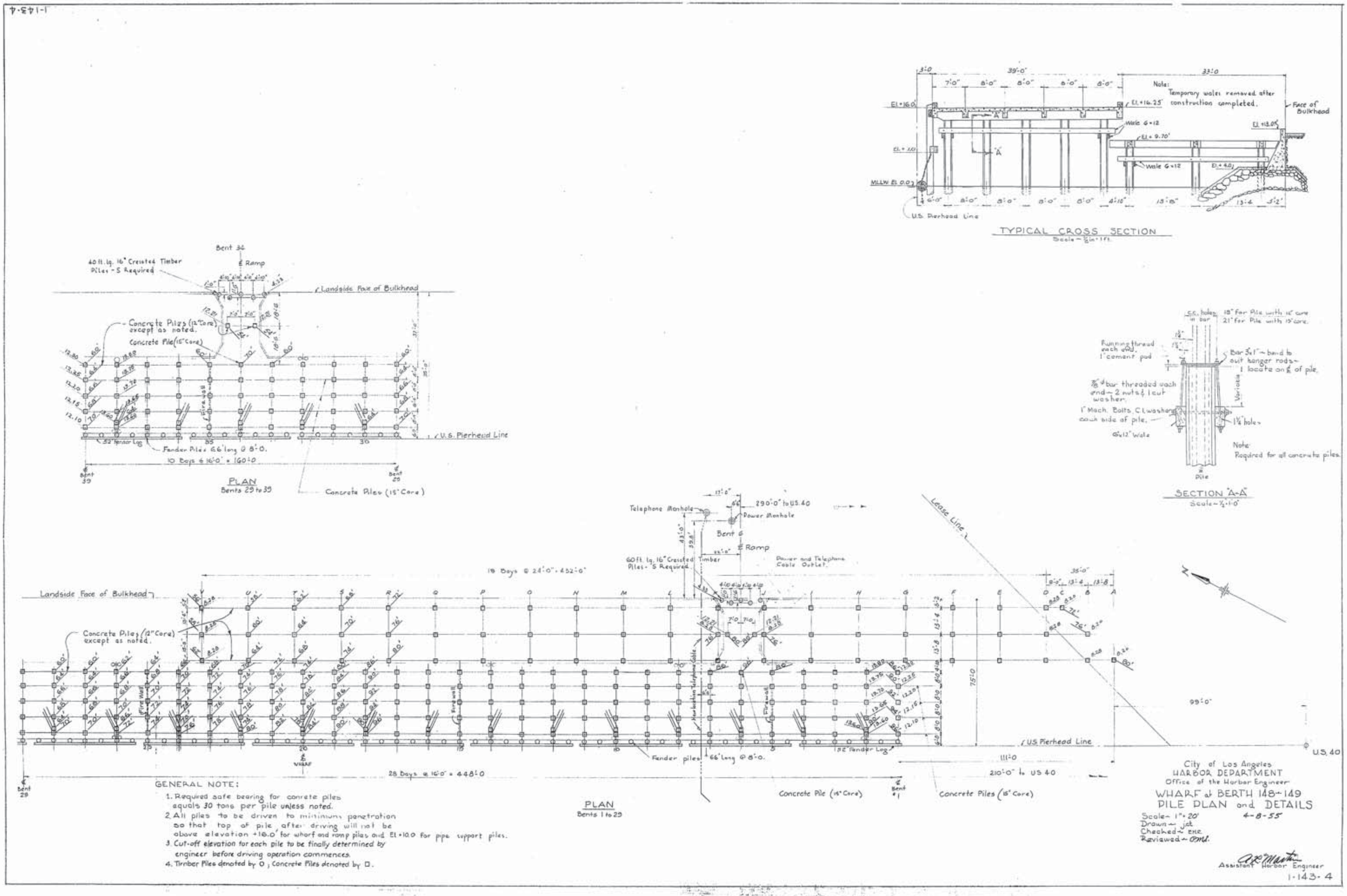


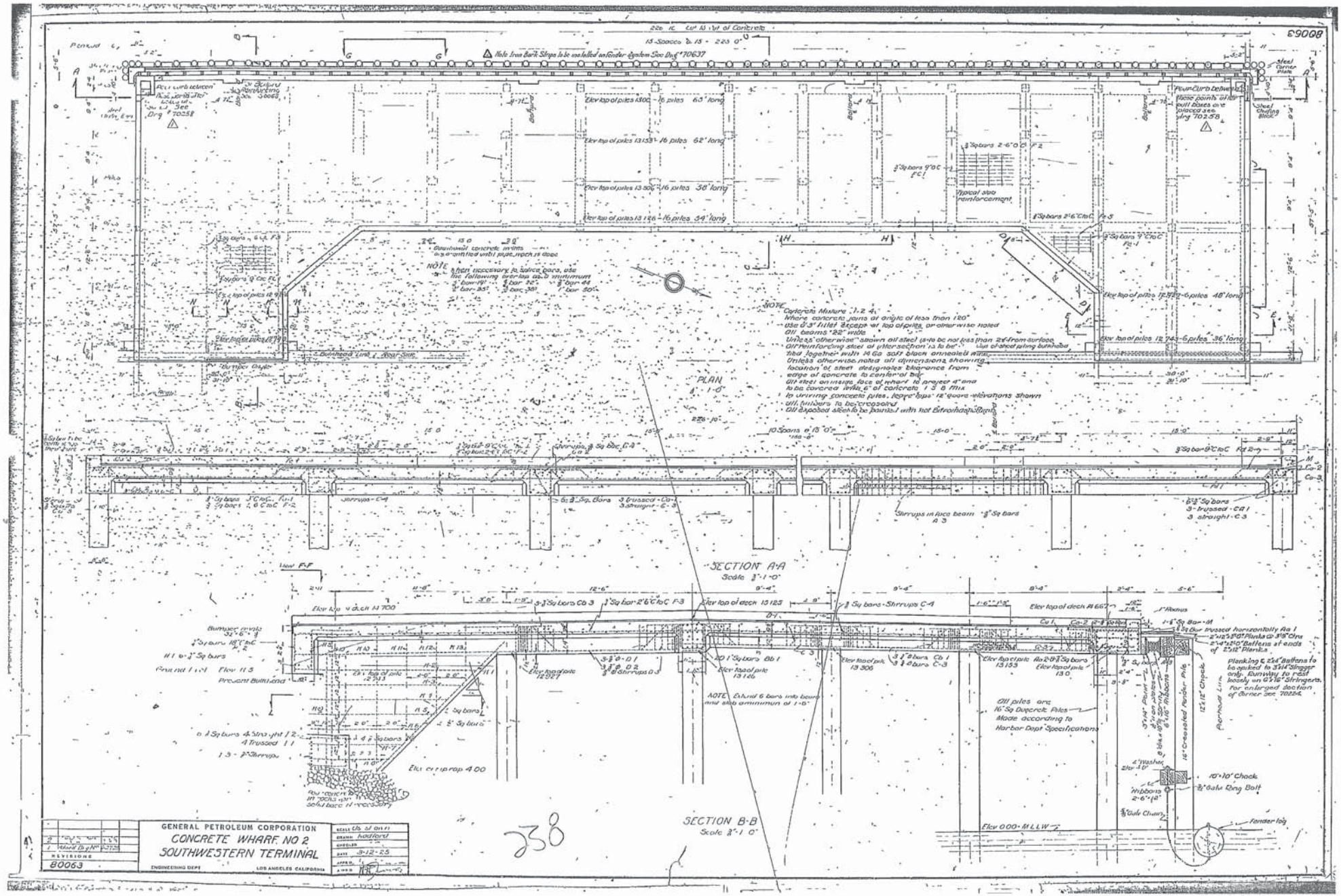
1000 FT OVERALL
55'-0"
34 Bays @ 10'-0" ctrs = 340'-0"
18 Bays @ 10'-0" = 180'-0"
33 Bays @ 10'-0" ctrs = 330'-0"
125'-0"
160'-0"
LOCATION OF DISCHARGE LINES
PIER HEAD LINE
9 Pile Dolphin
WHARF No 1
WHARF No 2
LEASE LINE
LINE OF FUTURE FILL
LINE OF PRESENT FILL
APPROACH
Mooring Pile
MOORING PILE
100'-0"
SKETCH SHOWING LOCATION OF WHARVES
Scale 1" = 30'-0"
Dolphin Piles 70' to 75' long 36
Mooring " 70' to 75' 9
Wharf Bents 70' to 75' 20
60' to 70' 75
54' to 60' 8
55' 27
60' 47
Approaches 45' 30
30' to 40' 21
Brace Piles 60' 31
Fender Piles 60' 59
TYPICAL CONSTRUCTION
WHARVES No 1 & No 2
Scale 1/8" = 1 FT
Wharf No 1 24 Bays @ 10'-0" ctrs = 240'-0"
" No 2 33 " " = 330'-0"
Floating Fender
Fender Pile Every Bent
Mooring Pile
12"x12" Stringer
LEASE LINE
TYPICAL CROSS SECTION
WHARF No 1 & No 2
Scale 1/2" = 1 FT
12"x12" Cap 26'-0" Long
3"x12" Planks
3"x12" Joists (Break Joints)
Lap Joints
8"x8" Guard Rail
6"x12" Stringer
12"x12" Stringer
10"x10" Curb
10"x12" Chocks
7/8" drift pins
Brace Pile at Alternate Bents
60' Pile
10'-0"
2'-0" Dia. turned Floating Fenders 50' to 60' long.
1" Eye Bolt thru support pile at each end of floating fenders.
3" Pipe liner
Link Chain
Weight
Wharf Deck
This side of Dolphin to be Vertical
PIER HEAD LINE
Fender Pile
End of Wharf
All Bolt Holes in Wharves - Approaches to Dolphins - to be Treated with Creosote before inserting Bolts.
Cast Iron Washers under all Bolt Heads & Nuts.
6 - Wraps of 3/4" dia. Steel Cable (Galvanized) Securely stapled in place
TYPICAL DETAIL
9 PILE DOLPHIN
1 1/4" dia. Bolts
C.I. Washer under Head & Nut
8"x12" chocks
Dolphin Piles 70' to 75'
Center Pile
4'-0"
12"x12" Cap 30'-0" Long
3"x12" Joists 2'-0" ctrs
3"x12" planks
6"x6" Curb
3"x10" Brace
Every alternate Bent
3"x10"
Single Diagonal Brace only in Bays as shown in upper plan.
Creosote all Braces
7/8" Bolts
TYPICAL CROSS SECTION THRU APPROACH
WHARVES No 1 & No 2
Scale 1/2" = 1 FT
4-30-23 - Wharf No 1 extended 70 Ft. - Wharves No 1 and 2 Connected and New Approach added.
Oct. 1, 22 Added Floating Fenders & changed flooring. Destroy all Previous Prints.
ASSOCIATED OIL COMPANY
ENGINEERING & CONSTRUCTION DEPARTMENT
LAYOUT & DETAIL - WHARVES
MARINE LOADING STA. L.A. HARBOR
APPROVED
A-0372-D-24

