PUBLIC REVIEW DRAFT | JUNE 2019

# Long Beach Cruise Terminal Improvement Project

## Initial Study/Mitigated Negative Declaration

*Submitted to:*
City of Long Beach

*Submitted by:*
Michael Baker INTERNATIONAL

**DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION AND APPLICATION SUMMARY REPORT**

# Long Beach Cruise Terminal Improvement Project


**LEAD AGENCY:**

**City of Long Beach**
333 West Ocean Boulevard, 5th Floor
Long Beach, California 90802
Contact: Ms. Amy L. Harbin, AICP
562.570.6872

**PREPARED BY:**

**Michael Baker International, Inc.**
5 Hutton Centre, Suite 500
Santa Ana, California 92707
Contact: Mr. Alan Ashimine
949.472.3505



June 2019

JN 169486

This document is designed for double-sided printing to conserve natural resources.

# TABLE OF CONTENTS

**1.0 Introduction ..... 1-1**
1.1 Statutory Authority and Requirements ..... 1-1
1.2 Purpose ..... 1-1
1.3 Consultation ..... 1-2
1.4 Incorporation by Reference ..... 1-2

**2.0 Project Description ..... 2-1**
2.1 Project Location ..... 2-1
2.2 Environmental Setting ..... 2-1
2.3 Existing General Plan and Zoning ..... 2-2
2.4 Project Background ..... 2-6
2.5 Project Characteristics ..... 2-6
2.6 Permits and Approvals ..... 2-12

**3.0 Initial Study Checklist ..... 3-1**
3.1 Background ..... 3-1
3.2 Environmental Factors Potentially Affected ..... 3-3
3.3 Lead Agency Determination ..... 3-3
3.4 Evaluation of Environmental Impacts ..... 3-4

**4.0 Environmental Analysis ..... 4.1-1**
4.1 Aesthetics ..... 4.1-1
4.2 Agriculture and Forestry Resources ..... 4.2-1
4.3 Air Quality ..... 4.3-1
4.4 Biological Resources ..... 4.4-1
4.5 Cultural Resources ..... 4.5-1
4.6 Energy ..... 4.6-1
4.7 Geology and Soils ..... 4.7-1
4.8 Greenhouse Gases ..... 4.8-1
4.9 Hazards and Hazardous Materials ..... 4.9-1
4.10 Hydrology and Water Quality ..... 4.10-1
4.11 Land Use and Planning ..... 4.11-1
4.12 Mineral Resources ..... 4.12-1
4.13 Noise ..... 4.13-1
4.14 Population and Housing ..... 4.14-1
4.15 Public Services ..... 4.15-1
4.16 Recreation ..... 4.16-1
4.17 Transportation ..... 4.17-1
4.18 Tribal Cultural Resources ..... 4.18-1
4.19 Utilities and Service Systems ..... 4.19-1
4.20 Wildfire ..... 4.20-1
4.21 Mandatory Findings of Significance ..... 4.21-1
4.22 References ..... 4.22-1
4.23 Report Preparation Personnel ..... 4.23-1

**5.0 Inventory of Mitigation Measures ..... 5-1**

**6.0 Application Summary Report ..... 6-1**
6.1 California Coastal Act Consistency Analysis ..... 6-1
6.2 Port Master Plan Consistency Analysis ..... 6-4

# LIST OF APPENDICES (PROVIDED ON ENCLOSED CD)

Appendix A Air Quality/Greenhouse Gas Study
Appendix B Biological Report
Appendix C Cultural Report
Appendix D Geotechnical Report/Paleontological Memorandum
Appendix E Phase 1 ESA/Dredging Soils Report
Appendix F Noise Study
Appendix G Traffic Impact Analysis
Appendix H AB 52 Consultation

# LIST OF EXHIBITS

Exhibit 2-1 Regional Vicinity ..... 2-3
Exhibit 2-2 Site Vicinity ..... 2-4
Exhibit 2-3 Existing Conditions – Maritime Improvement Area ..... 2-5
Exhibit 2-4 Overall Proposed Modifications ..... 2-9
Exhibit 2-5 Proposed Maritime Improvements ..... 2-10
Exhibit 2-6 Proposed Parking Garage Improvements ..... 2-11
Exhibit 4.17-1 Existing Conditions Study Intersections, Ramps, and Mainline Segments ..... 4.17-3
Exhibit 4.17-2 Opening Year 2020 Study Intersections, Ramps, and Mainline Segments ..... 4.17-5

# LIST OF TABLES

Table 2-1 Vessel Size Comparison ..... 2-6
Table 4.3-1 South Coast Air Basin Attainment Status ..... 4.3-2
Table 4.3-2 Unmitigated Peak Day Construction Emissions ..... 4.3-4
Table 4.3-3 Mitigated Peak Day Construction Emissions ..... 4.3-5
Table 4.3-4 Peak Daily Operation Emissions ..... 4.3-7
Table 4.3-5 Unmitigated Peak Daily Localized Construction Emissions ..... 4.3-9
Table 4.3-6 Mitigated Peak Daily Localized Construction Emissions ..... 4.3-9

Table 4.3-7 Measured CO Concentrations at POLB and Nearest SCAQMD Monitoring Stations ..... 4.3-10
Table 4.6-1 Energy Consumption ..... 4.6-2
Table 4.6-2 SCAP Energy Sustainability Goals ..... 4.6-3
Table 4.8-1 Estimated Greenhouse Gas Emissions ..... 4.8-3
Table 4.13-1 City of Long Beach Noise Limits ..... 4.13-3
Table 4.13-2 Noise Measurements ..... 4.13-4
Table 4.13-3 Modeled Carnival Panorama Ship Stack Levels ..... 4.13-8
Table 4.13-4 Typical Vibration Levels for Construction Equipment ..... 4.13-10
Table 4.17-1 ICU Level of Service Thresholds ..... 4.17-6
Table 4.17-2 HCM Level of Service Thresholds ..... 4.17-6
Table 4.17-3 Urban Freeway Density Thresholds ..... 4.17-7
Table 4.17-4 Multilane LOS Thresholds ..... 4.17-7
Table 4.17-5 Existing Conditions Intersections LOS ..... 4.17-8
Table 4.17-6 Existing Conditions Mainline Segment LOS ..... 4.17-9
Table 4.17-7 Existing Conditions Ramp Analysis ..... 4.17-10
Table 4.17-8 Existing Conditions (2018) Trip Generation ..... 4.17-12
Table 4.17-9 Opening Year (2020) Trip Generation ..... 4.17-12
Table 4.17-10 Opening Year (2020) Net Project Trip Generation ..... 4.17-13
Table 4.17-11 Opening Year 2020 – Net Project Trips by User ..... 4.17-13
Table 4.17-12 Existing Plus Project Conditions – Signalized Study Intersections LOS ..... 4.17-14
Table 4.17-13 Existing Plus Project Conditions – Unsignalized Study Intersections LOS ..... 4.17-15
Table 4.17-14 Existing Plus Project Conditions – Mainline Segments ..... 4.17-15
Table 4.17-15 Existing Plus Project Conditions – Ramp Summary ..... 4.17-16
Table 4.17-16 Opening Year (2020) Plus Project Conditions – Signalized Study Intersections LOS ..... 4.17-17
Table 4.17-17 Opening Year (2020) Plus Project Conditions – Unsignalized Study Intersections LOS ..... 4.17-18
Table 4.17-18 Opening Year (2020) Plus Project Conditions – I-710 Mainline ..... 4.17-18
Table 4.17-19 Opening Year (2020) Plus Project Conditions – I-710 Ramps ..... 4.17-19
Table 4.17-20 Opening Year (2020) Plus Project Conditions – POLB Mainline ..... 4.17-19
Table 4.17-21 Opening Year (2020) Plus Project Conditions – POLB Ramps ..... 4.17-20
Table 4.17-22 I-710 Off-Ramp Queue Analysis ..... 4.17-20

This page intentionally left blank.

# INITIAL STUDY/MITIGATED NEGATIVE DECLARATION AND TECHNICAL APPENDICES ON CD

This page intentionally left blank.

# 1.0 INTRODUCTION

The proposed Long Beach Cruise Terminal Improvement Project (herein referenced as the "project") involves improvements to Carnival Corporation & PLC (Carnival) facilities at the Long Beach Cruise Terminal in the City of Long Beach Harbor District (Port of Long Beach [POLB]) to accommodate a new and larger class of cruise ships capable of holding approximately 4,008 passengers, to safely moor the larger cruise ships at the existing berth, and to improve existing safety at the berth related to ocean swells. The proposed maritime and onshore improvements would entail all actions and activities necessary to safely accommodate the larger vessel and the associated increase in passenger numbers.

Following a preliminary review of the proposed project, the City of Long Beach (City) has determined that it is subject to the guidelines and regulations of the California Environmental Quality Act (CEQA). This Initial Study/Mitigated Negative Declaration addresses the direct, indirect, and cumulative environmental effects of the project, as proposed.

## 1.1 STATUTORY AUTHORITY AND REQUIREMENTS

In accordance with CEQA (Public Resources Code Sections 21000-21177) and pursuant to Section 15063 of Title 14 of the California Code of Regulations (CCR), the City of Long Beach, acting in the capacity of Lead Agency, is required to undertake the preparation of an Initial Study to determine whether the proposed project would have a significant environmental impact. If the Lead Agency finds that there is no evidence that the project, either as proposed or as modified to include the mitigation measures identified in the Initial Study, may cause a significant effect on the environment, the Lead Agency shall find that the proposed project would not have a significant effect on the environment and shall prepare a Negative Declaration (or Mitigated Negative Declaration) for that project. Such determination can be made only if "there is no substantial evidence in light of the whole record before the Lead Agency" that such impacts may occur (Section 21080, Public Resources Code).

The environmental documentation, which is ultimately approved and/or certified by the City in accordance with CEQA, is intended as an informational document undertaken to provide an environmental basis for subsequent discretionary actions upon the project. The resulting documentation is not, however, a policy document and its approval and/or certification neither presupposes nor mandates any actions on the part of those agencies from whom permits and other discretionary approvals would be required.

## 1.2 PURPOSE

Section 15063 of the CEQA Guidelines identifies specific disclosure requirements for inclusion in an Initial Study. Pursuant to those requirements, an Initial Study shall include:

- A description of the project, including the location of the project;
- Identification of the environmental setting;
- Identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries;
- Discussion of ways to mitigate significant effects identified, if any;
- Examination of whether the project is compatible with existing zoning, plans, and other applicable land use controls; and
- The name(s) of the person(s) who prepared or participated in the preparation of the Initial Study.

## 1.3 CONSULTATION

As soon as the Lead Agency (in this case, the City of Long Beach) has determined that an Initial Study would be required for the project, the Lead Agency is directed to consult informally with all Responsible Agencies and Trustee Agencies that are responsible for resources affected by the project, in order to obtain the recommendations of those agencies on the environmental documentation to be prepared for the project. Following receipt of any written comments from those agencies, the City will consider their recommendations when formulating the preliminary findings. Following completion of this Initial Study, the City will initiate formal consultation with these and other governmental agencies as required under CEQA and its implementing guidelines.

## 1.4 INCORPORATION BY REFERENCE

The following documents were utilized during preparation of this Initial Study and are incorporated into this document by reference. The documents are available for review at the City of Long Beach Development Services Department, located at 333 West Ocean Boulevard, 4th Floor, Long Beach, California 90802.

- *City of Long Beach General Plan* (Updated October 2013). The purpose of the *City of Long Beach General Plan* (General Plan) is to provide a general, comprehensive, and long-range guide for community decision-making. The General Plan consists of the following elements, adopted on various dates: Historic Preservation (2010); Open Space (2002); Housing (2014); Air Quality (1996); Mobility Element (2013); Land Use (1989); Seismic Safety (1988); Local Coastal Program (1980); Noise (1975); Public Safety (1975); Conservation (1973); and Scenic Routes (1975). The individual elements identify goals and policies for existing and future conditions within the City.

  It should be noted that the City is currently in the process of updating its General Plan Land Use and Urban Design Elements and is intended to guide growth and future development through the year 2040. The updated elements would replace the existing Land Use and Scenic Routes Elements. Anticipated project approval is expected in Summer 2019.

- *City of Long Beach Municipal Code* (Codified through Ordinance No. ORD-18-0027, enacted October 9, 2018). The City of Long Beach Municipal Code (LBMC) consists of regulatory, penal, and administrative ordinances of the City. It is the method the City uses to implement control of land uses, in accordance with the General Plan goals and policies. Title 20, Subdivisions, and Title 21, Zoning, of the LBMC identifies land uses permitted and prohibited according to the zoning designation of particular parcels. The purpose of the zoning regulations within the LBMC is to promote and preserve the public health, safety, comfort, convenience, prosperity, and general welfare of the people of Long Beach.