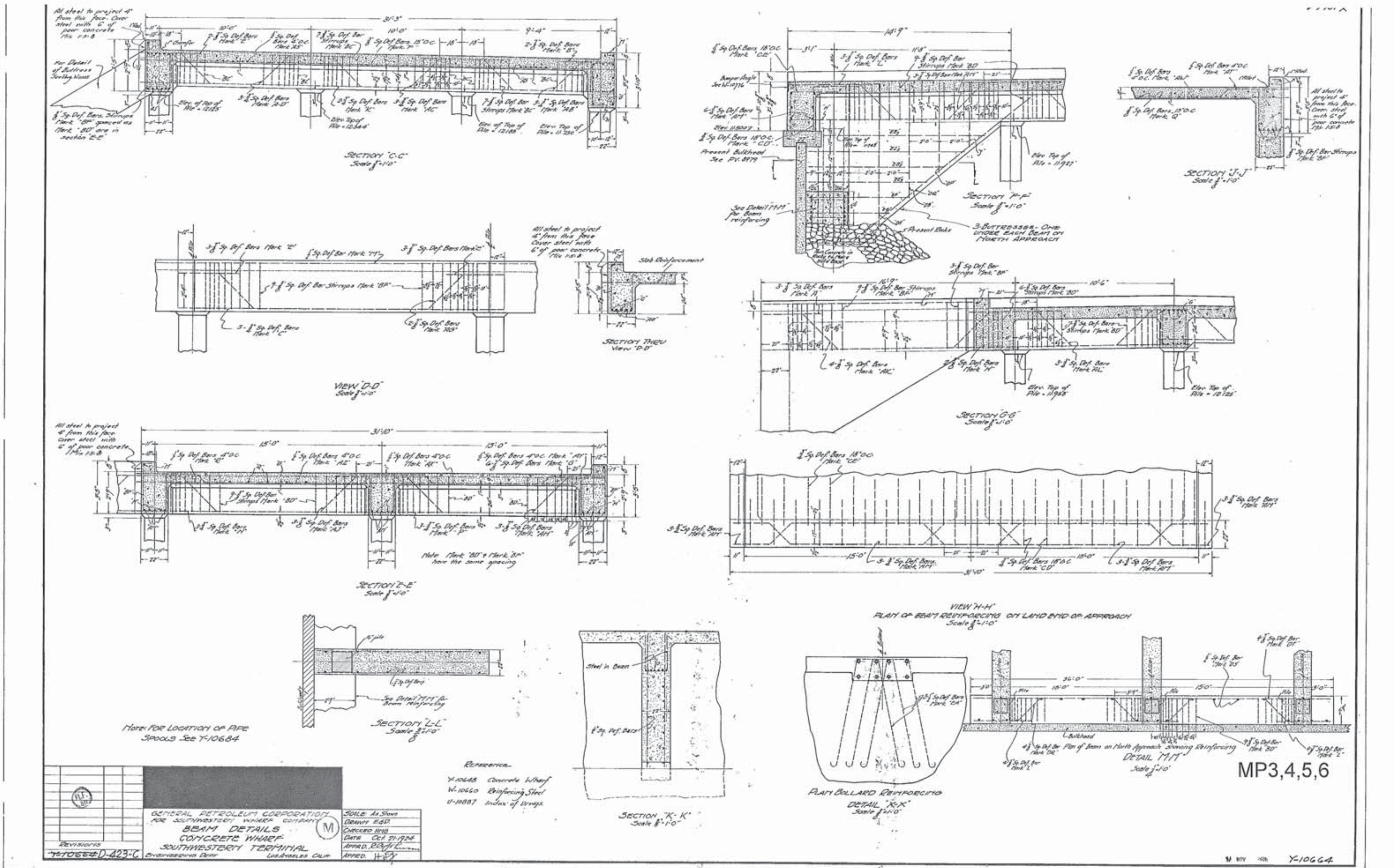

22811
1000.0' (LEASE)
55'-0"
82 - BAYS @ 10' = 820'-0"
125'-0"
70'-0" (EXTENSION)
24 - BAYS @ 10' c-c = 240'-0" (ORIGINAL WHARF)
190'-0" (EXTENSION)
33 - BAYS @ 10'-0" = 330'-0" (ORIGINAL WHARF)
B 119
B 118
BROKEN FEND. PILE
LEASE LINE
FILL LINE
— GENERAL PLAN —
(SCALE: 1" = 30')
10'-0" (C-C BENTS)
BITT-STRAP-MK-51 12-REQD
BITT STRAP MK 52 12-REQD
BITT STRAP DETAIL
(SCALE 3/4" = 1'-0")
DETAIL PLAN AT BITTS
3"x12" DIAG. DECK'G.
CLEAT - D
10'-0" (C-C BENTS)
CUT EXISTING TIMBER GUARD AS SHOWN
5'-0"
5'-0"
C.S. CLEAT
6 - BOLTS 1 1/8" x 19 1/2"
"5B" - STRAP BOLTS
FILL PLANK 2"x12" x 8'(2)
"5B"
3 - 1 1/8" x 17" BOLT
3 - M.I. WASH.
FILL WITH HEAVY GRADE NOT ASPHALT
10"x10" GUARD
8"x10" CHOCK
12"x12" BREAKER
EXIST. MOORING PILES - TO BE CUT OFF AT DECK. (PER LOC. PLAN)
NOTE: - REMOVE PART OF PLANK TO INSTALL TECO - SH. PLATES & BOLTS. 3"x12" JOISTS - 24" c-c.
6"x8" GUARD
3" DECKING LAID DIAG.
12"x12" CAP @ 26'-0"
DAP THIS JOIST HERE.
2 - 7/8" x 14" BOLTS.
2 - 7/8" M.I. WASH.
2 - TECO - M.I. SHEAR PLS - 2A.
10'-0"
10'-0"
BRACE - PILE (AT ALT. BENTS)
FEND. PILES (10' c-c)
DETAIL CROSS SECTION
(SCALE: 1/2" = 1'-0")
DETAIL ELEVATION AT BITTS
EXIST'G FEND. CHAINS - "C"
3 - NEW FEND. LOGS (PER PLAN ABOVE)
SQ. NUT
M.I. WASH.
WELD
STRAP BOLT
24 - REQD - MK - "5B"
LEGEND:
9 - MOORING PILES TO BE CUT OFF FLUSH WITH DECK.
O - EXISTING MOORING PILES ALREADY CUT FLUSH WITH DECK.
12 - C.S. - CLEATS 48" @ 900#; 24 - STRAPS 51, + PLS - P1/P2
3 - EXISTING CLEATS
3 - FEND. LOGS TO BE REPLACED
LOCATION OF FEND. CHAINS FOR CONN. REPL. LOGS.
NOTE:
PAINT IRONWORK (51 - 52 - 5B)
ONE COAT RED LEAD AT SHOP AFTER FABRICATION, " " APPROVED PAINT
MAKE REPAIRS TO 3" DECKING AS REQUIRED APPROX. 40 SMALL AREAS OVER ENTIRE WHARF AND A - APPROACHES.
DRG. REF.: - ORIG. CONSTR. PLAN - #8330
City of Los Angeles
HARBOR DEPARTMENT
Office of the Harbor Engineer
WHARF AT BERTH - 118 - 119.
MOORING CLEAT INSTALLATION
3-20-44
Scale: As Shown
Drawn
Checked
Reviewed
Approved
Office Engineer
Harbor Engineer
11822

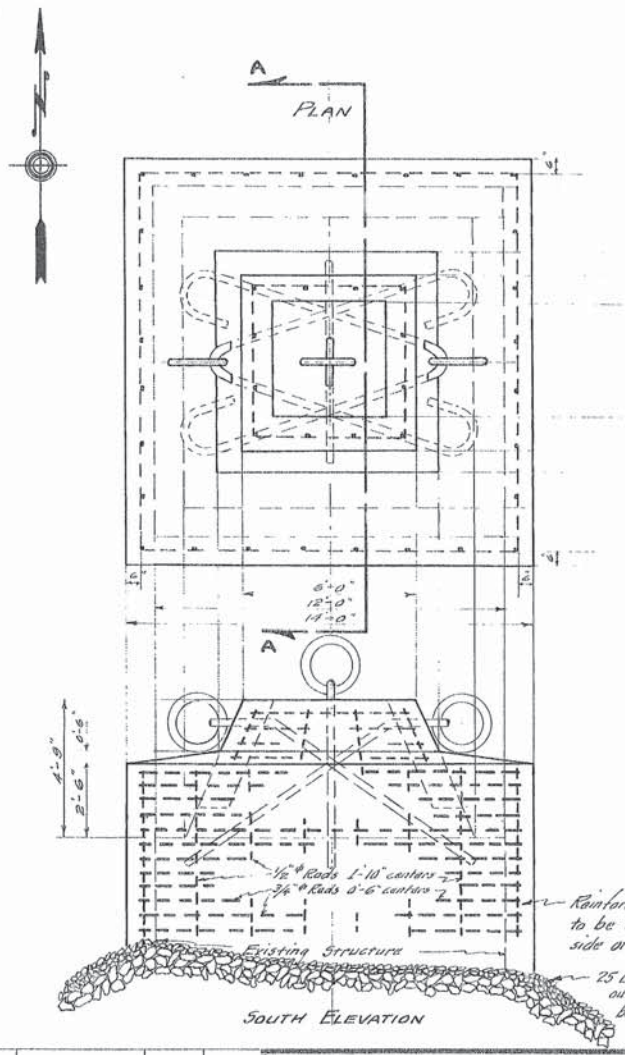

1-143
Note:
Existing rip rap, old timber bulkhead, piling, dolphins, etc. along bank to be removed by contractor. Contractor to verify quantities to his own satisfaction before bidding.
Temporary barge pier and dolphins to be constructed, and later removed, by others.
147
FRUIT TERMINAL
U.S. 520
150'-0"
Drawing No 1-143-24
5' Foot Bridge
Piles
Approx. Top of Bank
Fence Dwg. 1-143-
F.L. Pole
Relocated
Pole
F.L. Pole
148
149
WEST BASIN
U.S. Pierhead Line
New Concrete Wharf
New Concrete Bulkhead
Approx. Top of Bank
Approx. Water Line
FUTURE 7.25' DYKE WALL
F.L. Pole
F.L. Pole
Asphalt Pavement
New Leaching System
New Septic Tank
Septic Tanks (Removed by others.)
Existing Location PORT CAFE
New location PORT CAFE (to be moved by others)
New location F.L. Pole
Existing Double Catch Basin
West Street Line
Fire plug
Existing 8" Water Main (to be removed by others)
NEPTUNE AVE
7" Concrete Paving
Note:
Power and floodlight poles to be removed or relocated by others.
New location Telephone Cables
Existing Timber Wharf (removed by contractor)
Planting Area (to be removed by others)
FUTURE PUMP AREA
FUTURE PUMP AREA
FUTURE SUB-STATION
Driveway
PIER 'A' PLACE
Bridge Cable
Trestle
R.R. Tracks
U.S. 40
210'-0"
CABLE SCHEDULE
A.- Telephone # 849
B.- " " (Lead sheat. cable)
C.- Power Cables
D.- " "
E.- " "
F.- " "
G.- " "
H.- " "
I.- Telephone # 798
J.- " " # 834
K.-
L.-
City of Los Angeles
HARBOR DEPARTMENT
Office of the Harbor Engineer
WHARF at BERTH 148-149
GENERAL PLAN
Scale: 1in.=40 ft.
4-8-55
Drawn: J.J.
Checked:
Reviewed: PML
Assistant Harbor Engineer
1-143

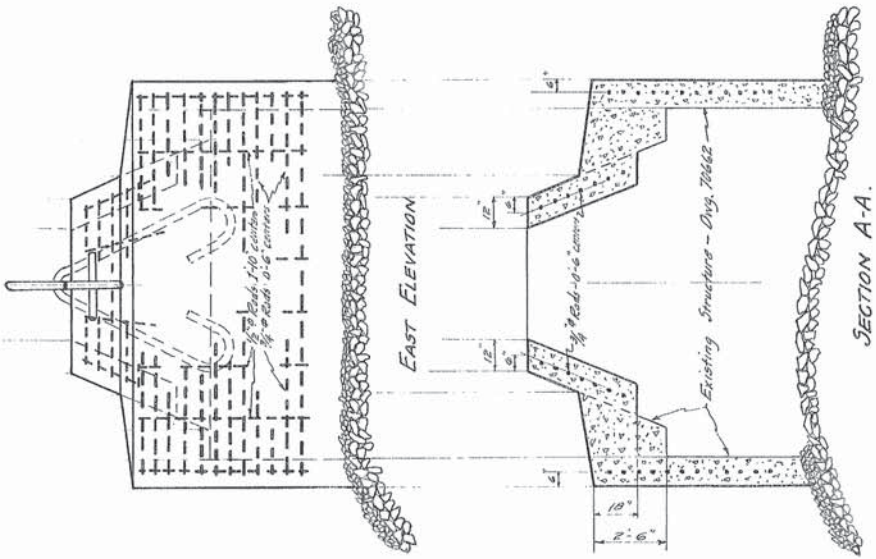

"A" SECTION thru WHARF and PIPEWAY
Scale: ¼ in. = 1 ft.
BULKHEAD LINE
FUTURE 7'-3" DYKE WALL
3" Drain Holes - Location Dwg. No. 1-143-20.
RAIL AND FITTINGS DRAWING No. 1-143-16
FILL (BY OTHERS)
Contractor may fill to this line
EARTH SUPPORTING FUTURE DYKE WALL NOT TO BE DISTURBED IF POSSIBLE.
TELEPHONE VAULT
Concrete Piles (15" Cores)
Concrete Piles (12" Cores)
6" CONC. RAT PROOFING
RIP RAP
El. 0.0' MLLW
12x12 GUARD
Existing rip rap to be removed. Drawings are indicative only of existence of rip rap rock, and must not be considered as delineating the extent or quantity of rip rap rock to be removed, it being necessary for the contractor to remove all rip rap rock that will interfere with the driving of piling or that will damage piling while being driven.
Approx. existing ground line. This line may vary widely from this drawing. Contractor must verify this line to his own satisfaction before bidding.
NEW LOCATION TELEPHONE CABLE
Approx. Trimming of slope required under Spec. No. 1257.
Approx. Area to be dredged by others
Approx. ground line after Channel dredging.
U.S. Pierhead Line
Timber Fender Pile
End of Bulkhead Wall under Spec. No. 1257
Foot Bridge Relocation Drawing No. 1-143-24
Bulkhead
Temporary barge pier and dolphins to be constructed, and later removed, by others.
Existing 40'x75' Wharf to be removed by L.A.H.D.
PIPEWAY 18 Bays @ 24'-0" = 432'-0"
Existing Ramp
Ramp
Mooring Post - 4 Req. by others
Mooring Bitt - 12 Req.
Crane Support Drawing No. 1-143-5
Existing Wharf
Berth 148
Berth 149
Wharf 38 Bays @ 16'-0" = 608'-0"
1060.6'
Lease Line
Plan
Scale: 1 in. = 40 ft.
WHARF and PIPEWAY
City of Los Angeles
HARBOR DEPARTMENT
Office of the Harbor Engineer
WHARF at BERTH 148-149
LOCATION PLAN and SECTION
4-8-55
Scale - Noted
Drawn
Checked
Reviewed
Assistant Harbor Engineer
1-143-1


1-143-4
TYPICAL CROSS SECTION
Scale - 1/8" = 1 ft.
Note:
Temporary wales removed after construction completed.
Face of Bulkhead
U.S. Pierhead Line
Wale 6 x 12
SECTION 'A-A'
Scale - 1/2" = 1'-0"
Note:
Required for all concrete piles.
Bent 34
℄ Ramp
40 ft. lg. 16" Creosoted Timber Piles - 5 Required
Landside Face of Bulkhead
Concrete Piles (12" Core) except as noted.
Concrete Pile (15" Core)
U.S. Pierhead Line
Fender Piles 66' long @ 8'-0.
10 Bays @ 16'-0" = 160'-0
PLAN
Bents 29 to 35
Concrete Piles (15" Core)
Telephone Manhole
Power Manhole
290'-0" to U.S. 40
℄ Ramp
60 ft. lg. 16" Creosoted Timber Piles - 5 Required
Power and Telephone Cable Outlet
18 Bays @ 24'-0" = 432'-0"
Lease Line
Landside Face of Bulkhead
Concrete Piles (12" Core) except as noted.
U.S. Pierhead Line
Fender piles 66' long @ 8'-0.
28 Bays @ 16'-0" = 448'-0
210'-0" to U.S. 40
U.S. 40
PLAN
Bents 1 to 29
Concrete Pile (14" Core)
Concrete Piles (15" Core)
GENERAL NOTE:
1. Required safe bearing for concrete piles equals 30 tons per pile unless noted.
2. All piles to be driven to minimum penetration so that top of pile after driving will not be above elevation +16.0' for wharf and ramp piles and El. +10.0 for pipe support piles.
3. Cut-off elevation for each pile to be finally determined by engineer before driving operation commences.
4. Timber Piles denoted by O; Concrete Piles denoted by □.
City of Los Angeles
HARBOR DEPARTMENT
Office of the Harbor Engineer
WHARF at BERTH 148-149
PILE PLAN and DETAILS
Scale - 1" = 20'
4-8-55
Assistant Harbor Engineer
1-143-4


PLAN
SECTION A-A
SECTION B-B
GENERAL PETROLEUM CORPORATION
CONCRETE WHARF NO 2
SOUTHWESTERN TERMINAL
ENGINEERING DEPT
LOS ANGELES CALIFORNIA
80063
238