- *City of Long Beach Local Coastal Program* (Adopted February 12, 1980, Certified July 22, 1980). The City of Long Beach Local Coastal Program (LCP) is required under the California Coastal Act of 1976 (CCA) and includes regulations consistent with the City's Zoning Code for development along the Long Beach shoreline. General policies include those related to transportation and access, housing, park dedication, and strand use and access. Additionally, the LCP includes policies for future development within the City's various community plans along the coast, including the Downtown Shoreline; The Bluffs; Bixby Park; Belmont Heights/Belmont Park; Belmont Shore; Naples and the Peninsula; Southeast Area; and The Waterlands – Resource Management Plan.

- *Port of Long Beach Port Master Plan (Updated 1990)*. The *Port of Long Beach Port Master Plan* (PMP) is required by the CCA and guides long range land use planning and development in the POLB). The PMP outlines strategic goals, operational initiatives, and environmental policies, and evaluates the consistency of future developments and land uses with those goals, initiatives, and policies.

  The PMP is currently being updated by the POLB to reflect current challenges and opportunities of maritime trade in the 21st century; address new and existing environmental concerns; and continue safeguarding coastal resources, including public access to coastal areas. The PMP update and associated Environmental Impact Report, which began in 2018, are anticipated to go to public hearing for approval and certification in early 2020.

This page intentionally left blank.

# 2.0 PROJECT DESCRIPTION

## 2.1 PROJECT LOCATION

Regionally, the project site is located in the southern portion of the County of Los Angeles and in the southwest portion of the City of Long Beach (City) in the Harbor District (Port of Long Beach [POLB]); refer to Exhibit 2-1, *Regional Vicinity*. The POLB is located in San Pedro Bay and the project site is specifically located at Pier H at 231 Windsor Way, Long Beach, CA 90802, adjacent to RMS Queen Mary. The Long Beach cruise terminal is located at the south end of the Long Beach Freeway (Interstate 710 [I-710]), directly across Queensway Bay from downtown Long Beach; refer to Exhibit 2-2, *Site Vicinity*.

Regional access to the project site is provided via I-710 and Pacific Coast Highway (State Route 1 [SR-1]) to the north. Primary vehicular access to the project site is provided via South Harbor Scenic Drive.

## 2.2 ENVIRONMENTAL SETTING

The POLB encompasses 3,200 acres, with 31 miles of waterfront, 10 piers, and 62 berths. It is the second-busiest container seaport in the United States, handling trade valued at $194 billion annually, with the aim of creating the world's most modern, efficient and sustainable seaport.[1]

The Long Beach cruise terminal is located at Pier H with the following onshore primary buildings and structures associated with the terminal; refer to Exhibit 2-2:

- Passenger ticketing and kiosk buildings;
- A 130,000-square foot dome (formerly housing Howard Hughes' Spruce Goose) that includes ticketing and passenger waiting areas, United States Customs and Border Protection security areas, offices, restrooms, luggage storage, a covered passenger walkway bridge that connects to the main passenger boarding gangway; and back-of-house operations;
- An open-air plaza area with restroom facilities; and
- A 1,430-space, five-level parking structure supporting parking for cruise operations.

Unrelated to the cruise terminal operations is the Long Beach Fire Department Station 6 and a helicopter tour company, Island Express (IEX) Helicopters, to the southeast of the parking garage. An approximately 450-foot abandoned tunnel associated with a previous use is located along the southwesterly boundary of the parking garage and Windsor Way between Queens Highway and the IEX Helicopters storefront.

Existing offshore/maritime improvements associated with the cruise terminal are identified on Exhibit 2-3, *Existing Conditions – Maritime Improvement Area*, and include:

- A 300-foot pedestrian bridge that connects Pier H to the wharf deck;
- A 25,000-square foot wharf deck that extends approximately 500 feet in length with catwalks extending approximately 275 feet to the north and 450 feet to the south across several breasting and mooring dolphins[2];
- Several foam-filled fenders along the wharf deck's eastern side where ships berth; and

1 Port of Long Beach Website, *Facts at a Glance*, http://www.polb.com/about/facts.asp, accessed May 29, 2019.

2 Dolphins are isolated marine structures utilized for berthing and mooring of vessels and are commonly constructed alongside piers to reduce the required size of piers and help reduce longitudinal load due to slight surges of the vessel while moored. Breasting dolphins assist in reducing berthing loads, keeps the vessel from pressing against the pier structure; and serves as mooring points to restrict movement of the vessel. Mooring dolphins are used to secure the vessel to the pier with ropes.

- A covered passenger gangway providing a connection between the dome and cruise ship, supported by two towers that allow the gangway to move up and down depending on the type of cruise ship and sea level.

Current bathymetric data for the area indicates water depth of the existing berth ranges from approximately 28 feet to 47 feet Mean Lower Low Water (MLLW) within the berth perimeter. Water depths in this area generally slope from slightly lower bathymetry in the west to deeper depths to the east.

**SURROUNDING USES**

The project site is bounded by the Queensway Bay to the north, the Pacific Ocean to the east and south, and surface parking areas associated with Pier H and the Queen Mary Seaport to the west. Surrounding land uses in proximity to the project site include the following:

- *North:* Pier H uses (i.e., RMS Queen Mary and Queen Mary Seaport) and the Queensway Bay are located to the north;
- *East:* The Pacific Ocean is located to the east;
- *South:* The Long Beach Fire Department Station 6, IEX Helicopters, and Pacific Ocean are located to the south; and
- *West:* Pier H surface parking lot, Pier G uses (i.e., K Line/International Transportation Service), and railroad facilities are located to the west.

## 2.3 EXISTING GENERAL PLAN AND ZONING

According to the *City of Long Beach General Plan* (General Plan) Land Use Element, the project site and its surrounding areas are located in Land Use Designation (LUD) 7, Mixed Use District. LUD 7 is intended for large, vital activity centers with uses including retail, offices, medical facilities, higher density residential, visitor-serving facilities, personal and professional services, and recreational facilities. Surrounding areas to the project site are designated LUD 11, Open Space and Park District, and LUD 12, Harbor/Airport District.

The City is currently updating its General Plan Land Use and Urban Design Elements. Based on the *General Plan Land Use & Urban Design Elements Draft Environmental Impact Report*, prepared by LSA Associates, Inc. and dated September 2016, the project site would continue to be designated LUD 7 with a 'PlaceType' designation of Waterfront (WF). The WF PlaceType includes three primary areas along the City's shoreline, including the Downtown Shoreline Area (e.g., the project site, RMS Queen Mary, and the Long Beach Aquarium of the Pacific), Alamitos Bay Marina, and the Belmont Pier and Pool Complex area. Specifically, the WF PlaceType would encourage high-intensity, compact, and diverse uses (e.g., housing, offices, hotels, and tourism attractions) in the Downtown Shoreline Area.

According to the *City of Long Beach Zoning Districts Map*, dated September 2018, the project site is zoned Planned Development 21 (PD-21), Queensway Bay. The intent of the *Queensway Bay Planned Development Plan*, dated February 28, 2005, is to provide a framework of development in the Queensway Bay area that creates a visitor-serving destination for recreational and commercial users in order to enhance downtown Long Beach as a major international business, convention, and tourist center, and POLB as a major international harbor. Within PD-21, the project site is located within Subarea 4. Permitted uses within Subarea 4 include entertainment attractions and display uses; hotel; retail and restaurant establishments; commercial office; shuttle boats; helistop; water taxi stop; and cruise terminals and related uses. The *Queensway Bay Planned Development Plan* details development standards associated with each subarea, including site access, building design (e.g., site location, building height, setbacks, special design features), parking, and landscaping requirements.

NOT TO SCALE

Michael Baker INTERNATIONAL

06/19 JN 169486

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
LONG BEACH CRUISE TERMINAL IMPROVEMENT PROJECT

# Regional Vicinity

**Exhibit 2-1**

Source: Google Earth Pro, 2018.

- Project Area

NOT TO SCALE

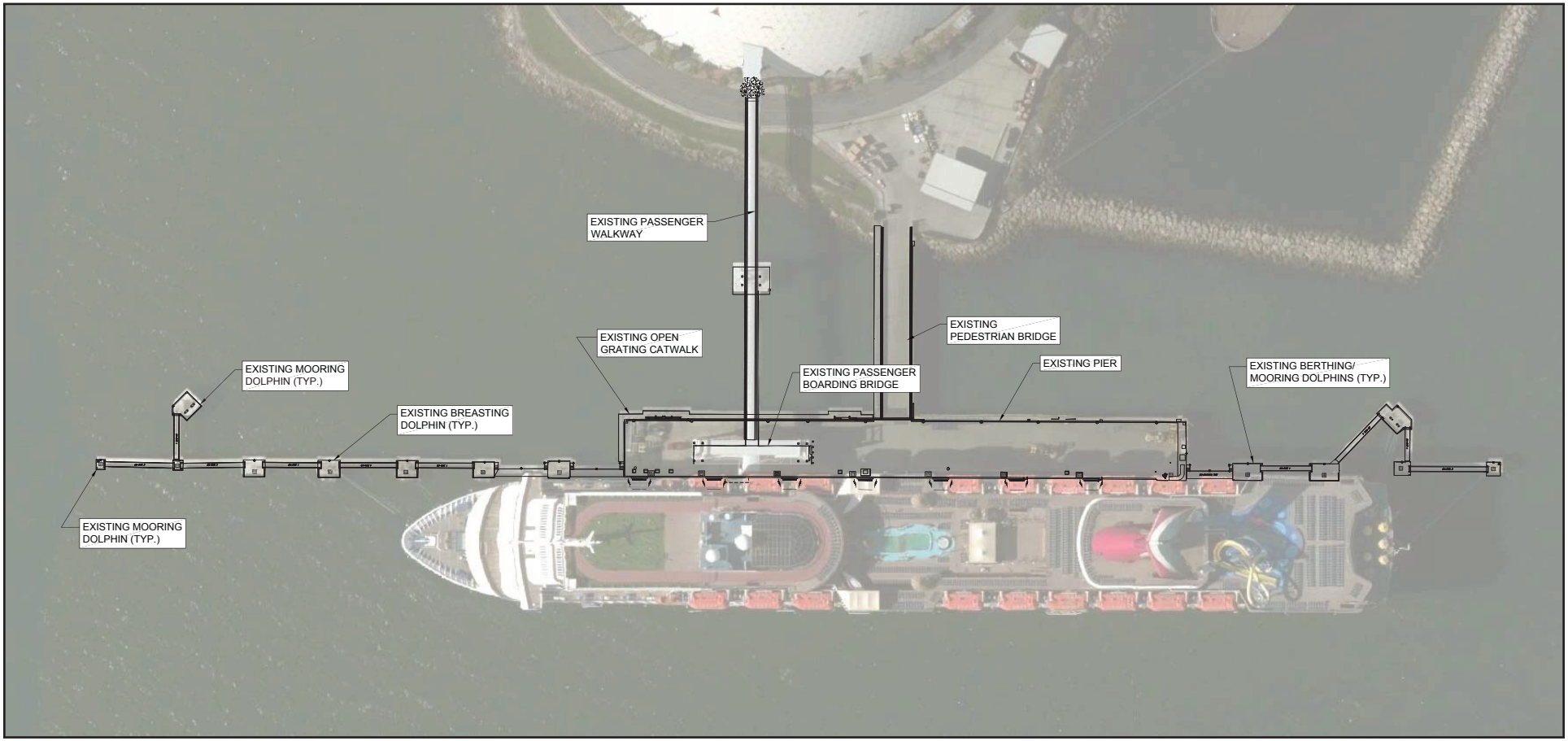
Michael Baker INTERNATIONAL

06/19 JN 169486

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
LONG BEACH CRUISE TERMINAL IMPROVEMENT PROJECT

# Site Vicinity

**Exhibit 2-2**




Source: Atkins, July 2018.

NOT TO SCALE

Michael Baker INTERNATIONAL

06/19 JN 169486

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
LONG BEACH CRUISE TERMINAL IMPROVEMENT PROJECT

# Existing Conditions – Maritime Improvement Area

**Exhibit 2-3**

## 2.4 PROJECT BACKGROUND

The project site is currently subleased to Carnival Corporation & PLC (Carnival) by Urban Commons Queensway LLC, the master tenant of Pier H from the City and POLB. This lease was originally acquired in 2003 for Carnival's relocation from the City of Los Angeles' San Pedro Port to POLB. Carnival also arranged to lease the entirety of the geodesic dome (which was originally built in 1983 to publicly display the Spruce Goose seaplane) in early 2018 when it opened the newly-renovated dome and 'home-ported' *Carnival Splendor*, a 3,012-passenger vessel, to Long Beach.

Currently, four Carnival vessels call at POLB: a 3,012-passenger vessel (*Carnival Splendor*) that arrives one day a week for 7- to 14-day cruises; a 2,056-passenger vessel (*Carnival Imagination*) and 2,054-passenger vessel (*Carnival Inspiration*) that arrive four days a week (combined) for three- to four-day cruises; and a 2,124-passenger vessel (*Carnival Miracle*) that occasionally docks at POLB (scheduled for seven calls in 2019). The proposed 4,008-passenger vessel (*Carnival Panorama*) would replace the *Carnival Splendor*, which is currently home-ported at POLB until December 2019, as the largest cruise ship operating out of the Long Beach cruise terminal. Table 2-1, *Vessel Size Comparison*, provides a comparison of Carnival's existing and proposed vessels at POLB.

**Table 2-1**
**Vessel Size Comparison**

| | Future Vessel | Existing Vessels | | |
|---|---|---|---|---|
| | ***Carnival Panorama*** | ***Carnival Splendor*** | ***Carnival Imagination*** | ***Carnival Inspiration*** |
| Gross Tonnage | 133,500 | 113,300 | 70,367 | 70,367 |
| Length | 1,055 feet | 952 feet | 855 feet | 855 feet |
| Beam[1] | 122 feet | 116 feet | 103 feet | 103 feet |
| Height from Waterline | 206 feet | 192 feet | 178 feet | 178 feet |
| Guest Capacity (Double Occupancy) | 4,008 | 3,012 | 2,056 | 2,054 |

Notes:
[1] The beam is the width of a ship at the widest point as measured at the ship's nominal waterline.
Source: Carnival Corporation & PLC, 2019.

Carnival has run the Long Beach cruise terminal, the United States' only privately-operated cruise terminal since 2003. Approximately 600,000 passengers are transported by Carnival into POLB for embarkation and debarkation per year. The Long Beach cruise terminal is one of the busiest terminals in North America with vessels docking at the facility five days per week resulting in a utilization rate greater than 70 percent. The increased size of the new *Carnival Panorama* is expected, under current economic conditions, to generate an additional 50,000 passengers per year. The proposed project, as described in detail below, would provide the maritime and onshore improvements required to accommodate the larger *Carnival Panorama*.

## 2.5 PROJECT CHARACTERISTICS

Carnival, the project applicant, is proposing to make improvements to its facilities at the Long Beach cruise terminal to accommodate a new and larger class of cruise ships capable of holding approximately 4,008 passengers, to safely moor the larger cruise ships at the existing berth, and to improve existing safety at the berth related to ocean swells. The proposed maritime and onshore improvements would entail all actions and activities necessary to safely accommodate the larger vessel and the associated increase in passenger numbers. The proposed project components are discussed below as maritime and onshore improvements and illustrated on Exhibit 2-4, *Overall Proposed Modifications*.

## MARITIME IMPROVEMENTS

The proposed maritime improvements are focused on accommodating safe and secure moorage of existing vessels and the future larger Vista-class vessel along the existing wharf deck; refer to Exhibit 2-4 and Exhibit 2-5, *Proposed Maritime Improvements*. These improvements and activities include:

- *Dredging*. Deepening the existing berth from its current design depth of 30 feet MLLW plus one foot to a new design depth of 36 feet MLLW plus one foot of over-dredge for a total depth of 37 feet MLLW; refer to Exhibit 2-4 for the proposed dredge area. The proposed dredging would increase navigable and mooring margins, in order to cope with the pitch and roll movement of the vessels due to long period wave swells and manage mooring loads on the wharf deck. It is estimated that the dredging volume would total approximately 33,250 cubic yards, consisting of:

    - 28,250 cubic yards within the existing berth; and
    - 5,000 cubic yards within the proposed berth extension area.

    The project would include disposal of approximately 33,250 cubic yards of dredged materials at the LA-2 Ocean Dredge Material Disposal Site (ODMDS) located offshore approximately 11 miles southwest of the cruise terminal. This location has been selected based on the findings of the physical, chemical, and biological tests conducted on the material and in consultation with the Southern California Dredged Material Management Team.

- *Mooring Dolphins and Catwalks*. Two high-capacity, pile-founded mooring dolphins and associated catwalks are proposed on both sides of the wharf deck to allow for adequate mooring capacity and stability during high winds and long-period wave swell conditions, which have been observed more frequently than in the past; refer to Exhibits 2-4 and 2-5. The proposed dolphins would be structurally designed similar to the existing dolphins located off the northern and southern ends of the deck, which were constructed in 2008. All dolphins would connect back to the wharf deck via catwalk bridge elements. The current dolphins have been experiencing capacity issues for current ship calls and thus, the two proposed dolphins would alleviate these existing problems and accommodate the larger class vessels.

- *Passenger Walkway Bridge Extension*. Passenger entry on the new cruise ships would be located closer towards the bow (front) of the ship compared to entryways on existing Carnival cruise ships. Therefore, an extension to the existing passenger walkway bridge system with an added ramp section is proposed. This would include a new tower element on the existing wharf deck and a new tower on a new platform deck using new or current piles just south of the existing wharf deck; refer to Exhibits 2-4 and 2-5. The passenger walkway bridge extension and associated tower element would be designed to follow the specifications and design criteria of the existing gangway, to be adjustable for tidal conditions while remaining within Americans with Disabilities Act (ADA) allowances.

- *Fender Replacements*. The project would also replace the existing worn foam-filled fenders with new oversized high-density foam-filled fenders and backing plates; refer to Exhibit 2-5. The new fenders would improve the dampening characteristics that manage vessel movement and provide safe vessel stand-off distances for all ships calling at the terminal.

- *Proposed Water Lease*. Under a new water lease with POLB, Carnival is proposing to expand its water lease from 7.81 acres to 11.8 acres to encompass the additional dredged area required as part of the project. As shown on Exhibit 2-4, the proposed lease area does not encompass the full dredge limits; however, the lease language does allow dredging in the vicinity required for operation of the wharf. The total over-water work area is approximately 17.06 acres, which includes the proposed water lease area as well as the full dredge boundary for the project.

## ONSHORE IMPROVEMENTS

The onshore improvements are limited to the expansion of the existing parking garage at Pier H to resolve current circulation issues and to support the increase in passengers associated with the larger vessels. Approximately 500 additional cars associated with the *Carnival Panorama* (visitors or employees) are anticipated to park at the facility on Saturdays. The proposed parking garage improvements would include:

- *Parking Garage Expansion*. The project would expand the existing parking garage from 1,430 parking spaces to approximately 2,055 parking spaces by extending the parking garage laterally towards the southwest and northeast; refer to Exhibit 2-6, *Proposed Parking Garage Improvements*. Both the southwest and northeast extensions would occur over existing roadways on the leasehold, with vertical clearance heights maintained for all through traffic lanes to accommodate commercial vehicles, including emergency response vehicles (i.e., Long Beach Fire Department Station 6 vehicles).

- *Tunnel Abandonment*. The 450-foot tunnel system located to the southwest of the parking garage along Windsor Way would be filled and abandoned; refer to Exhibit 2-4.

- *Traffic Lane Reconfiguration*. Traffic lanes around the southern corner of the existing parking garage would be reconfigured. Existing traffic is open in both directions to the public with traffic moving counter-clockwise on the outside lanes and clockwise on the inside lanes. The project would modify the traffic lane configurations to be open to the public only on the inside lane in a counter-clockwise direction to allow a fire lane along the outside lane to travel in a clockwise direction.

## PHASING AND CONSTRUCTION

Construction of the proposed project would occur in two major phases, from August 2019 to October 2020. Maritime improvements would occur first and are anticipated to take approximately four months from August 2019 to December 2019; onshore improvements would occur subsequently with a slight overlap for approximately 12 months from October 2019 to October 2020.

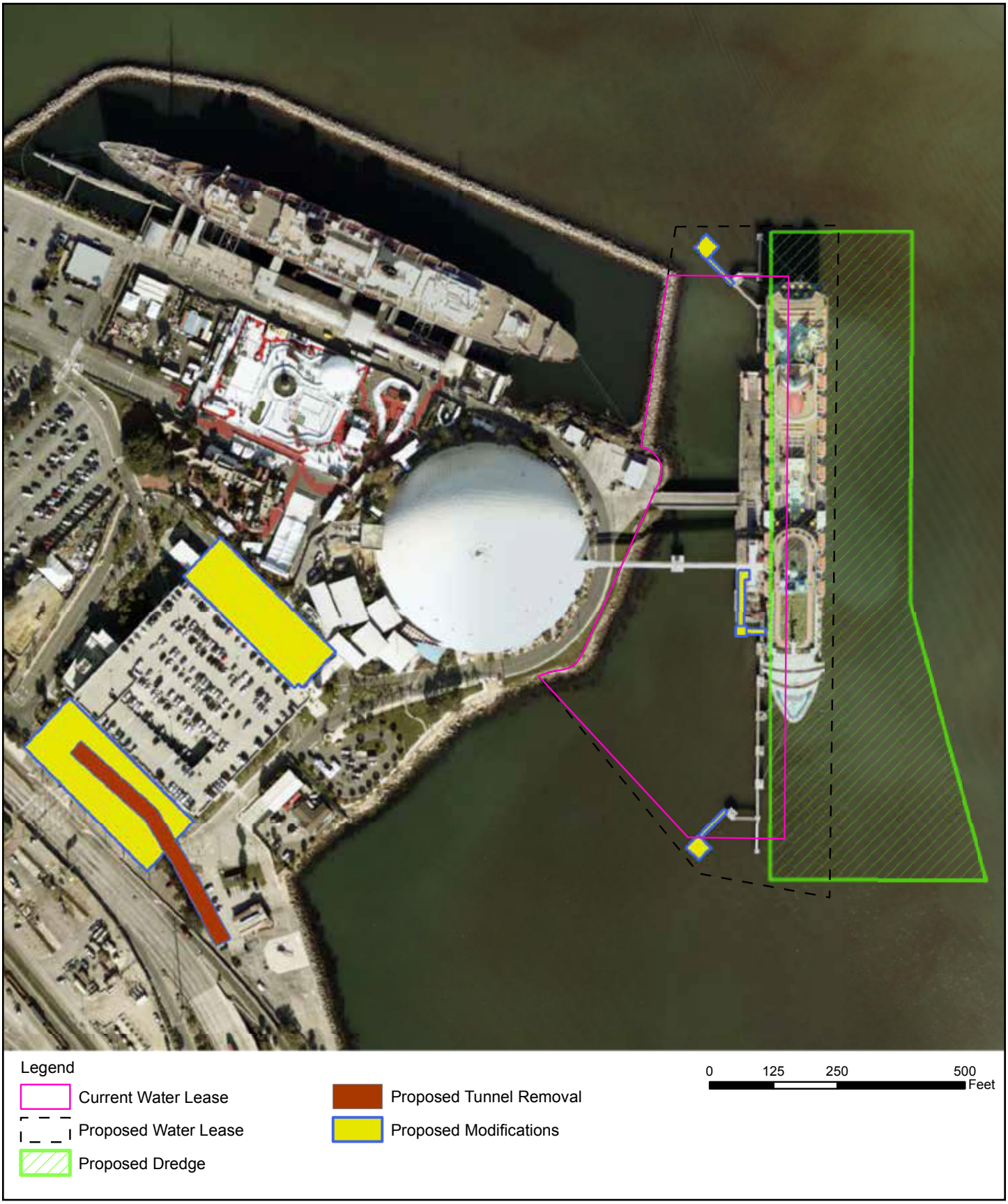
### Maritime Improvements

Dredging the berth area and construction of the proposed mooring dolphins may occur concurrently. The dredging would take approximately one month and construction of the mooring dolphins and catwalks would take approximately two months. To construct the mooring dolphins, concrete caps supported by steel pipe piles would need to be installed; a portion of the pile installation activities would occur at the same time as the dredging. Additionally, the fender replacements would occur at the same time as the dolphin and catwalk construction.

Construction of the passenger walkway bridge extension, new towers, and platform deck would require approximately two months and would occur concurrently with the dredging and dolphin construction. The new gangway towers would require concrete foundations supported on steel pipe piles.

### Onshore Improvements

Construction of the parking garage, traffic lane reconfiguration, and tunnel abandonment is estimated to take approximately 13 months and would occur concurrently with the maritime improvements. The parking garage expansion would involve installing 236 foundation piles and backfilling the abandoned tunnel system. Carnival anticipates current cruise terminal operations would continue uninterrupted during construction activities associated with the proposed project. Thus, the parking garage and surrounding roadways would continue to be utilized by existing passengers, visitors, and employees, and bus transit services as usual.




Source: Atkins; July 16, 2018.