SECTION "C-C"
Scale 3/8"=1'-0"
VIEW "D-D"
Scale 3/8"=1'-0"
SECTION THRU VIEW "D-D"
SECTION "E-E"
Scale 3/8"=1'-0"
Note: Mark "8D" & Mark "8F" have the same spacing
SECTION "F-F"
Scale 3/8"=1'-0"
3-BUTTRESSES - ONE UNDER EACH BEAM ON NORTH APPROACH
SECTION "J-J"
Scale 3/8"=1'-0"
SECTION "G-G"
Scale 3/8"=1'-0"
VIEW "H-H"
PLAN OF BEAM REINFORCING ON LAND END OF APPROACH
Scale 3/8"=1'-0"
SECTION "L-L"
Scale 3/8"=1'-0"
SECTION "K-K"
Scale 3/8"=1'-0"
PLAN BOLLARD REINFORCING
DETAIL "X-X"
Scale 3/8"=1'-0"
DETAIL "M-M"
Scale 1/4"=1'-0"
NOTE: FOR LOCATION OF PIPE SPOOLS SEE Y-10684
Reference
Y-10648 Concrete Wharf
W-10660 Reinforcing Steel
U-10887 Index of Drwgs.
GENERAL PETROLEUM CORPORATION
FOR SOUTHWESTERN WHARF COMPANY
BEAM DETAILS
CONCRETE WHARF
SOUTHWESTERN TERMINAL
ENGINEERING DEPT
LOS ANGELES CALIF.
SCALE As Shown
DRAWN E&D.
CHECKED HHB
DATE Oct 21-1924
REVISIONS
Y-10664 D-423-C
MP3,4,5,6
Y-10664





Note:— For location and plan of existing mooring anchor see 70635 and 70662.

Note:— Loose concrete in existing mooring anchor to be removed as directed by the engineer.

Reinforced Concrete shell to be constructed outside of Existing Structure.

25 Cu. yds ± of No 1 Rock to be placed around outside of present anchor block to form bed for concrete shell.

Note:— Concrete to be 1-2-2½ mix — 7 sks per cu. yd.

1	Revised	4-13-31	

REVISIONS

NUMBER 62302

GENERAL PETROLEUM CORPORATION
OF CALIFORNIA

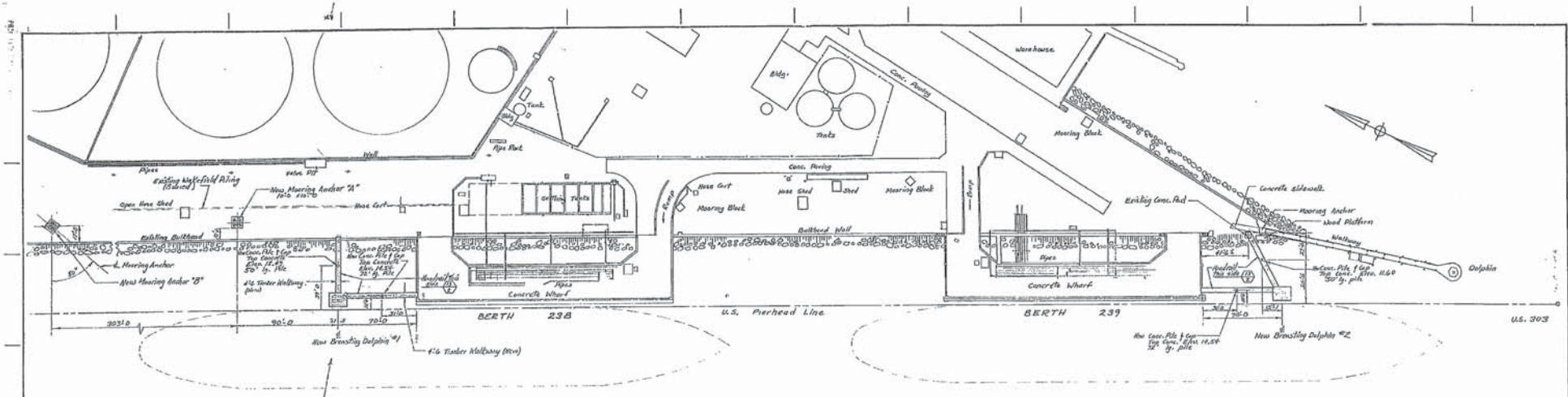
REINFORCED CONCRETE SHELL FOR FIFTY TON CONCRETE MOORING ANCHOR SOUTHWESTERN TERMINAL

ENGINEERING DEPT. LOS ANGELES, CALIFORNIA

SCALE	¼" = 1.
DRAWN	F.D.Hart
CHECKED	
DATE	March 9-1931.
APPR'D	

List #5581.

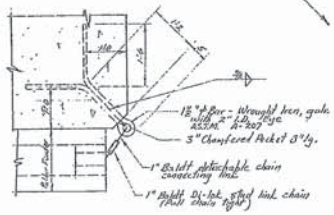
B-279 C



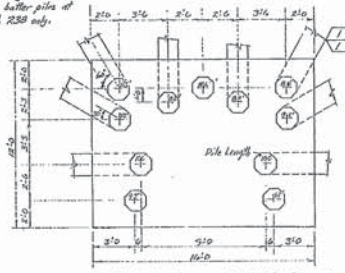
⚠ - See Dwg. Nos. 5-3460-1, 2, 3 for design modification providing thrust block behind bulkhead rather than 60° cone, batter piles at Berth 238 only.

MAIN CHANNEL

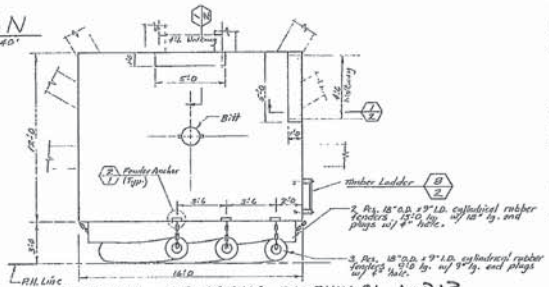
1/1 PLAN
Scale : 1" = 40'



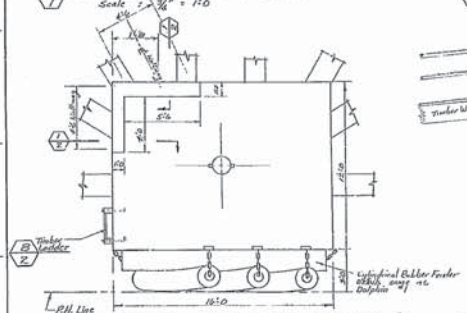
2/1 DETAIL - FENDER ANCHOR
Scale : 3/4" = 1'-0



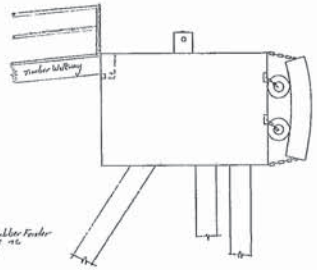
3/1 PILE PLAN - BREASTING DOLPHIN (TYP.)
Scale : 1/4" = 1'-0



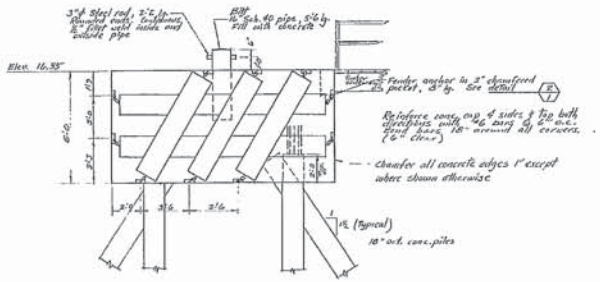
4/1 PLAN - BREASTING DOLPHIN #1 MP13
Scale : 1/4" = 1'-0



5/1 PLAN - BREASTING DOLPHIN #2 MP2
Scale : 1/4" = 1'-0



6/1 SIDE ELEVATION of DOLPHIN
Scale : 1/4" = 1'-0



7/1 FRONT ELEVATION of DOLPHIN
Scale : 1/4" = 1'-0

NOTES:

1. All concrete construction shall be in accordance with L.A.H.D Std. Spec. for Portland Cement Concrete and Concrete Construction, - Div. "C." Unless otherwise noted, concrete shall have a minimum 28 day compressive strength of 3750 psi. Min. cement content to conform to Std. Spec. - Div. "C".
2. All exposed edges of concrete to be chamfered 2".
3. Continuous inspection required during concreting operations.
4. Method of supporting falsework for caps to be approved by the Engineer.
5. All timber and timber piles to conform to L.A.H.D. Std. Spec. for General Timber Construction, Div. "X" and for Creosoted Piling & Lumber, Div. "CT." Lumber for walkways to be S4S, graded and creo. treated in accordance with specs.
6. All bolts for walkways to be sq. hd. machine with sq. nut. All washers to be G.I. All bolts, nuts, & washers to be black and painted per spec.
7. Rebars to be deformed bars A.S.T.M. A-305-54T from intermediate (new billet) steel meeting requirements of A.S.T.M. A-15-58T as revised. Min. cover to be 3" unless otherwise shown.

MOORING POINTS 2 & 13

NO.	DATE	DRAWN	REVISIONS — LOCATE BY GRID COORDINATES	APP'D	SCALE	Noted	DATE	RECOMMENDED FOR APPROVAL	BERTH 238, 239 - MOORING EXPANSION GENERAL LAYOUT and DETAILS of DOLPHINS	
⚠	4-6-60	LHA	Reference ⚠ dwg. for design modification		DRAWN	L.H.A.	6/1960	CHIEF OF DIVISIONS		
					CHECKED					
					DESIGN—ENGINEER	L.H. Anderson		ASST. ASSISTANT CHIEF HARBOR ENGINEER	APPROVED CHIEF HARBOR ENGINEER	PORT OF LOS ANGELES ENGINEERING DIVISION P.O. BOX 151 SAN PEDRO, CALIF.