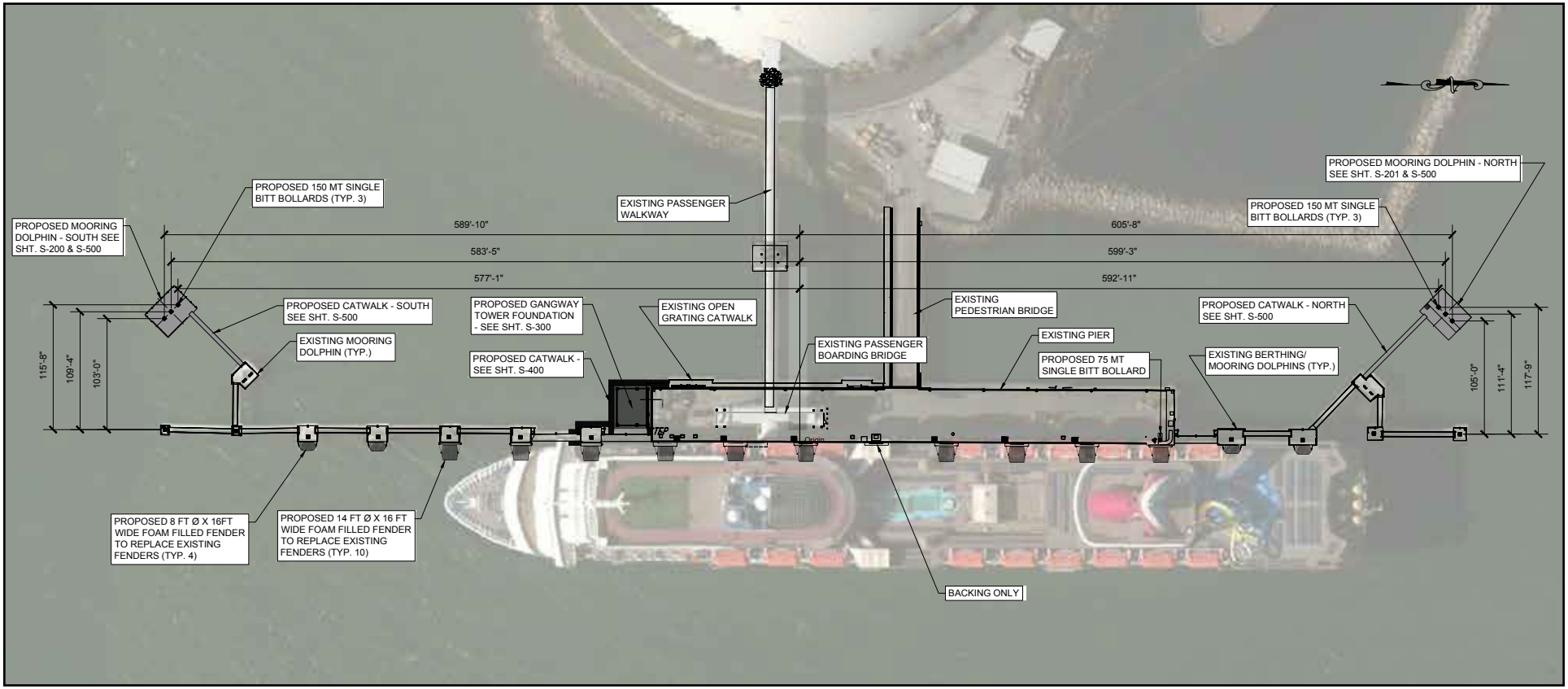
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
LONG BEACH CRUISE TERMINAL IMPROVEMENT PROJECT

# Overall Proposed Modifications

Michael Baker INTERNATIONAL

06/19 JN 169486

**Exhibit 2-4**




Source: Atkins, November 2018.

NOT TO SCALE

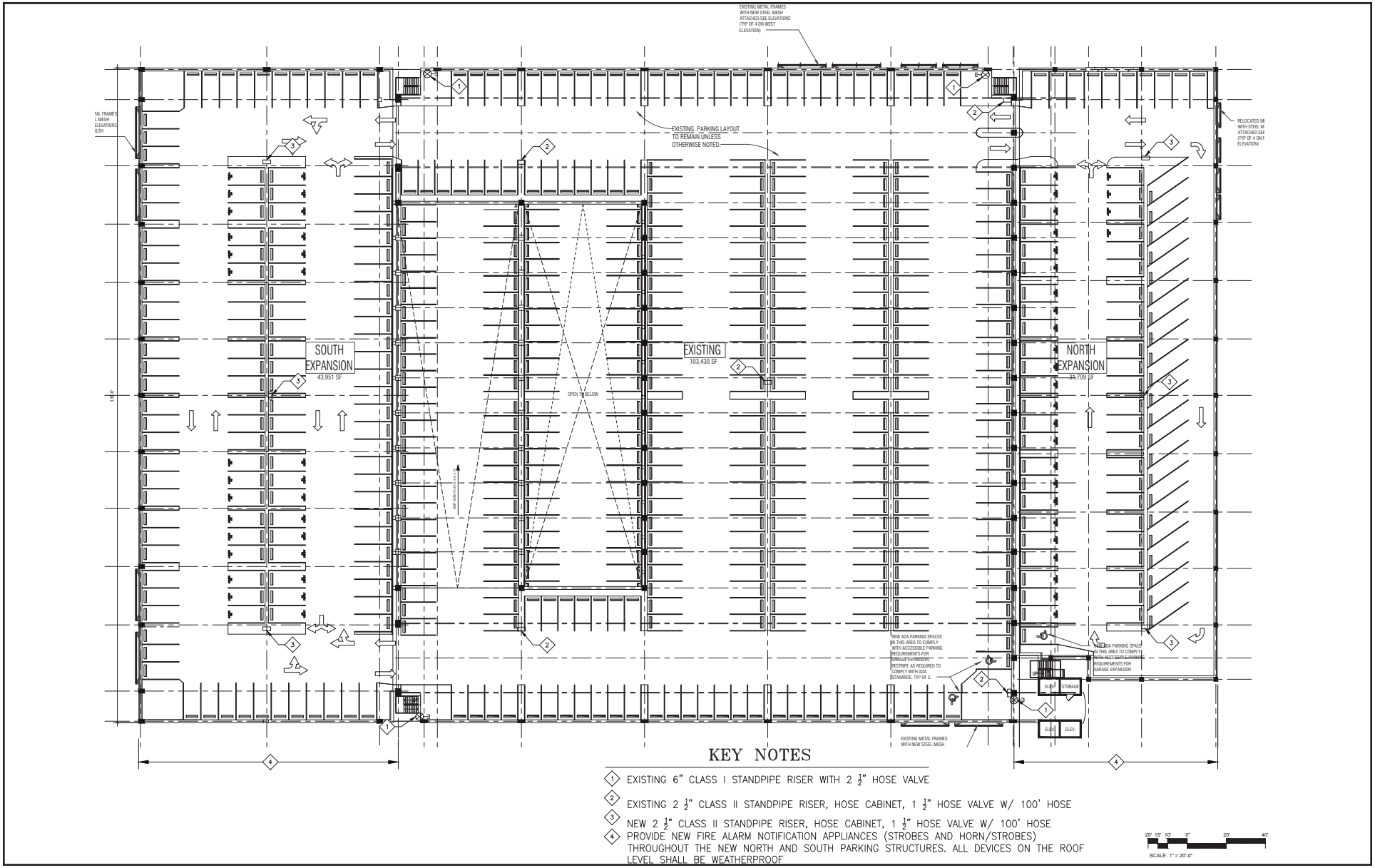
Michael Baker INTERNATIONAL

06/19 JN 169486

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
LONG BEACH CRUISE TERMINAL IMPROVEMENT PROJECT

# Proposed Maritime Improvements

**Exhibit 2-5**




Source: Bermello Ajamil & Partners; July 20, 2018.

NOT TO SCALE

Michael Baker INTERNATIONAL

06/19 JN 169486

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
LONG BEACH CRUISE TERMINAL IMPROVEMENT PROJECT

# Proposed Parking Garage Improvements

**Exhibit 2-6**

## 2.6 PERMITS AND APPROVALS

The proposed project would require permits and approvals from the City of Long Beach and other agencies prior to construction. These permits and approvals are described below and may change as the project entitlement process proceeds.

City of Long Beach

- California Environmental Quality Act Clearance
- Site Plan Review (for parking garage)
- Building and Safety Permit
- Grading Permit

City of Long Beach Harbor Department (Port of Long Beach)

- Harbor Development Permit
- New Water Lease Agreement

United States Army Corps of Engineers

- Clean Water Act Section 404 Permit (for dredging activities)
- Section 10 Permit (for dredging and installation of piles and dolphins)

Los Angeles Regional Water Quality Control Board

- National Pollutant Discharge Elimination System Construction General Permit

National Oceanic and Atmospheric Administration Fisheries, Office of Protected Resources – Marine Mammal Protection Act

- Incidental Harassment Authorization

# 3.0 INITIAL STUDY CHECKLIST

## 3.1 BACKGROUND

| |
|---|
| **1. Project Title:**<br><br>Long Beach Cruise Terminal Improvement Project |
| **2. Lead Agency Name and Address:**<br><br>City of Long Beach<br>333 West Ocean Boulevard, 5th Floor<br>Long Beach, CA 90802 |
| **3. Contact Person and Phone Number:**<br><br>Ms. Amy L. Harbin, AICP<br>Planner<br>562.670.6872 |
| **4. Project Location:**<br><br>Regionally, the project site is located in the southern portion of the County of Los Angeles and in the southwest portion of the City of Long Beach (City) in the Harbor District (Port of Long Beach [POLB]). It is located in San Pedro Bay and the project site is specifically located at Pier H at 231 Windsor Way, Long Beach, CA 90802, adjacent to RMS Queen Mary. The Long Beach cruise terminal is located at the south end of the Long Beach Freeway (Interstate 710), directly across Queensway Bay from downtown Long Beach. |
| **5. Project Sponsor's Name and Address:**<br><br>Carnival Corporation & PLC<br>Wilkin Mes<br>231 Windsor Way<br>Long Beach, CA 90802 |
| **6. General Plan Designation:**<br><br>According to the *City of Long Beach General Plan* (General Plan) Land Use Element, the project site and its surrounding areas are located in Land Use Designation (LUD) 7, Mixed Use District. |
| **7. Zoning:**<br><br>The *City of Long Beach Zoning Districts Map* zones the project site as Planned Development 21 (PD-21), Queensway Bay, Subarea 4. |

**8. Description of the Project:**

Carnival Corporation & PLC (Carnival) proposes to make improvements to its facilities at the Long Beach cruise terminal to accommodate a new and larger class of cruise ships capable of holding approximately 4,008 passengers, to safely moor the larger cruise ships at the existing berth, and to improve existing safety at the berth related to ocean swells. Maritime and onshore improvements are proposed to safely accommodate the larger vessel and the associated increase in passenger numbers. Maritime improvements include deepening the existing berth by dredging approximately 33,250 cubic yards; constructing two mooring dolphins and associated catwalks; constructing a new tower element on the existing wharf deck and a new tower on a new platform deck to connect to the existing gangway; and replacing existing worn fenders along the wharf deck with new oversized high-density foam-filled fenders and backing plates. Under a new water lease, Carnival is also proposing to expand its water lease from 7.81 acres to 11.8 acres to encompass the additional dredged area. Onshore improvements include expanding the existing parking garage from 1,430 spaces to 2,055 parking spaces; filling a dilapidated and abandoned 450-foot tunnel system adjacent to the parking garage; and reconfiguring traffic lanes around the southern corner of the existing parking garage. Additional details regarding the project are provided in Section 2.5, *Project Characteristics*.

**9. Surrounding Land Uses and Setting:**

The project site is bounded by the Queensway Bay to the north, the Pacific Ocean to the east and south, and surface parking areas associated with Pier H and the Queen Mary Seaport to the west. Surrounding land uses in proximity to the project site include the following:

- *North*: Pier H uses (i.e., RMS Queen Mary and Queen Mary Seaport) and the Queensway Bay are located to the north;
- *East*: The Pacific Ocean is located to the east;
- *South*: The Long Beach Fire Department Station 6 and Pacific Ocean are located to the south; and
- *West*: Pier H surface parking lot, Pier G uses (i.e., K Line/International Transportation Service), and railroad facilities are located to the west.

**10. Other public agencies whose approval is required (e.g., permits, financing approval or participation agreement).**

Refer to Section 2.6, *Permits and Approvals*, for a description of the permits and approvals anticipated to be required for the project. Additional approvals may be required as the project entitlement process moves forward.