DRAWING NUMBER 1-541-1

APPENDIX C
Consultation Letters

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
ds_nahc@pacbell.net

February 11, 2010

Mr. Brad Brewster, Bay Area Cultural Resource Group Manager
Environmental Science Associates (ESA)
225 Bush Street, Suite 1700
San Francisco, CA 94104

Sent by FAX to: 415-896-0332
No. of Pages: 4

Re: Request for a Sacred Lands File Search and Native American Contacts List **for a Proposed "Historic Resources Survey & Evaluation of the Los Angeles Harbor Wharves at Berths 118-120, 148-151, 163-164, 187-191, and 238-239 for the Marine Oil Terminal Engineering Maintenance Standards (MOTEMS) Project"**; located in the City of Los Angeles; Los Angeles County, California

Dear Mr. Brewster:

The Native American Heritage Commission (NAHC), the State of California 'Trustee Agency' for the protection and preservation of Native American cultural resources (c.f. CA Public Resources Code §21070; also c.f. *Environmental Protection Information Center v. Johnson (1985) 170 Cal App. 3rd 604*), was able to perform a record search of its Sacred Lands File (SLF) for the affected project area (APE) requested. The California Environmental Quality Act (CEQA; CA Public Resources Code Section 21000 – 21177)) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the California Code of Regulations §15064.5(b)(c)(f) CEQA guidelines). Section 15382 of the 2007 CEQA Guidelines defines a significant impact on the environment as "a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ...objects of historic or aesthetic significance." The NAHC SLF search **did not indicate** the presence of Native American cultural resources within one-half - mile radius of the proposed project site (APE). However, there are Native American cultural resources in close proximity to the APE.

This letter includes state and federal statutes relating to Native American historic properties of religious and cultural significance to American Indian tribes and interested Native American individuals as 'consulting parties' under both state and federal law.

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. Enclosed are the names of the nearest tribes and interested Native American individuals that the NAHC recommends as 'consulting parties,' for this purpose, that may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g. APE). We recommend that you contact persons on the attached list of Native American contacts. Furthermore we suggest that you contact the California Historic Resources Information System (CHRIS) at the Office of Historic Preservation Coordinator's office (at (916) 653-7278, for referral to the nearest Information Center of which there are 10.

Consultation with tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA (42 U.S.C. 4321-43351) and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 [f]*et seq),* 36 CFR Part 800.3 (f) (2), the President's Council on Environmental Quality (CSQ; 42 U.S.C. 4371 *et seq.)* and NAGPRA (25 U.S.C. 3001-3013), as appropriate. .

Lead agencies should consider avoidance, as defined in Section 15370 of the California Environmental Quality Act (CEQA) when significant cultural resources could be affected by a project. Also, Public Resources Code Section 5097.98 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery. Discussion of these should be included in your environmental documents, as appropriate.

The response to this search for Native American cultural resources is conducted in the NAHC Sacred Lands Inventory, established by the California Legislature (CA Public Resources Code §5097.94(a) and is exempt from the CA Public Records Act (c.f. California Government Code §6254.10) although Native Americans on the attached contact list may wish to reveal the nature of identified cultural resources/historic properties. Confidentiality of "historic properties of religious and cultural significance' may also be protected the under Section 304 of the NHPA or at the Secretary of the Interior' discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C, 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APE and possibly threatened by proposed project activity.

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton
Program Analyst

Attachment: Native American Contacts List (NOTE: we further recommend that other forms of 'proof of mailing or proof of contact be utilized instead of 'Return Receipt Requested' Certified or Registered Mail.) Further, we suggest a follow-up telephone call to the contacts if the replies are not received or need clarification.

Native American Contacts
Los Angeles County
February 11, 2010

LA City/County Native American Indian Comm
Ron Andrade, Director
3175 West 6th Street, Rm.
Los Angeles , CA 90020
randrade@css.lacounty.gov
(213) 351-5324
(213) 386-3995 FAX

Gabrielino Tongva Nation
Sam Dunlap, Chairperson
P.O. Box 86908 Gabrielino Tongva
Los Angeles , CA 90086
samdunlap@earthlink.net

(909) 262-9351 - cell

TTAT Society
Cindi Alvitre
6515 E. Seaside Walk, #C Gabrielino
Long Beach , CA 90803
calvitre@yahoo.com
(714) 504-2468 Cell

Gabrielino Tongva Indians of California Tribal Council
Robert F. Dorarnae, Tribal Chair/Cultural
P.O. Box 490 Gabrielino Tongva
Bellflower , CA 90707
gtongva@verizon.net
562-761-6417 - voice
562-925-7989 - fax

Tongva Ancestral Territorial Tribal Nation
John Tommy Rosas, Tribal Admin.
, Gabrielino Tongva
tattnlaw@gmail.com
310-570-6567

Gabrielino-Tongva Tribe
Bernie Acuna
501 Santa Monica Blvd, # Gabrielino
Santa Monica CA 90401
(310) 587-2203
(310) 428-7720 - cell
(310) 587-2281

Gabrieleno/Tongva San Gabriel Band of Mission
Anthony Morales, Chairperson
PO Box 693 Gabrielino Tongva
San Gabriel , CA 91778
(626) 286-1262 -FAX
(626) 286-1632
(626) 286-1758 - Home
(626) 286-1262 Fax

Shoshoneon Gabrieleno Band of Mission Indians
Andy Salas, Chairperson
PO Box 393 Gabrieleno
Covina , CA 91723
gabrielenoindians@yahoo.
626-926-4131
(213) 688-0181 - FAX

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in 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. Also, federal National Environmental Policy Act (NEPA), National Historic Preservation Act, Section 106, and federal NAGPRA.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Historic Resources Survey and Evaluation of the Los Angeles Harbor Warves at Berths 118-120, 148-151, 163-164, 187-191, and 236-239 for the Marine Oil Terminal Engineering Maintenance Standards (MOTEMS) Project; City of Los Angeles; Los Angeles County, California.

Native American Contacts
Los Angeles County
February 11, 2010

Gabrielino-Tongva Tribe
Linda Candelaria, Chairwoman
1875 Century Park East, Suite 1500
Los Angeles , CA 90067 Gabrielino
(310) 587-2203
310-425-5767- cell
(310) 587-2281
lcandelaria1@gabrielinoTribe.org

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in 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. Also, federal National Environmental Policy Act (NEPA), National Historic Preservation Act, Section 106, and federal NAGPRA.

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ESA

225 Bush St., Ste. 1700
San Francisco, CA 94104
415.896.5900 phone
415.896.0332 fax

www.esassoc.com

January 13, 2010

Bernie Acuna
Gabrielino-Tongva Tribe
501 Santa Monica Blvd. #500
Santa Monica, CA 90401

Sent via U.S. Mail

Subject: Marine Oil Terminal Engineering Maintenance Standards Project

Dear Mr. Acuna:

The Los Angeles Harbor Department has retained Environmental Science Associates (ESA) to conduct a historic resources survey and evaluation of wharves at Berths 118-120, 148-151, 163-164, 187-191, and 238-239 for the Marine Oil Terminal Engineering Maintenance Standards (MOTEMS) project, in the City of Los Angeles, Los Angeles County, California (see Figure 1, Location Map, and Figures 2-6 for site specific Area of Potential Effect [APE] locations). The project involves improvements to these wharves, including new fendering and dolphin systems to accommodate greater shipping loads.

The purpose of this letter is to request your input on potential or known historic resources or other cultural resources in the project area. In conformance with Section 106, we are in the initial phase, "identify[ing] historic properties potentially affected by the undertaking" (36 Code of Federal Regulations Part 880.9 a). In carrying out these responsibilities, previously identified sources of information on historic resources have been checked, including research at the Port of Los Angeles, the Los Angeles Public Library, and the South Central Coastal Information Center (SCCIC) at California State University at Fullerton.

A Historic Resources Evaluation Report is currently being prepared by ESA, however, it is acknowledged that some areas and properties may contain values not readily apparent and we would appreciate any such information you can provide. Please send notification, in writing, if you have information or potential or identified historical resources in the study area by no later than close of business, Monday, February 8, 2010. If a response is not received, follow up telephone calls will be made to ensure receipt of the letter to establish whether your organization has information relevant to the project.

Please contact Dennis Hagner, Environmental Management Division, Los Angeles Harbor Department with any applicable comments or questions:

Phone: 310-732-3682
E-mail: dhagner@portla.org
Street address: 425 S. Palos Verdes St., San Pedro, CA 90731

Thank you for your time and cooperation regarding this matter.

Sincerely,

Brad Brewster
Bay Area Cultural Resources Group Manager
Attachments

ESA

225 Bush St., Ste. 1700
San Francisco, CA 94104
415.896.5900 phone
415.896.0332 fax

www.esassoc.com

January 13, 2010

Cindi Alvitre
Ti'At Society
6515 E. Seaside Walk #C
Long Beach, CA 90803

Sent via U.S. Mail

Subject: Marine Oil Terminal Engineering Maintenance Standards Project

Dear Ms. Alvitre:

The Los Angeles Harbor Department has retained Environmental Science Associates (ESA) to conduct a historic resources survey and evaluation of wharves at Berths 118-120, 148-151, 163-164, 187-191, and 238-239 for the Marine Oil Terminal Engineering Maintenance Standards (MOTEMS) project, in the City of Los Angeles, Los Angeles County, California (see Figure 1, Location Map, and Figures 2-6 for site specific Area of Potential Effect [APE] locations). The project involves improvements to these wharves, including new fendering and dolphin systems to accommodate greater shipping loads.

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Sincerely,

Brad Brewster
Bay Area Cultural Resources Group Manager
Attachments

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225 Bush St., Ste. 1700
San Francisco, CA 94104
415.896.5900 phone
415.896.0332 fax

www.esassoc.com

January 13, 2010

Ron Andrade, Director
Los Angeles City/County Native American Indian Commission
3175 West 6th Street, Rm. 403
Los Angeles, CA 90020

Sent via U.S. Mail

Subject: Marine Oil Terminal Engineering Maintenance Standards Project

Dear Mr. Andrade:

The Los Angeles Harbor Department has retained Environmental Science Associates (ESA) to conduct a historic resources survey and evaluation of wharves at Berths 118-120, 148-151, 163-164, 187-191, and 238-239 for the Marine Oil Terminal Engineering Maintenance Standards (MOTEMS) project, in the City of Los Angeles, Los Angeles County, California (see Figure 1, Location Map, and Figures 2-6 for site specific Area of Potential Effect [APE] locations). The project involves improvements to these wharves, including new fendering and dolphin systems to accommodate greater shipping loads.

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Sincerely,

Brad Brewster
Bay Area Cultural Resources Group Manager
Attachments

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San Francisco, CA 94104
415.896.5900 phone
415.896.0332 fax

www.esassoc.com

January 13, 2010

Robert Dorame, Tribal Chair/Cultural Resources
Gabrielino Tongva Indians of California Tribal Council
P.O. Box 490
Bellflower, CA 90707

Sent via U.S. Mail

Subject: Marine Oil Terminal Engineering Maintenance Standards Project

Dear Mr. Dorame:

The Los Angeles Harbor Department has retained Environmental Science Associates (ESA) to conduct a historic resources survey and evaluation of wharves at Berths 118-120, 148-151, 163-164, 187-191, and 238-239 for the Marine Oil Terminal Engineering Maintenance Standards (MOTEMS) project, in the City of Los Angeles, Los Angeles County, California (see Figure 1, Location Map, and Figures 2-6 for site specific Area of Potential Effect [APE] locations). The project involves improvements to these wharves, including new fendering and dolphin systems to accommodate greater shipping loads.

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Sincerely,

Brad Brewster
Bay Area Cultural Resources Group Manager
Attachments

ESA

225 Bush St., Ste. 1700
San Francisco, CA 94104
415.896.5900 phone
415.896.0332 fax

www.esassoc.com

January 13, 2010

Sam Dunlap, Tribal Secretary
Gabrielino Tongva Nation
P.O. Box 86908
Los Angeles, CA 90086

Sent via U.S. Mail

Subject: Marine Oil Terminal Engineering Maintenance Standards Project

Dear Mr. Dunlap:

The Los Angeles Harbor Department has retained Environmental Science Associates (ESA) to conduct a historic resources survey and evaluation of wharves at Berths 118-120, 148-151, 163-164, 187-191, and 238-239 for the Marine Oil Terminal Engineering Maintenance Standards (MOTEMS) project, in the City of Los Angeles, Los Angeles County, California (see Figure 1, Location Map, and Figures 2-6 for site specific Area of Potential Effect [APE] locations). The project involves improvements to these wharves, including new fendering and dolphin systems to accommodate greater shipping loads.

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E-mail: dhagner@portla.org
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Thank you for your time and cooperation regarding this matter.

Sincerely,

Brad Brewster
Bay Area Cultural Resources Group Manager
Attachments

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San Francisco, CA 94104
415.896.5900 phone
415.896.0332 fax

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January 13, 2010

Anthony Morales, Chairperson
Gabrielino/Tongva San Gabriel Band of Mission Indians
P.O. Box 693
San Gabriel, CA 91778

Sent via U.S. Mail

Subject: Marine Oil Terminal Engineering Maintenance Standards Project

Dear Mr. Morales:

The Los Angeles Harbor Department has retained Environmental Science Associates (ESA) to conduct a historic resources survey and evaluation of wharves at Berths 118-120, 148-151, 163-164, 187-191, and 238-239 for the Marine Oil Terminal Engineering Maintenance Standards (MOTEMS) project, in the City of Los Angeles, Los Angeles County, California (see Figure 1, Location Map, and Figures 2-6 for site specific Area of Potential Effect [APE] locations). The project involves improvements to these wharves, including new fendering and dolphin systems to accommodate greater shipping loads.

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Thank you for your time and cooperation regarding this matter.

Sincerely,

Brad Brewster
Bay Area Cultural Resources Group Manager
Attachments

ESA

225 Bush St., Ste. 1700
San Francisco, CA 94104
415.896.5900 phone
415.896.0332 fax

www.esassoc.com

January 13, 2010

Andy Salas, Chairperson
Gabrieleno Band of Mission Indians
P.O. Box 393
Covina, CA 91723

Sent via U.S. Mail

Subject: Marine Oil Terminal Engineering Maintenance Standards Project

Dear Mr. Salas:

The Los Angeles Harbor Department has retained Environmental Science Associates (ESA) to conduct a historic resources survey and evaluation of wharves at Berths 118-120, 148-151, 163-164, 187-191, and 238-239 for the Marine Oil Terminal Engineering Maintenance Standards (MOTEMS) project, in the City of Los Angeles, Los Angeles County, California (see Figure 1, Location Map, and Figures 2-6 for site specific Area of Potential Effect [APE] locations). The project involves improvements to these wharves, including new fendering and dolphin systems to accommodate greater shipping loads.

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Brad Brewster
Bay Area Cultural Resources Group Manager
Attachments

ESA

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San Francisco, CA 94104
415.896.5900 phone
415.896.0332 fax

www.esassoc.com

January 13, 2010

Linda Candelaria, Chairwoman
Gabrielino-Tongva Tribe
501 Santa Monica Blvd. #500
Santa Monica, CA 90401

Sent via U.S. Mail

Subject: Marine Oil Terminal Engineering Maintenance Standards Project

Dear Ms. Candelaria:

The Los Angeles Harbor Department has retained Environmental Science Associates (ESA) to conduct a historic resources survey and evaluation of wharves at Berths 118-120, 148-151, 163-164, 187-191, and 238-239 for the Marine Oil Terminal Engineering Maintenance Standards (MOTEMS) project, in the City of Los Angeles, Los Angeles County, California (see Figure 1, Location Map, and Figures 2-6 for site specific Area of Potential Effect [APE] locations). The project involves improvements to these wharves, including new fendering and dolphin systems to accommodate greater shipping loads.

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Sincerely,

Brad Brewster
Bay Area Cultural Resources Group Manager
Attachments

ESA

225 Bush St., Ste. 1700
San Francisco, CA 94104
415.896.5900 phone
415.896.0332 fax

www.esassoc.com

January 13, 2010

John Tommy Rosas
tattnlaw@gmail.com

Sent via email

Subject: Marine Oil Terminal Engineering Maintenance Standards Project

Dear Mr. Rosas:

The Los Angeles Harbor Department has retained Environmental Science Associates (ESA) to conduct a historic resources survey and evaluation of wharves at Berths 118-120, 148-151, 163-164, 187-191, and 238-239 for the Marine Oil Terminal Engineering Maintenance Standards (MOTEMS) project, in the City of Los Angeles, Los Angeles County, California (see Figure 1, Location Map, and Figures 2-6 for site specific Area of Potential Effect [APE] locations). The project involves improvements to these wharves, including new fendering and dolphin systems to accommodate greater shipping loads.

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Sincerely,

Brad Brewster
Bay Area Cultural Resources Group Manager

Attachments

ESA

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San Francisco, CA 94104
415.896.5900 phone
415.896.0332 fax

www.esassoc.com

January 13, 2010

Ken Bernstein, Manager
City of Los Angeles
Office of Historic Resources, Department of City Planning
200 N. Spring Street, Room 620
Los Angeles, CA 90012

Sent via U.S. Mail

Subject: Marine Oil Terminal Engineering Maintenance Standards Project

Dear Mr. Bernstein:

The Los Angeles Harbor Department has retained Environmental Science Associates (ESA) to conduct a historic resources survey and evaluation of wharves at Berths 118-120, 148-151, 163-164, 187-191, and 238-239 for the Marine Oil Terminal Engineering Maintenance Standards (MOTEMS) project, in the City of Los Angeles, Los Angeles County, California (see Figure 1, Location Map, and Figures 2-6 for site specific Area of Potential Effect [APE] locations). The project involves improvements to these wharves, including new fendering and dolphin systems to accommodate greater shipping loads.

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A Historic Resources Evaluation Report is currently being prepared by ESA, however, it is acknowledged that some areas and properties may contain values not readily apparent and we would appreciate any such information you can provide. Please send notification, in writing, if you have information or potential or identified historical resources in the study area by no later than close of business, Monday, February 8, 2010. If a response is not received, follow up telephone calls will be made to ensure receipt of the letter to establish whether your organization has information relevant to the project.

Please contact Dennis Hagner, Environmental Management Division, Los Angeles Harbor Department with any applicable comments or questions:

Phone: 310-732-3682
E-mail: dhagner@portla.org
Street address: 425 S. Palos Verdes St., San Pedro, CA 90731

Thank you for your time and cooperation regarding this matter.