## 3.2 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 on the following pages.

| | | | | | |
|---|---|---|---|---|---|
| ☐ | Aesthetics | ☐ | Agriculture and Forestry | ☐ | 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 | ☐ | Tribal Cultural Resources |
| ☐ | Utilities and Service Systems | ☐ | Wildfire | ☐ | Mandatory Findings of Significance |

## 3.3 LEAD AGENCY DETERMINATION

On the basis of this initial evaluation:

The City of Long Beach finds that the proposed use COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ____

The City of Long Beach finds that although the proposal could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described in Section 4.0 have been added. A MITIGATED NEGATIVE DECLARATION will be prepared. ✓

The City of Long Beach finds that the proposal MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ____

The City of Long Beach finds that the proposal MAY have a significant effect(s) 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, if the effect is a "potentially significant impact" or "potentially significant unless mitigated." An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. ____

Amy L. Harbin

Signature

Amy L. Harbin, AICP, Planner

Printed Name

City of Long Beach

Agency

6/18/19

Date

## 3.4 EVALUATION OF ENVIRONMENTAL IMPACTS

This section analyzes the potential environmental impacts associated with the proposed project. The issue areas evaluated in this Initial Study include:

- 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
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire
- Mandatory Findings of Significance

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the CEQA Guidelines and used by the City of Long Beach in its environmental review process. For the preliminary environmental assessment undertaken as part of this Initial Study's preparation, a determination that there is a potential for significant effects indicates the need to more fully analyze the development's impacts and to identify mitigation.

For the evaluation of potential impacts, the questions in the Initial Study Checklist are stated and an answer is provided according to the analysis undertaken as part of the Initial Study. The analysis considers the long-term, direct, indirect, and cumulative impacts of the development. To each question, there are four possible responses:

- *No Impact*. The development will not have any measurable environmental impact on the environment.

- *Less Than Significant Impact*. The development will have the potential for impacting the environment, although this impact will be below established thresholds that are considered to be significant.

- *Less Than Significant Impact With Mitigation Incorporated*. The development will have the potential to generate impacts which may be considered as a significant effect on the environment, although mitigation measures or changes to the development's physical or operational characteristics can reduce these impacts to levels that are less than significant.

- *Potentially Significant Impact*. The development will have impacts which are considered significant, and additional analysis is required to identify mitigation measures that could reduce these impacts to less than significant levels.

Where potential impacts are anticipated to be significant, mitigation measures will be required, so that impacts may be avoided or reduced to insignificant levels.

# 4.0 ENVIRONMENTAL ANALYSIS

The following is a discussion of potential project impacts as identified in the Initial Study/Environmental Checklist. Explanations are provided for each item.

## 4.1 AESTHETICS

| *Except as provided in Public Resources Code Section 21099, would the project:* | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Have a substantial adverse effect on a scenic vista? | | | ✓ | |
| b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | | | | ✓ |
| c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? | | | ✓ | |
| d. Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area? | | | ✓ | |

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

***Less Than Significant Impact***. The *City of Long Beach General Plan* (General Plan) Mobility Element designates the segment of Ocean Boulevard from Nimitz Road on the west to State Route 1 on the east as a City-designated scenic route. In addition, the *Port of Long Beach Port Master Plan* (PMP) identifies three sensitive views within the Port of Long Beach (POLB): (1) predominant structures visible to the east from downtown Long Beach and along the ocean bluffs, (2) ground-level views along the boundary of Queensway Bay, and (3) ground-level views along Harbor Scenic Drive from the southbound lanes south of Anaheim Street.

The existing wharf deck at the project site is partially visible from approximately 1.6 miles across the Pacific Ocean along a segment of Ocean Boulevard adjacent to Junipero Beach. However, given the distance from the City-designated scenic route, the proposed improvements at the wharf deck (i.e., mooring dolphins and catwalks, fender replacements, and new tower elements/platform deck) would not be distinguishable from existing structures on the wharf deck nor would they adversely impact existing scenic vistas from Ocean Boulevard. Additionally, the parking garage and proposed passenger walkway bridge extension would be blocked by the existing dome on-site and would not be visible from Ocean Boulevard. As such, implementation of the project would have a less than significant impact to scenic vistas from Ocean Boulevard.

Of the three sensitive views identified in the PMP, the project site is partially visible from two sensitive views: ground-level views along the boundary of Queensway Bay and ground-level views along Harbor Scenic Drive from southbound lanes south of Anaheim Street. However, the proposed improvements to the cruise terminal would have a minimal impact to these scenic vistas.

- *Ground-level views along the boundary of Queensway Bay*. The maritime improvements at the project's wharf deck would be visible from across Queensway Bay only from Grissom Island and the nearby marina. However, given the distance across Queensway Bay, it would be difficult to distinguish the proposed improvements from existing structures already developed on and near the wharf deck. Further, the scenic value looking towards the project site from across Queensway Bay is mostly attributed towards the waterfront, RMS Queen Mary, and Harry Bridges Memorial Park rather than the cruise terminal wharf deck, which blends with other wharf decks in the Queensway Bay and marina area. All other ground-level views towards the project site along the boundary of Queensway Bay are blocked by the cruise terminal dome, including the parking garage and pedestrian bridge. Thus, development of the project would not substantially impact views along the boundary of Queensway Bay and impacts would be less than significant in this regard.

- *Ground-level views along Harbor Scenic Drive from southbound lanes south of Anaheim Street*. The proposed maritime improvements would be blocked by the existing dome from ground-level views along Harbor Scenic Drive. The onshore improvements, primarily the expanded parking garage, would be partially visible along Harbor Scenic Drive near the entrance of the Queen Mary Seaport parking area. However, the expanded parking garage would look similar to the existing garage as it would only be extended on its northeast and southwest sides; refer to Exhibit 2-4, *Overall Proposed Modifications*. Thus, scenic views looking south along Harbor Scenic Drive near the project site would not be substantially impacted.

Overall, the proposed improvements would not substantially impact scenic views along City-designated scenic routes or PMP-designated sensitive views. Most scenic views looking towards the project site and proposed improvements would be blocked by the dome and the improvements would not result in substantial changes to the overall visual character of the existing cruise terminal and wharf deck. As such, impacts would be less than significant in this regard.

***Mitigation Measures***: 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?***

***No Impact***. There are no officially-designated State scenic highways within proximity to the project site.[1] The nearest Officially Designated State Scenic Highway is State Route 2, located approximately 32 miles to the north. The nearest Eligible State Scenic Highway (not officially designated) is East Pacific Coast Highway, located approximately four miles to the northeast of the project site. Given the distance and existing building and structures between the project site and East Pacific Coast Highway, the proposed project would not affect scenic resources along this eligible highway. Therefore, project implementation would not damage any scenic resource (i.e., trees, rock outcroppings, or historic buildings) within the viewshed of a State scenic highway. No impacts would result in this regard.

***Mitigation Measures***: No mitigation is required.

[1] California Department of Transportation, *California Scenic Highway Mapping System*, http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/, accessed November 28, 2018.

***c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?***

***Less Than Significant Impact.***

**SHORT-TERM CONSTRUCTION**

Construction activities would be completed incrementally over the course of approximately 16 months (from August 2019 through November 2020). Maritime improvements would occur first and are anticipated to take approximately four months from August 2019 to December 2019; onshore improvements would occur subsequently with a slight overlap for approximately 13 months from October 2019 to November 2020. During this time, project construction activities would temporarily disturb the scenic character and quality of the general cruise terminal area. However, construction activities would be minimal and physically limited in terms of visual disturbance given that the cruise terminal would continue to operate through the project's construction period. Additionally, construction of the maritime improvements at the wharf deck and of the passenger walkway bridge extension would mostly be blocked from public view by the existing dome on-site or be too far to see from across Queensway Bay. Further, while the project site is located near commercial and retail uses in the Queen Mary Seaport, the site is also adjacent to railroad lines and Pier G to the west across Harbor Scenic Drive, which stores containerized cargo and is representative of POLB's industrial nature. Additionally, the construction of the proposed project would not conflict with the site's existing zoning (Planned Development 21 (PD-21), Queensway Bay) in regards to scenic quality. Overall, temporary visual impacts associated with the 16-month construction period would have a less than significant impact on the visual character and quality of the project area.

**LONG-TERM OPERATIONS**

At project completion, the cruise terminal would continue to operate similar to existing conditions. The abandoned tunnel would be filled, and the parking garage would be expanded to accommodate a total of 2,055 spaces. The wharf deck would be improved with two additional mooring dolphins and catwalks, new fender replacements, new tower elements and a platform deck, and a passenger walkway bridge extension from the dome to the existing gangway on the wharf deck. Compared to existing conditions, long-term visual impacts of the proposed improvements would be minimal as the improvements are associated with the existing cruise terminal use. No new buildings or large structures would be constructed as part of the project. Thus, long-term visual impacts of the project would not substantially impact the existing visual character and quality of the site. Further, as stated above, the project would not conflict with the site's existing zoning of PD-21 in regards to scenic quality. Impacts would be less than significant in this regard.

***Mitigation Measures***: 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***. There are two primary sources of light: light emanating from building interiors that pass through windows and light from exterior sources (i.e., street lighting, parking lot lighting, building illumination, security lighting, and landscape lighting). Depending upon the location of the light source and its proximity to adjacent light sensitive uses, light introduction can be a nuisance, affecting adjacent areas and diminishing the view of the clear night sky.

The proposed project is located within an urban and developed area of POLB. Currently, light is being emitted from the project site as a result of security lighting within the cruise terminal, including the parking garage and wharf deck area, and vehicle headlights accessing the cruise terminal area. Additionally, areas surrounding the project site are urbanized and contain various sources of light and glare. Specifically, light and glare in the area is generated from the

light emanating from commercial and retail building interiors at the Queen Mary Seaport and light from exterior sources (i.e., building illumination, surface parking lot lighting, and security lighting) associated with adjacent industrial and commercial uses. Light and glare caused by vehicular headlights and street lighting along Queens Highway and Harbor Scenic Drive adjacent to the project site further influence lighting in the project area.

Based on the *City of Long Beach Municipal Code* (LBMC) Section 8.80.202, *Construction Activity – Noise Regulation*, construction activities are limited to occur only between 7:00 a.m. and 7:00 p.m. on weekdays and Federal holidays, and between 9:00 a.m. and 6:00 p.m. on Saturdays; no construction activities shall occur on Sundays. Therefore, construction of the proposed project would occur during daylight hours and no additional lighting sources would be needed during construction activities. Light and glare impacts related to construction activities would be less than significant in this regard.

As part of the project's long-term operations, lighting would be similar to existing conditions. Additional sources of lighting associated with the project would be limited to security lighting within the expanded parking garage. Per LBMC Section 21.41.259, *Parking Areas – Lighting*, all parking lots and garages are required to be illuminated with lights directed and shielded to prevent light and glare from intruding onto adjacent sites. Further, while the proposed improvements would result in additional passengers traveling to and from the project site, Carnival's embarkation and debarkation occur during daytime hours, and thus, would not result in a substantial increase in light generated by vehicular traffic in the project area.

Overall, compliance with LBMC Section 8.80.202 and 21.41.259 would ensure light and glare impacts associated with construction and operations of the project are minimized to less than significant levels.

***Mitigation Measures***: No mitigation is required.

# 4.2 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:*** | **Potentially Significant Impact** | **Less Than Significant Impact With Mitigation Incorporated** | **Less Than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| 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? | | | | ✓ |
| b. Conflict with existing zoning for agricultural use, or a Williamson Act contract? | | | | ✓ |
| 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))? | | | | ✓ |
| d. Result in the loss of forest land or conversion of forest land to non-forest use? | | | | ✓ |
| 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? | | | | ✓ |

***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 proposed project would involve improvements to the existing Long Beach cruise terminal. The project site has been previously disturbed by development and does not contain any farmland. No farmland exists within the site vicinity. In addition, based on the California Department of Conservation mapping, *Important Farmland In California, 2010*, the proposed project site is not associated with an area designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.[1] Based on the map, the project site and surrounding areas are urban and built-up lands. Thus, no impacts would occur in this regard.

***Mitigation Measures***: No mitigation is required.

[1] California Department of Conservation Farmland Mapping and Monitoring Program, *California Important Farmland Finder,* https://maps.conservation.ca.gov/dlrp/ciff/, accessed on November 21, 2018.

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

***No Impact***. The project site and its surrounding areas are zoned Planned Development District 21 (PD-21), Queensway Bay, Subarea 4 by the *City of Long Beach Zoning Districts Map*. No zoning for agricultural use currently applies to the project site and surrounding areas. Additionally, the project site is not a part of a Williamson Act contract.[2] Thus, no impacts would occur in this regard.

***Mitigation Measures***: 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***. Refer to Responses 4.2(a) and 4.2(b). No zoning for forest land or timberland exists within the project site, and no impacts would occur in this regard.

***Mitigation Measures***: No mitigation is required.

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

***No Impact***. Refer to Responses 4.2(b) and 4.2(c). No impacts would occur in this regard.

***Mitigation Measures***: 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 stated above in Responses 4.2(a) through 4.2(c), the project site occurs within an urbanized area and is void of any agricultural or forest resources. Thus, there is no potential for the conversion of these resources and no impacts would occur in this regard.

***Mitigation Measures***: No mitigation is required.

[2] California Department of Conservation Division of Land Resource Protection, *Los Angeles County Williamson Act FY 2015/2016*, ftp://ftp.consrv.ca.gov/pub/dlrp/wa/LA_15_16_WA.pdf, accessed November 21, 2018.

# 4.3 AIR QUALITY

| *Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:* | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Conflict with or obstruct implementation of the applicable air quality plan? | | ✓ | | |
| b. 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? | | ✓ | | |
| c. Expose sensitive receptors to substantial pollutant concentrations? | | ✓ | | |
| d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? | | | ✓ | |

This section is based on the *Long Beach Cruise Terminal Improvement Project Air Quality and Greenhouse Gas Assessment* (AQ and GHG Assessment), prepared by Aspen Environmental Group, dated June 2019; refer to Appendix A, *Air Quality/Greenhouse Gas/ Energy Analysis*.

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

***Less Than Significant Impact With Mitigation Incorporated.*** The project is located in the POLB within the South Coast Air Basin (SCAB). The SCAB is composed of Orange County and the urban, non-desert portions of Los Angeles, Riverside, and San Bernardino counties.

The United States Environmental Protection Agency (USEPA) is responsible for setting and enforcing the National Air Ambient Air Quality Standards (NAAQS) for ozone ($O_3$), carbon monoxide (CO), nitrogen dioxide ($NO_2$), sulfur dioxide ($SO_2$), particulate matter 10 microns or less in diameter ($PM_{10}$), particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), and lead, under the Federal Clean Air Act (CAA). The USEPA also establishes emission standards for on-road vehicles and off-road engines. The CAA forms the basis for national pollution control and delegates enforcement of the Federal standards to the States. In California, the California Air Resources Board (CARB) and the local air agencies have the shared responsibility for enforcing air pollution regulations, with the local agencies having primary responsibility for regulating stationary emission sources. The South Coast Air Quality Management District (SCAQMD) is the local agency responsible for ensuring Federal and State ambient air quality standards are attained and maintained in the SCAB.

Attainment of the NAAQS and California Ambient Air Quality Standards (CAAQS), set by CARB, is characterized via a network of ambient air quality monitoring stations, located in the SCAB. Pollutants monitored include $O_3$, PM, CO, $NO_2$, and $SO_2$.

$O_3$ is a unique criteria pollutant because it is not directly emitted from project-related sources. Rather, $O_3$ is a secondary pollutant, formed from precursor pollutants volatile organic compounds (VOCs) and nitrogen oxides ($NO_X$). VOCs and $NO_X$ react to form $O_3$ in the presence of sunlight through a complex series of photochemical reactions. As a result, unlike inert pollutants, $O_3$ levels usually peak several hours after the precursors are emitted and many miles downwind of the source. Because of the complexity and uncertainty in predicting photochemical pollutant concentrations, $O_3$ impacts are indirectly addressed by comparing project-generated emissions of VOCs and $NO_X$ to daily emission thresholds set by SCAQMD. CAAQS have also been established for lead, hydrogen sulfide, vinyl chloride, and visibility reducing particles, which are not pollutants of concern for the proposed project because they would not be emitted.

Table 4.3-1, *South Coast Air Basin Attainment Status*, summarizes the Federal and State attainment status of criteria pollutants for the SCAB based on the NAAQS and CAAQS, respectively.

**Table 4.3-1**
**South Coast Air Basin Attainment Status**

| Pollutant | Federal | State |
|---|---|---|
| Pollutant | Federal | State |
| $O_3$ (8-hr standard) | Nonattainment (Extreme) | Nonattainment |
| $PM_{10}$ | Attainment (Maintenance) | Nonattainment |
| $PM_{2.5}$ (24-hr standard) | Nonattainment (Serious) | Nonattainment |
| $PM_{2.5}$ (annual standard) | Nonattainment (Moderate) | Nonattainment |
| CO | Attainment (Maintenance) | Attainment |
| $NO_2$ | Attainment (Maintenance) | Attainment |
| $SO_2$ | Attainment (Unclassifiable) | Attainment |

Source: Aspen Environmental Group, *Long Beach Cruise Terminal Improvement Project Air Quality and Greenhouse Gas Assessment*, Table 3-2, South Coast Air Basin Attainment Status, June 2019; refer to Appendix A.

In areas where the NAAQS are not attained (Federal nonattainment areas), the CAA requires preparation of a State Implementation Plan (SIP) detailing how the State will attain the NAAQS within mandated timeframes. In response to this requirement, local air quality agencies, such as SCAQMD, in collaboration with other agencies, such as CARB and the Southern California Association of Governments, prepare Air Quality Management Plans (AQMPs) designed to bring the area into attainment with Federal requirements and/or to incorporate the latest technical planning information. The AQMP for each nonattainment area is then incorporated into the SIP, which is submitted by CARB to USEPA for approval.

SCAQMD prepared AQMPs in 1997, 2003, 2007, 2012 and most recently in 2016. Each iteration of the AQMP serves as an update to the previous AQMP. The 2016 AQMP was adopted and submitted to the USEPA in March 2017. The 2016 AQMP focuses on attainment of the $O_3$and $PM_{2.5}$ NAAQS through the reduction of $O_3$and $PM_{2.5}$ precursor $NO_x$, as well as through direct control of $PM_{2.5}$. The 2016 AQMP identifies control measures and strategies to demonstrate the region's attainment of the revoked 1997 8-hour ozone NAAQS (80 parts per billion [ppb]) by 2024; the 2008 8-hour $O_3$standard (75 ppb) by 2032; the 2012 annual $PM_{2.5}$ standard (12 micrograms per cubic meter [ug/m$^3$]) by 2025; the 2006 24-hour $PM_{2.5}$ standard (35 ug/m$^3$) by 2019; and the revoked 1979 1-hour $O_3$standard (120 ppb) by 2023.

Each AQMP proposes attainment strategies designed to bring the SCAB into attainment of the CAAQS and NAAQS. AQMP attainment strategies and control measures include mobile source control measures and clean fuel programs and are enforced at the State and Federal levels on engine manufacturers and petroleum refiners and retailers. SCAQMD also adopts AQMP control measures into the SCAQMD rules and regulations, which are then used to regulate sources of air pollution in the SCAB. Therefore, compliance with these requirements would ensure that the proposed project would not obstruct implementation of the AQMP.

Additionally, the Ports of Long Beach and Los Angeles, in cooperation with USEPA, CARB, and SCAQMD, developed the San Pedro Bay Ports Clean Air Action Plan (CAAP) as a strategy to reduce health risks posed by air pollution from port-related sources. Given that the project site is located within the Harbor District, the CAAP is applicable to the proposed project. The CAAP defines implementation strategies capable of achieving shared air quality improvement goals by reducing emissions from trucks, locomotives, harbor craft, and cargo-handling equipment through fleet modernizations, engine exhaust control retrofits, cleaner fuels, shore power, and engine technologies.

The CAAP was updated in 2010 to update CAAP measures and reflect regulatory changes for programs since the original CAAP was adopted in 2006. The most significant change to the 2010 CAAP Update was the addition of the

San Pedro Bay Standards, long-term goals for emissions and health-risk reductions for the ports. The San Pedro Bay Standards include goals to:

- Reduce population-weighted residential cancer risk of POLB-related diesel particulate matter (DPM) emissions by 85 percent by 2020;
- Reduce POLB-related emissions by 59 percent for $NO_x$, 93 percent for SOx, and 77 percent for DPM by 2023; and
- Reduce GHGs from POLB-related sources to 80 percent below 1990 levels by 2050.

The CAAP was again updated in 2017 to align with the California Sustainable Freight Action Plan, support the zero-emissions and freight efficiency targets set by the State and other agencies, and support a new focus, setting a goal to reduce greenhouse gas (GHG) emissions from goods movement-related sources 80 percent below 1990 levels by 2050.

As discussed under Response 4.3(b), operational and construction emissions would not exceed regional SCAQMD thresholds with implementation of Mitigation Measures AQ-1 and AQ-2. Mitigation Measure AQ-1 would implement the CAAP's best management practices to reduce air emissions from construction equipment through the use of Tier 4 off-road engines, electric dredges, and Tier 3 tug boat engines during project construction activities. Further, Mitigation Measure AQ-2 would require the Applicant to purchase or lease Emission Reduction Credits to reduce $NO_x$ emissions below SCAQMD thresholds. Therefore, as operational and construction emissions would not exceed regional SCAQMD thresholds, the proposed project would not cause or contribute to an exceedance of NAAQS or CAAQS. As such, the proposed project would not conflict with the 2016 AQMP efforts to achieve attainment status for $O_3$, $PM_{2.5}$, and $PM_{10}$. Further, as discussed under Response 4.3(b), operational emissions would decrease from existing baseline conditions. Therefore, project operational emissions would be less than what was assumed in the 2016 AQMP. As such, project construction and operations would not conflict with the 2016 AQMP or CAAP and impacts would be less than significant.

***Mitigation Measures***: Refer to Mitigation Measures AQ-1 and AQ-2.

***b) 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?***

***Less Than Significant Impact With Mitigation Incorporated.***

**SHORT-TERM (CONSTRUCTION) EMISSIONS**

Construction of the proposed project would consist of maritime and onshore improvements. Maritime improvements would include berth dredging and installation of steel pipe piles, while onshore improvements would primarily be associated with the existing parking garage expansion. Proposed construction activities would last approximately 15 months, from August 2019 to October 2020. Maritime improvements would take place between August and December 2019. Onshore improvements would begin after maritime improvements with a slight overlap and would continue for a period of 12 months ending in October 2020.

Construction activities associated with the proposed project would involve the use of off-road onshore construction equipment, marine construction equipment (such as electric dredgers and pile drivers), on-road trucks, tugboats, and worker vehicles. Proposed construction activities would comprise the following phases: berth dredging, installation of mooring dolphins, garage demolition (partial), garage site preparation/abandoned passenger tunnel decommissioning, grading, garage construction, architectural coating, and paving.

The project's unmitigated estimated construction emissions have been estimated separately for the maritime and onshore improvements and are identified in Table 4.3-2, *Unmitigated Peak Day Construction Emissions*.

**Table 4.3-2**
**Unmitigated Peak Day Construction Emissions**

| Emissions Source | Pollutant (pounds/day) | | | | | |
|---|---|---|---|---|---|---|
| | $PM_{10}$ | $PM_{2.5}$ | $NO_X$ | $SO_X$ | CO | VOC |
| **Construction Year – 2019 Maritime Improvements** | | | | | | |
| Dredge Tugs | 6 | 6 | 157 | <1 | 114 | 16 |
| Derrick Barge 1 | 3 | 3 | 53 | <1 | 19 | 5 |
| Derrick Barge 2 | 1 | 1 | 25 | <1 | 20 | 3 |
| **Total Unmitigated Emissions** | **9** | **9** | **235** | **<1** | **153** | **24** |
| *SCAQMD Thresholds* | *150* | *55* | *100* | *150* | *550* | *75* |
| *Is Threshold Exceeded?* | *No* | *No* | *Yes* | *No* | *No* | *No* |
| **Construction Year – 2019-2020 Onshore Improvements** | | | | | | |
| **Total Unmitigated Emissions** | **24** | **14** | **70** | **<1** | **47** | **7** |
| *SCAQMD Thresholds* | *150* | *55* | *100* | *150* | *550* | *75* |
| *Is Threshold Exceeded?* | *No* | *No* | *No* | *No* | *No* | *No* |

Source: Aspen Environmental Group, *Long Beach Cruise Terminal Improvement Project Air Quality and Greenhouse Gas Assessment*, Table 6-3, Peak Day Construction Emissions (lbs/day) - Unmitigated, June 2019; refer to Appendix A.

As shown in Table 4.3-2, peak day unmitigated construction emissions during 2019 maritime construction improvements (specifically when dredging activities occur) would exceed the SCAQMD threshold for $NO_x$; $PM_{10}$, $PM_{2.5}$, $SO_x$, CO, and VOC emissions would be below SCAQMD thresholds. As such, the proposed project would be subject to Mitigation Measure AQ-1 which would reduce construction equipment emissions through implementation of best management practices (BMPs) as specified in the CAAP. The following BMPs would be employed through Mitigation Measure AQ-1 to reduce emissions associated with project construction activities:

- Equip onshore construction equipment with engines that meet US EPA Tier 4 Final off-road emission standards;
- Control fugitive dust emissions through compliance with SCAQMD Rule 403 requirements (watering, track-out control, etc.); and
- If available, utilize tug boats that meet Tier 3 emissions standards.

The results presented in Table 4.3-3, *Mitigated Peak Day Construction Emissions*, show that following incorporation of Mitigation Measure AQ-1, peak day emissions of $NO_X$ would still exceed the $NO_X$ emission threshold during dredging activities for 10 days.