Sincerely,

Brad Brewster
Bay Area Cultural Resources Group Manager
Attachments

ESA

225 Bush St., Ste. 1700
San Francisco, CA 94104
415.896.5900 phone
415.896.0332 fax

www.esassoc.com

January 13, 2010

Ann Shea, President
Los Angeles City Historical Society
P.O. Box 41046
Los Angeles, CA 90041

Sent via U.S. Mail

Subject: Marine Oil Terminal Engineering Maintenance Standards Project

Dear Ms. Shea:

The Los Angeles Harbor Department has retained Environmental Science Associates (ESA) to conduct a historic resources survey and evaluation of wharves at Berths 118-120, 148-151, 163-164, 187-191, and 238-239 for the Marine Oil Terminal Engineering Maintenance Standards (MOTEMS) project, in the City of Los Angeles, Los Angeles County, California (see Figure 1, Location Map, and Figures 2-6 for site specific Area of Potential Effect [APE] locations). The project involves improvements to these wharves, including new fendering and dolphin systems to accommodate greater shipping loads.

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Sincerely,

Brad Brewster
Bay Area Cultural Resources Group Manager

Attachments

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San Francisco, CA 94104
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415.896.0332 fax

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January 13, 2010

Mike Buhler, Director of Advocacy
Los Angeles Conservancy
523 West Sixth Street, Suite 826
Los Angeles, CA 90014

Sent Via U.S. Mail

Subject: Marine Oil Terminal Engineering Maintenance Standards Project

Dear Mr. Buhler:

The Los Angeles Harbor Department has retained Environmental Science Associates (ESA) to conduct a historic resources survey and evaluation of wharves at Berths 118-120, 148-151, 163-164, 187-191, and 238-239 for the Marine Oil Terminal Engineering Maintenance Standards (MOTEMS) project, in the City of Los Angeles, Los Angeles County, California (see Figure 1, Location Map, and Figures 2-6 for site specific Area of Potential Effect [APE] locations). The project involves improvements to these wharves, including new fendering and dolphin systems to accommodate greater shipping loads.

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Brad Brewster
Bay Area Cultural Resources Group Manager

Attachments

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San Francisco, CA 94104
415.896.5900 phone
415.896.0332 fax

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January 13, 2010

Ms. Marifrances Trivelli, Director
Los Angeles Maritime Museum
Berth 84, Foot of 6th Street
San Pedro, CA 90731

Sent Via U.S. Mail

Subject: Marine Oil Terminal Engineering Maintenance Standards Project

Dear Ms. Trivelli:

The Los Angeles Harbor Department has retained Environmental Science Associates (ESA) to conduct a historic resources survey and evaluation of wharves at Berths 118-120, 148-151, 163-164, 187-191, and 238-239 for the Marine Oil Terminal Engineering Maintenance Standards (MOTEMS) project, in the City of Los Angeles, Los Angeles County, California (see Figure 1, Location Map, and Figures 2-6 for site specific Area of Potential Effect [APE] locations). The project involves improvements to these wharves, including new fendering and dolphin systems to accommodate greater shipping loads.

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Sincerely,

Brad Brewster
Bay Area Cultural Resources Group Manager

Attachments

ESA

225 Bush St., Ste. 1700
San Francisco, CA 94104
415.896.5900 phone
415.896.0332 fax

www.esassoc.com

January 13, 2010

Patricia Adler-Ingram, Ph.D., Executive Director
Historical Society of Southern California
P.O. Box 93487
Pasadena, CA 91109

Sent Via U.S. Mail

Subject: Marine Oil Terminal Engineering Maintenance Standards Project

Dear Ms. Adler-Ingram:

The Los Angeles Harbor Department has retained Environmental Science Associates (ESA) to conduct a historic resources survey and evaluation of wharves at Berths 118-120, 148-151, 163-164, 187-191, and 238-239 for the Marine Oil Terminal Engineering Maintenance Standards (MOTEMS) project, in the City of Los Angeles, Los Angeles County, California (see Figure 1, Location Map, and Figures 2-6 for site specific Area of Potential Effect [APE] locations). The project involves improvements to these wharves, including new fendering and dolphin systems to accommodate greater shipping loads.

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Thank you for your time and cooperation regarding this matter.

Sincerely,

Brad Brewster
Bay Area Cultural Resources Group Manager

Attachments

ESA

225 Bush St., Ste. 1700
San Francisco, CA 94104
415.896.5900 phone
415.896.0332 fax

www.esassoc.com

January 13, 2010

Anne Hansford, Archivist
San Pedro Bay Historical Society
350 W. 5th Street #210
San Pedro, CA 90731

Sent Via U.S. Mail

Subject: Marine Oil Terminal Engineering Maintenance Standards Project

Dear Ms. Hansford:

The Los Angeles Harbor Department has retained Environmental Science Associates (ESA) to conduct a historic resources survey and evaluation of wharves at Berths 118-120, 148-151, 163-164, 187-191, and 238-239 for the Marine Oil Terminal Engineering Maintenance Standards (MOTEMS) project, in the City of Los Angeles, Los Angeles County, California (see Figure 1, Location Map, and Figures 2-6 for site specific Area of Potential Effect [APE] locations). The project involves improvements to these wharves, including new fendering and dolphin systems to accommodate greater shipping loads.

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E-mail: dhagner@portla.org
Street address: 425 S. Palos Verdes St., San Pedro, CA 90731

Thank you for your time and cooperation regarding this matter.

Sincerely,

Brad Brewster
Bay Area Cultural Resources Group Manager

Attachments

ESA

225 Bush St., Ste. 1700
San Francisco, CA 94104
415.896.5900 phone
415.896.0332 fax

www.esassoc.com

January 13, 2010

Jane Osterhoudt, President
Wilmington Historical Society
309 W. Opp Street
Wilmington, CA 90744

Sent Via U.S. Mail

Subject: Marine Oil Terminal Engineering Maintenance Standards Project

Dear Ms. Osterhoudt:

The Los Angeles Harbor Department has retained Environmental Science Associates (ESA) to conduct a historic resources survey and evaluation of wharves at Berths 118-120, 148-151, 163-164, 187-191, and 238-239 for the Marine Oil Terminal Engineering Maintenance Standards (MOTEMS) project, in the City of Los Angeles, Los Angeles County, California (see Figure 1, Location Map, and Figures 2-6 for site specific Area of Potential Effect [APE] locations). The project involves improvements to these wharves, including new fendering and dolphin systems to accommodate greater shipping loads.

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Thank you for your time and cooperation regarding this matter.

Sincerely,

Brad Brewster
Bay Area Cultural Resources Group Manager

Attachments

ESA

225 Bush St., Ste. 1700
San Francisco, CA 94104
415.896.5900 phone
415.896.0332 fax

www.esassoc.com

February 24, 2010

San Pedro Bay Historical Archives
638 S. Beacon St.
Room 626
San Pedro, CA 9073

Sent Via Overnight Mail

Subject: Marine Oil Terminal Engineering Maintenance Standards Project

To Whom It May Concern:

The Los Angeles Harbor Department has retained Environmental Science Associates (ESA) to conduct a historic resources survey and evaluation of wharves at Berths 118-120, 148-151, 163-164, 187-191, and 238-239 for the Marine Oil Terminal Engineering Maintenance Standards (MOTEMS) project, in the City of Los Angeles, Los Angeles County, California (see Figure 1, Location Map, and Figures 2-6 for site specific Area of Potential Effect [APE] locations). The project involves improvements to these wharves, including new fendering and dolphin systems to accommodate greater shipping loads.

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Phone: 310-732-3682
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Thank you for your time and cooperation regarding this matter.

Sincerely,

Brad Brewster
Bay Area Cultural Resources Group Manager

Attachments

ATTACHMENT C
UPDATED DPR FORMS FOR BERTHS 238-239

Recorded By: Samantha Murray, Dudek ***Date:** 6/27/2017 ☐ Continuation ■ Update

On June 5, 2017, Dudek Senior Architectural Historian and Archaeologist Samantha Murray, MA, RPA, conducted a pedestrian survey of the PBF Energy site at Berths 238-239. Ms. Murray was accompanied by Erin Sheehy and Nicole Enciso from POLA, and all parties were escorted by Michael Chumley, Southwest Terminal Supervisor.

The built-environment survey entailed walking all portions of Berths 238 and 239 and documenting each building and all visible portions of the wharfs with notes and photographs. Each element was assessed for significant changes in condition since the 2010 ESA evaluation (see attached). Mr. Chumley confirmed that there have been no major changes (i.e., infrastructure removal/demolition or modifications) to the site since the 2010 evaluation.

As a result of the built environment survey, Ms. Murray concluded that there have been no significant or noteworthy changes to Berths 238-239 since the 2010 ESA evaluation. Further, Ms. Murray concurs with the 2010 findings that Berths 238-239 are not eligible for the NRHP, CRHR, or for listing as City HCM (status code 6Z) due to a lack of integrity of materials, design, and setting.

Update to historic context: On July 1, 2016, PBF Energy acquired Exxon-Mobil's California assets including the refinery in Torrance and the terminal at Berths 238-239 and related infrastructure, including pipelines, which provide access to sources of crude oil.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code

Other Listings
Review Code | Reviewer | Date

 ***Resource Name or #:** Port of Los Angeles, Berths 238-239

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** ; M.D. **B.M.**

c. Address: City: Zip:

d. UTM: Zone: 10 ; mE/ mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

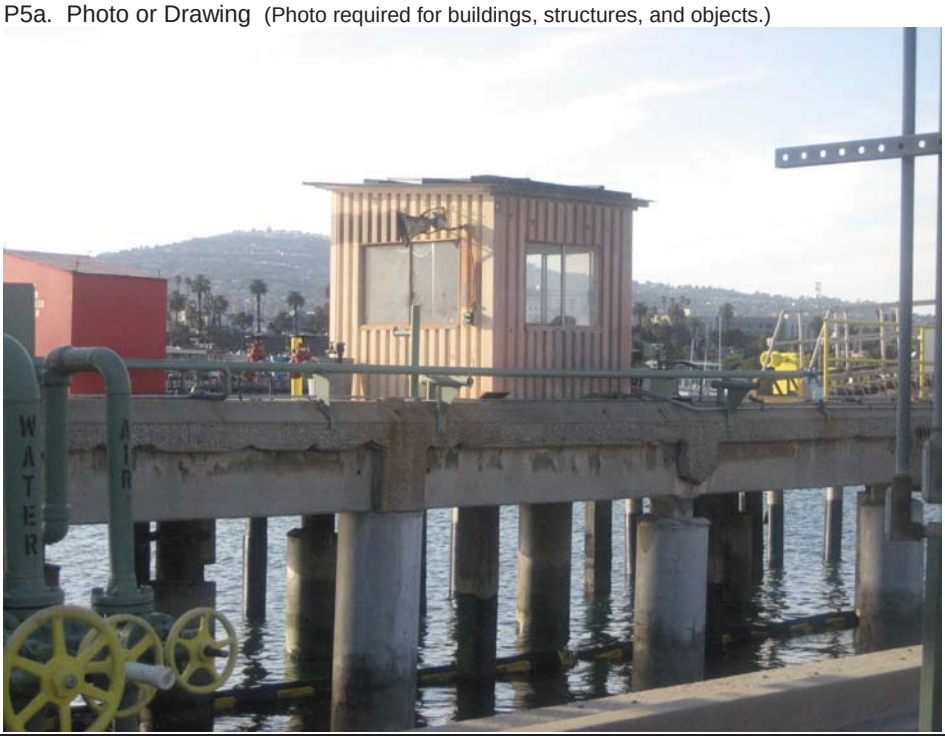
Located to the east of Wharf Street, Berths 238-239 are two separate concrete wharves each approximately 225 feet long by 30 feet wide. Plans for these wharves, designed by the engineering department of the General Petroleum Corporation, are dated March 12, 1925. The wharves are supported by asphalt impregnated and reinforced concrete pilings that are square in plan, although many of the pilings on Berth 239 in particular have been encased in concrete to provide additional strength, giving them a wider circular plan. Each wharf can be approached by two concrete ramps constructed in the same manner at the wharves. The decking on both wharves and the ramps is concrete with exposed aggregate, with evidence of more recent concrete patches. Recently constructed concrete bullrails are located along the waterside of the wharves, and painted iron cleats are interspersed along the bullrails at regular intervals. The fendering system along the length of both wharves consists of newer wood piles and rubber blocks. A steel hose tower is located near the southern end of Berth 239 which supports numerous steel pipes and rubber hoses. The tower assembly and piping system appears to have been constructed in the 1960s. Both berths contain one corrugated steel dock house each with a shed roof, aluminum sliding windows, and a steel door. The dock houses also appear to have been added in the 1960s. The seawall opposite Berth 239 is constructed of horizontal board-formed concrete, and appears to be in original condition, while the seawall opposite Berth 238 has generally the same dimensions but has been covered in newer concrete. Evidence of the location of former oil pipelines leading from the land to the water is apparent in the Berth 239 seawall, but these

(see continuation sheet)

***P3b. Resource Attributes:** (List attributes and codes) HP 11 Engineering Structure, HP 4 Ancillary Building

***P4. Resources Present:** ■Building ■Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #)
Looking northwest at Berth 238. 12/9/10

***P6. Date Constructed/Age and Sources:** ■Historic ☐Prehistoric ☐Both
1925

***P7. Owner and Address:**
Port of Los Angeles
425 Palos Verdes Street
San Pedro, CA 90733

***P8. Recorded by:** (Name, affiliation, and address)
Brad Brewster, ESA
225 Bush Street, Suite 1700
San Francisco, CA 94110

***P9. Date Recorded:** 12/4/09

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")

ESA. *Historic Resources Evaluation Report for Berths 118-120, 148-149, 187-191, and 238-239. Port of Los Angeles.* 2010.

***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):

openings have been sealed off with brick and concrete. One square, concrete breasting dolphin was added to the northern end of Berth 238, while a similar dolphin was added to the southern end of Berth 239, which essentially lengthened each berth by about 75 feet. Both dolphins are accessed from the berths by wood frame walkways. Engineering plans from the Port of LA Engineering Division date the construction of the dolphins to 1963.

Two timber pile wharves, Berths 240A and 240B, are located immediately west of and parallel to Wharf Street. These timber wharves are each about 230 feet by 40 feet wide, and are accessed by two ramps each. Constructed on top of Berth 240A is a large, wood framed warehouse about 160 feet long by 60 feet wide with a gable roof and wood siding. Aerial photos of this facility in 1925 show one long timber wharf with a large, gable-roofed transit shed, which by 1957, had been replaced by two smaller timber wharfs (Berths 240A and B) and a transit shed atop Berth 240B.

The tank farm is encircled by a spill containment wall about 25 feet high. The wall is constructed of horizontal board formed concrete which is angled inward slightly. The walls divide the tank farm into approximately seven sections. The tank farm consists of 19 tanks clustered to the northeast of Berth 238. Tanks are mostly riveted and welded steel construction, most of which are about 40 feet high and about 120 feet in diameter. Most of the tanks date to the mid-1920s and early 1930s, except for one which was added in the 1990s, according to the facility operator. Many of them appear altered with newer aluminum insulation siding and new roofs covered by geodomes which were added in the 1980s and 1990s to reduce emissions. A pipe valve field is located to the south and east of the tank farm, consisting of numerous painted steel valve wheels. Located to the southeast of the tank farm is a single-story control house with a rectangular plan, flat roof, and painted concrete block walls with a roman brick base. The building is about 35 feet by 45 feet in dimension. The north-facing elevation of this building has a series of large observatory windows consisting of fixed panes set in aluminum frames. Doors are steel. The control house appears to have been constructed in the early 1960s.

According to plans dated to 2007 from the Port of LA Engineering Division, numerous repairs occurred to Berth 238, including piling replacement, repair of the seawall, abandonment of the northern dolphin, fender system rehabilitation, sealing of topside deck surfaces, and installation of containment berms. Plans also indicate that repairs to the fendering system to Berth 239 was also completed at this same time.

Berth 238

Tank Farm (background) and Valve Field (foreground)

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code** 6Z

***Resource Name or #** (Assigned by recorder) Port of Los Angeles, Berths 238-239

B1. Historic Name: Berths 238-139
B2. Common Name:
B3. Original Use: Transshipment of oil
B4. Present Use: Transshipment of oil
***B5. Architectural Style:** Utilitarian
***B6. Construction History:** (Construction date, alterations, and date of alterations)

(see continuation sheet)

***B7. Moved?** ■No ☐Yes ☐Unknown **Date:** **Original Location:**
***B8. Related Features:**

B9a. Architect: Los Angeles Harbor Engineer's Office
b. Builder: Los Angeles Harbor Department
***B10. Significance: Theme:** Shipping of oil
Area: Los Angeles, CA
Period of Significance: 1920 – 1950
Property Type: Wharves
Applicable Criteria: N/A
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Berths 238-239 have been used continuously for the transshipment of oil since their original construction in the mid-1920s by the General Petroleum Corporation. The former General Petroleum Corporation facility is one of a few remaining oil terminals constructed at the Port of Los Angeles during the oil boom of the 1920s, a period which helped to establish the city as a major economic force in the region. As such, these berths may be eligible for listing in the NRHP Criteria A at the local level. However, while the original 1920s-era concrete wharf structures are generally intact, they have undergone various alterations over the years which have reduced their integrity. Changes which occurred in the 1960s, outside the facility's period of significance, include a newer tower assembly and piping system on Berth 239, two aluminum-clad dock houses (one on each wharf), and the addition of large, concrete breasting dolphins which essentially lengthened both wharves by about 75 feet each to accommodate larger ships. More recent changes include the encasement of the original square concrete pilings on Berth 239 with a wider, circular form, newer concrete bullrails along the waterside of both wharves, a newer fendering system along the length of both wharves consisting of replacement wood piles and rubber blocks, and alterations to the concrete seawall opposite Berth 238. Other changes to the setting have also occurred outside of this facility's period of significance, including alterations of many of the tanks with newer aluminum insulation siding and new roofs covered by geodomes which were added in the 1980s and 1990s. (see continuation sheet)

B11. Additional Resource Attributes: (List attributes and codes) HP 11 Engineering Structure, HP 4 Ancillary Building

***B12. References:**

See References in evaluation report.

B13. Remarks:

(Sketch Map with north arrow required.)

***B14. Evaluator:** Brad Brewster, ESA
225 Bush Street, Suite 1700
San Francisco, CA 94110
***Date of Evaluation:** December, 2009

(This space reserved for official comments.)

Other changes included the removal of a number of smaller facilities and three free-standing tanks just south of the tank farm (in the location of today's valve field), as well as the addition of a modern control house in the early 1960s. Alterations to adjacent Berths 240A and B are also apparent by 1957. The cumulative effect of these changes has resulted in a facility which looks significantly different from the one which operated in this location from the mid-1920s to 1950.

The wharves at Berths 238-239 would need to be evaluated as contributors to a terminal district to be considered eligible for listing in the NRHP. As described above, the integrity of the wharves at Berths 238-239 and their setting have been compromised to the extent that the facility no longer appears similar to when it was operated by the General Petroleum Corporation during the period of significance. No historical district can be formed because the integrity of materials, design, and setting has been substantially altered. Thus, the wharves at Berths 238-239 do not appear to be eligible for listing in the NRHP.

For similar reasons as described above, the wharves at Berths 238-239 to not appear eligible for listing in the CRHR, or as a City Monument.