**Table 4.3-3**
**Mitigated Peak Day Construction Emissions**

| Emissions Source | Pollutant (pounds/day) | | | | | |
|---|---|---|---|---|---|---|
| | $PM_{10}$ | $PM_{2.5}$ | $NO_X$ | $SO_X$ | CO | VOC |
| **Construction Year – 2019 Maritime Improvements** | | | | | | |
| Dredge Tugs | 6 | 6 | 157 | <1 | 114 | 16 |
| Derrick Barge 1 | 3 | 3 | 53 | <1 | 19 | 5 |
| Derrick Barge 2 | 1 | 1 | 25 | <1 | 20 | 3 |
| **Total Mitigated Emissions** | ***9*** | ***9*** | ***235*** | ***<1*** | ***153*** | ***24*** |
| *SCAQMD Thresholds* | *150* | *55* | *100* | *150* | *550* | *75* |
| *Is Threshold Exceeded?* | *No* | *No* | *Yes* | *No* | *No* | *No* |
| **Construction Year – 2019-2020 Onshore Improvements** | | | | | | |
| **Total Mitigated Emissions** | ***10*** | ***5*** | ***7*** | ***<1*** | ***53*** | ***3*** |
| *SCAQMD Thresholds* | *150* | *55* | *100* | *150* | *550* | *75* |
| *Is Threshold Exceeded?* | *No* | *No* | *No* | *No* | *No* | *No* |

Source: Aspen Environmental Group, *Long Beach Cruise Terminal Improvement Project Air Quality and Greenhouse Gas Assessment*, Table 6-6, Peak Day Construction Emissions (lbs/day) - Mitigated, June 2019; refer to Appendix A.

Therefore, Mitigation Measure AQ-2 is proposed to reduce the maximum daily construction $NO_X$ emissions below the significance threshold of 100 pounds per day. Mitigation Measure AQ-2 would require the Applicant to purchase or lease Emission Reduction Credits to reduce $NO_x$ emissions below SCAQMD thresholds. In addition, the project would implement the following additional BMPs in compliance with SCAQMD Rule 403 to further reduce construction emissions:

- Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas;
- Suspend grading and earth moving when wind gusts exceed 25 miles per hour unless the soil is wet enough to prevent dust plumes;
- Cover trucks when hauling dirt;
- Stabilize the surface of dirt piles if not removed immediately;
- Limit vehicular paths on unpaved surfaces and stabilize any temporary roads;
- Minimize unnecessary vehicular and machinery activities;
- Vacuum sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway;
- Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities;
- Ensure that all construction equipment is properly tuned and maintained;
- Minimize idling time to five minutes to save fuel and reduce emissions;

- Provide an operational water truck on-site at all times and use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas; and

- Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.

Implementation of Mitigation Measure AQ-1 and AQ-2, as well as the recommended BMPs, would reduce impacts to a less than significant level.

**LONG-TERM (OPERATIONAL) EMISSIONS**

The proposed project has the potential to result in long-term direct and indirect air pollutant emission impacts. The project's operational air emissions include those associated with: (a) changes to the number and types of cruise ships accessing the cruise terminal and associated shoreside energy consumption by hoteling cruise vessels; (b) on-road mobile source emissions associated with increased vehicular trips and parking associated with the proposed project; and (c) changes to emissions from off-road sources associated with cruise vessel calls (e.g. luggage loading equipment).

Carnival currently operates four cruise ship which together call at the cruise terminal five days per week (Thursday through Monday), although only three regularly call at the cruise terminal. In 2018, the cruise ships that called at the cruise terminal included the *Carnival Imagination*, *Carnival Inspiration*, *Carnival Miracle*, and *Carnival Splendor*. The *Carnival Imagination* and *Carnival Inspiration* call at the cruise terminal twice per week, while the *Carnival Splendor* and occasionally the *Carnival Miracle* call at the cruise terminal once per week. With the proposed project in operation in 2020, the *Carnival Miracle* and *Carnival Splendor* would relocate to other global ports and would be replaced by Carnival's new Vista-class vessel, the *Carnival Panorama*.

Table 4.3-4, *Peak Daily Operation Emissions*, summarizes estimated emissions during operation of the proposed project compared to baseline emissions. The project's change to operational emissions is strictly based on the difference in the operational emissions of the existing *Carnival Splendor* proposed for relocation (existing worst-case day in SCAB waters) versus the operation emissions of the proposed *Carnival Panorama*, including the associated emissions from the increased traffic trips and parking garage use and the increased on-site off-road equipment used for vessel loading/provisioning. Both vessels arrive and leave on Saturdays; therefore, all cruise ship SCAB emissions occur during this one day each week and do not overlap with the *Carnival Inspiration* or *Carnival Imagination*, which are not in SCAB waters on Saturdays. However, the proposed project would have a new worst-case day for emissions within SCAB waters on Mondays when 1) the *Carnival Imagination* cruises into Catalina, anchors/hotels for nine hours, and then cruises down to Ensenada, and 2) when the *Carnival Inspiration* cruises back to Long Beach from Ensenada, hotels at the Long Beach cruise terminal for 12.5 hours (with 1.25 hours not on shore power), then cruises out towards Catalina. The detailed daily cruise ships activity assumptions at berth, anchorage, cruising in SCAB water, and cruising within State waters beyond the SCAB are provided in Appendix A.

The results presented in Table 4.3-4 indicate that the impact of the proposed project on peak daily operational emissions would not result in an exceedance of the SCAQMD thresholds for any pollutant. In fact, a decrease in emissions occurs as a result of the replacement of the *Carnival Splendor* with the new *Carnival Panorama*. The *Carnival Panorama* would utilize shoreside electrical power during berth hoteling where the *Carnival Splendor* currently relies on power generated from the diesel electric engines for auxiliary and boilers loads. Therefore, operations of the proposed project would result in a less than significant impact.

**Table 4.3-4**
**Peak Daily Operation Emissions**

| Emissions Source | Pollutant (pounds/day)[1] | | | | | |
|---|---|---|---|---|---|---|
| | $PM_{10}$ | $PM_{2.5}$ | $NO_X$ | $SO_X$ | CO | VOC |
| **Existing Cruise Ship Maximum Daily Emissions** | | | | | | |
| *Carnival Splendor* Max Day | 141 | 130 | 6,607 | 217 | 596 | 271 |
| **Proposed Project** | | | | | | |
| *Carnival Panorama* Max Day | 80 | 73 | 3,211 | 122 | 336 | 152 |
| *Carnival Inspiration/Carnival Imagination* Max Day | 113 | 104 | 5,308 | 174 | 479 | 218 |
| ***Carnival Panorama* Additional Incremental Emissions Sources** | | | | | | |
| Parking Garage | <1 | <1 | <1 | <1 | <1 | <1 |
| On-Road Vehicles | 21 | 7 | 50 | 1 | 160 | 20 |
| Off-Road | <1 | <1 | 1 | <1 | 4 | <1 |
| **Total Other Carnival Panorama Incremental Emissions** | **21** | **7** | **51** | **1** | **164** | **20** |
| Net Maximum Day Change | -28 | -26 | -1,299 | -43 | -117 | -53 |
| Net Saturday Change | -40 | -50 | -3,345 | -93 | -95 | -98 |
| *Significance Threshold* | *150* | *55* | *55* | *150* | *550* | *55* |
| *Is Threshold Exceeded?* | *No* | *No* | *No* | *No* | *No* | *No* |

Source: Aspen Environmental Group, *Long Beach Cruise Terminal Improvement Project Air Quality and Greenhouse Gas Assessment*, Table 6-7, Peak Daily Operation Emissions (lbs/day) - Unmitigated, June 2019; refer to Appendix A.

***Mitigation Measures:***

AQ-1 Prior to issuance of a Demolition or Grading Permit, the City Engineer shall confirm that the following Best Management Practices (BMPs) are included in the Grading Plan and specifications to reduce construction emissions in compliance with the San Pedro Bay Ports Clean Air Action Plan (CAAP):

- Off-road Engine Tier: Construction terrestrial off-road equipment shall be required to meet final Tier 4 emissions standards.
- Electric Dredges: Dredging equipment shall be powered electrically by a shore power connection.
- Construction Tug Boat Engine Tier: If appropriately sized and available, tug boats that meet Tier 3 standards or higher shall be used during construction.

AQ-2 Prior to approval of project plans, the Applicant shall provide proof to the City of Long Beach Development Services of a written commitment from a qualified seller/lessee detailing the purchase or lease of unencumbered Emission Reduction Credits sufficient to reduce the project's construction-related nitrous oxide ($NO_x$) emissions to below the South Coast Air Quality Management District's threshold of 100 pounds per day for the duration of proposed dredging activities.

***c) Expose sensitive receptors to substantial pollutant concentrations?***

***Less Than Significant Impact With Mitigation Incorporated.***

**CONSTRUCTION**

The SCAQMD developed the voluntary localized significance threshold (LST) methodology and associated mass rate look-up tables by source receptor area (SRA) that can be used by public agencies to determine whether or not a project may generate significant adverse localized air quality impacts. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable Federal or State ambient air quality standard and are developed based on the ambient concentrations of that pollutant for each SRA. LSTs are established assuming the maximum allowable emissions from one-, two- or five-acre sites (with larger sites having higher thresholds to reflect the scale of operations). This approach has been used to assess whether proposed construction activities associated with the proposed project have the potential to generate significant adverse localized air quality impacts.

LSTs are derived based on the location of the project site (i.e. the SRA), project emission rates of $NO_x$, CO, $PM_{2.5}$, and $PM_{10}$, the size of the project construction improvements, and the distance to the nearest sensitive receptor and off-site worker. For maritime construction, the total active construction working area was estimated at five acres, although on some days actual construction activities footprint may occur over a slightly larger area. For onshore construction, the total active construction area was estimated at two acres based on the footprint size of the proposed parking garage. The proposed project is located in SRA 4, South Coastal Los Angeles County, with the following receptor distances:

- Maritime and onshore improvements to sensitive receptor – 500 meters
- Maritime improvements to daytime worker ($NO_x$) – 120 meters
- Maritime improvements to 24-hour worker ($PM_{10}$/$PM_{2.5}$) – 235 meters
- Onshore improvements to daytime worker ($NO_x$) – 25 meters
- Onshore improvements to 24-hour worker ($PM_{10}$/$PM_{2.5}$) – 75 meters

Table 4.3-5, *Unmitigated Peak Daily Localized Construction Emissions,* presents the LST emission rates derived for 2019 and 2020 for a five-acre and two-acre site, respectively, located approximately 500 meters from the closest sensitive receptor (the maximum distance for which LSTs are provided) and 25 meters from the nearest off-site worker. In accordance with SCAQMD's Localized Significance Threshold Methodology (2008), only on-site construction emissions have been included in the peak day emissions presented in Table 4.3-5 (i.e. emissions from on-road vehicles were not included). The LST values used for each receptor distance are based on linear interpolation of the SCAQMD LST table values that are provided at distance intervals of 25, 50, 100, 200, and 500 meters. Furthermore, in accordance with the SCAQMD methodology for Localized Significance Thresholds, on-site construction emissions generated by maritime improvements do not include emissions generated by tug vessels transporting dredged material to the LA-2 Ocean Dredge Material Disposal Site (ODMDS). Emissions generated during this transfer process are considered to take place off-site.

It is noted that Table 4.3-5 does not include $PM_{10}$ and $PM_{2.5}$ for off-site workers as such receptors would not be continuously present for the period over which air quality standards for these pollutants are set (i.e. 24 hours). Additionally, CO emissions have been determined to be less than significant with regard to LSTs because the construction LST thresholds are greater than the regional CO threshold, which is not exceeded during project construction.

**Table 4.3-5**
**Unmitigated Peak Daily Localized Construction Emissions**

| Construction Activity | Pollutant (pounds/day) | | | | | |
|---|---|---|---|---|---|---|
| | Sensitive Receptors | | | Off-site Worker Receptors | | |
| | $PM_{10}$ | $PM_{2.5}$ | $NO_X$ | $PM_{10}$[a] | $PM_{2.5}$[a] | $NO_X$ |
| Maritime Improvements | 5 | 5 | 131 | 5 | 5 | 131 |
| *Localized Significance Threshold* | *191* | *120* | *179* | *94* | *47* | *133* |
| ***Is Threshold Exceeded?*** | ***No*** | ***No*** | ***No*** | ***No*** | ***No*** | ***No*** |
| Onshore Improvements[b] | 24 | 14 | 70 | 24 | 14 | 70 |
| *Localized Significance Threshold* | *167* | *101* | *151* | *29* | *10* | *83* |
| ***Is Threshold Exceeded?*** | ***No*** | ***No*** | ***No*** | ***No*** | ***Yes*** | ***No*** |

Notes:
[a] Thresholds for $PM_{10}$ and $PM_{2.5}$ are relevant to sensitive receptors reasonably likely to be present for ≥24 hours. As off-site worker receptors are not expected to be present for this duration, significance of project impacts related to LSTs for particulates have been omitted.
[b] Emissions shown are total emissions. The on-site emissions, which do not include off-site motor vehicle emissions and road dust, would be lower.

Source: Aspen Environmental Group, *Long Beach Cruise Terminal Improvement Project Air Quality and Greenhouse Gas Assessment*, Table 6-5, Peak Daily Localized Construction Emissions (lbs/day) - Unmitigated, June 2019; refer to Appendix A.

Table 4.3-5 indicates that the unmitigated onshore construction $PM_{2.5}$ emissions would exceed the significance threshold. Therefore, Mitigation Measure AQ-1 would be required to reduce construction emissions through the use of Tier 4 off-road engines, electric dredges, and Tier 3 tug boat engines during project construction activities as identified in the CAAP. Table 4.3-6, *Mitigated Peak Daily Localized Construction Emissions*, presents peak daily localized construction emissions with implementation of Mitigation Measure AQ-1. As shown in Table 4.3-6, mitigated on-site emissions would not exceed the LSTs for SRA 4. Therefore, impacts would be less than significant with implementation of Mitigation Measure AQ-1.

**Table 4.3-6**
**Mitigated Peak Daily Localized Construction Emissions**

| Construction Activity | Pollutant (pounds/day) | | | | | |
|---|---|---|---|---|---|---|
| | Sensitive Receptors | | | Off-site Worker Receptors | | |
| | $PM_{10}$ | $PM_{2.5}$ | $NO_X$ | $PM_{10}$[a] | $PM_{2.5}$[a] | $NO_X$ |
| Maritime Improvements | 5 | 5 | 131 | 5 | 5 | 131 |
| *Localized Significance Threshold* | *191* | *120* | *179* | *94* | *47* | *133* |
| ***Is Threshold Exceeded?*** | ***No*** | ***No*** | ***No*** | ***No*** | ***No*** | ***No*** |
| Onshore Improvements[b] | 10 | 5 | 7 | 10 | 5 | 7 |
| *Localized Significance Threshold* | *167* | *101* | *151* | *29* | *10* | *83* |
| ***Is Threshold Exceeded?*** | ***No*** | ***No*** | ***No*** | ***No*** | ***No*** | ***No*** |

Notes:
[a] Thresholds for $PM_{10}$ and $PM_{2.5}$ are relevant to sensitive receptors reasonably likely to be present for ≥24 hours. As off-site worker receptors are not expected to be present for this duration, significance of project impacts related to LSTs for particulates have been omitted.
[b] Emissions shown are total emissions. The on-site emissions, which do not include off-site motor vehicle emissions and road dust, would be lower.

Source: Aspen Environmental Group, *Long Beach Cruise Terminal Improvement Project Air Quality and Greenhouse Gas Assessment*, Table 6-6, Peak Daily Localized Construction Emissions (lbs/day) - Mitigated, June 2019; refer to Appendix A.

### OPERATIONS

As shown in Table 4.3-4, total peak day operational project emissions show a net reduction, including a large reduction in the Saturday at-berth emissions. Therefore, the project would not result in increased emissions near sensitive receptors and operational LST impacts would be less than significant in this regard.

### CARBON MONOXIDE HOTSPOTS

Roads and intersections in the project vicinity could experience an increase in congestion as a result of traffic generated by project operations, this in turn could generate localized increases in vehicular emissions. Congestion and idling vehicles are a primary source of increased CO concentrations. Under normal meteorological conditions, CO disperses rapidly with distance from the source. However, under certain meteorological conditions, CO concentrations in the vicinity of congested roads and intersections can reach levels of concern for sensitive receptors.

Modeling is often recommended to determine a projects potential CO effects where existing high ambient background CO concentrations have been monitored. Although existing CO concentrations in the immediate vicinity of the project site are not available, ambient CO levels measured at both POLB monitoring stations (Super Block and Gull Park) and the closest SCAQMD monitoring station (Webster) were well below the relevant NAAQS and CAAQS for CO. Table 4.3-7, *Measured CO Concentrations at POLB and Nearest SCAQMD Monitoring Stations*, presents maximum measured one-hour and eight-hour concentrations of CO at these sites, which indicate the highest measured concentrations of CO in 2017. As shown in Table 4.3-7, the Super Block monitoring station represents the highest measured one-hour concentration of 5.4 parts per million (ppm) and eight-hour concentration of 4.7 ppm. These concentrations, which generally occur during peak traffic hours, are approximately 25 percent of the one-hour and 50 percent of the eight-hour CO CAAQS.

Given that monitored CO concentrations in the vicinity of the project site are well within NAAQS and CAAQS, and that CO emissions generated by project-related vehicles would not result in CO concentrations that exceed State or Federal CO standards, the project would not result in CO hotspots. Furthermore, project-generated vehicle trips would only occur on Saturdays, outside of the highest peak traffic days on the local road network. As such, CO hotspot impacts would be less than significant.

**Table 4.3-7**
**Measured CO Concentrations at POLB and Nearest SCAQMD Monitoring Stations**

| Averaging Time | Period | CO Concentration (parts per million) | | | | |
|---|---|---|---|---|---|---|
| | | Super Block | Gull Park | Webster | NAAQS | CAAQS |
| 1-hour | 2017 | 5.4 | 2.1 | 3.9 | 35 | 20 |
| 8-hour | 2017 | 4.7 | 1.7 | 2.6 | 9 | 9 |

Source: Aspen Environmental Group, *Long Beach Cruise Terminal Improvement Project Air Quality and Greenhouse Gas Assessment*, Table 6-8, Measured CO Concentrations at POLB and Nearest SCAQMD Monitoring Stations, June 2019; refer to Appendix A.

### TOXIC AIR CONTAMINANTS

Toxic air contaminants (TACs) are compounds that are known or suspected to cause adverse long-term (cancer and chronic) and/or short-term (acute) health effects. TACs are emitted from mobile sources, including diesel particulate matter (DPM); industrial processes and stationary sources, such as dry cleaners, gasoline stations, paint and solvent operations; and stationary fossil fuel-burning combustion. The SCAQMD estimates in the *Multiple Air Toxics Exposure Study IV* (MATES IV) that approximately 80 percent of the background airborne air toxics risk in the SCAB is due to diesel exhaust. Due to the prevalence of diesel-powered sources associated with operations at the San Pedro Bay ports, MATES IV identified that the ports area had the highest air toxics risks within the SCAB.

The project's primary source of air toxics emissions during construction is DPM. From a health risk perspective, the quantity of DPM emissions and the related risk profile for DPM makes it the primary TAC of concern for the project. The air toxics impacts are a long-term impact, so the DPM emissions for the entire project period need to be considered. Due to the reduction in ship hoteling, beyond CARB regulatory requirements, the project would reduce the overall long-term DPM emissions and TACs impacts. As such, impacts would be less than significant in this regard.

**AIR QUALITY HEALTH IMPACTS**

Adverse health effects induced by criteria pollutant emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, and the number and character of exposed individual [e.g., age, gender]). In particular, $O_3$ precursors VOCs and $NO_X$ affect air quality on a regional scale. Health effects related to $O_3$ are therefore the product of emissions generated by numerous sources throughout a region. Existing models have limited sensitivity to small changes in criteria pollutant concentrations, and, as such, translating project-generated criteria pollutants to specific health effects or additional days of nonattainment would produce meaningless results. In other words, the project's less than significant increases in regional air pollution from criteria air pollutants would have nominal or negligible impacts on human health.

As noted in the Brief of Amicus Curiae by the SCAQMD (April 6, 2015), the SCAQMD acknowledged it would be extremely difficult, if not impossible to quantify health impacts of criteria pollutants for various reasons including modeling limitations as well as where in the atmosphere air pollutants interact and form. Furthermore, as noted in the Brief of Amicus Curiae by the San Joaquin Valley Air Pollution Control District (SJVAPCD) (April 13, 2015), SJVAPCD has acknowledged that currently available modeling tools are not equipped to provide a meaningful analysis of the correlation between an individual development project's air emissions and specific human health impacts.

The SCAQMD acknowledges that health effects quantification from $O_3$, as an example, is correlated with the increases in ambient level of $O_3$ in the air (concentration) that an individual person breathes. SCAQMD's Brief of Amicus Curiae states that it would take a large amount of additional emissions to cause a modeled increase in ambient $O_3$ levels over the entire region. The SCAQMD states that based on their own modeling in the SCAQMD's *2012 Air Quality Management Plan*, a reduction of 432 tons (864,000 pounds) per day of $NO_x$ and a reduction of 187 tons (374,000 pounds) per day of VOCs would reduce $O_3$ levels at highest monitored site by only nine parts per billion. As such, the SCAQMD concludes that it is not currently possible to accurately quantify $O_3$-related health impacts caused by $NO_x$ or VOC emissions from relatively small projects (similar to the proposed project, which would exceed the SCAQMD $NO_x$ construction emissions threshold without mitigation) defined as projects with regional scope) due to photochemistry and regional model limitations.

As previously discussed, the project would not exceed LSTs for construction and operational air emissions, or regional SCAQMD thresholds for operational air emissions. Therefore, the project would have a less than significant impact in regard to air quality health impacts.

***Mitigation Measures***: Refer to Mitigation Measure AQ-1 and AQ-2.

***d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?***

***Less Than Significant Impact***. During project construction there would be a short-term increase in air pollutants primarily due to the combustion of diesel fuel from construction equipment and marine vessels, but also from the disturbance and movement of dredged material.

At the time of this analysis, it is understood that the dredging process is expected to take then days within a 21-day span for maritime construction improvements. Dredged material would be transferred directly from the dredge, placed into an adjacent barge, and transported out to the LA-2 ODMDS, approximately 11 miles southwest of the cruise terminal and over 500 meters from any sensitive receptors. It is anticipated that any odors originating from dredging activities would be short-term, limited in extent at any given time, and distributed throughout the area of proposed

maritime improvements. Therefore, dredge-related odor emissions are not expected to affect a substantial number of individuals.

There is potential for some individuals to find diesel combustion emissions an objectionable odor, however it is considered difficult to quantify such odorous impacts due to the complex mixture of chemicals in diesel exhaust fumes, the various odor thresholds of these constituent species, and the difficulty quantifying the potential for changes in perceived odors even when air contaminant concentrations are known. The mobile nature of odorous fumes would serve to disperse most project emissions. Additionally, given the distance between project emission sources and the nearest sensitive residential receptors (i.e. greater than 500 meters), adequate dispersion of these emissions to below objectionable odor levels would be anticipated. Furthermore, the project site is located within the POLB where existing industrial operations at nearby container terminals include freight and goods movement activities (i.e. use of diesel trucks and diesel cargo-handling equipment) which generate similar diesel exhaust odors.

Therefore, construction and operations of the proposed project would not result in other emissions, including those that lead to odors, in a manner that would affect a substantial number of people. Impacts would be less than significant in this regard.

***Mitigation Measures***: No mitigation is required.

# 4.4 BIOLOGICAL RESOURCES

| *Would the project:* | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? | | ✓ | | |
| b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? | | | ✓ | |
| c. Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | | | ✓ | |
| 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? | | ✓ | | |
| e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | | | | ✓ |
| 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? | | | | ✓ |

This section is based on the *Long Beach Cruise Terminal Improvement Project Biological Resources Report* (Biological Report), prepared by GHD, dated April 30, 2019; refer to Appendix B, *Biological Report*.

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

***Less Than Significant Impact With Mitigation Incorporated***. A Biological Report was prepared for the project and included preliminary database searches of the California Natural Diversity Database (CNDDB), U.S. Fish and Wildlife Information for Planning and Conservation (IPac) database, National Marine Fisheries Service/Marine Mammal Protection Act (MMMA) Google Earth species data, and California Native Plan Society (CNDB) database. The search encompassed eight United States Geologic Survey 7.5-minute quadrangles, including Long Beach, Inglewood, South Gate, Whittier, Torrance, Los Alamitos, San Pedro, and Seal Beach. A search of the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory was also conducted to identify mapped wetlands in the site vicinity. The Biological Report assessed the ability of the plant communities found on-site to provide suitable habitat for relevant special-status plant and wildlife species.

According to the Biological Report, the project area is within a major port complex that has been extensively modified for over a century, including extensive areas of historic fill. As a result, most of the project area is not in a natural condition. Open water portions of the POLB are generally maintained for shipping (approximately 28 to 47 feet depth

Mean Lower Low Water [MLLW] in the project dredge footprint). The ocean bottom in the project area is predominantly fine silt and turbidity is high as a result of frequent shipping traffic. Additionally, visibility below the surface generally extended only one to two feet during the site visit. Shorelines in the project vicinity are generally rock armored, with very limited, mostly non-native vegetation growing on the few vegetated shoreline areas. Onshore areas near the existing cruise terminal are generally paved as roads, parking lots, or service areas. Small areas of landscaping on-site are primarily linear strips along roadsides or in medians or adjacent to structures, including the existing parking garage on-site. These landscaped areas consist largely of evenly spaced palms, eucalyptus, and other ornamentals with mowed or maintained grass or a few ornamental flowering plants with low shrubs as the ground layer. Overall, there is very little habitat structure within the project's on- and off-shore areas.

The Biological Report identified the following listed, candidate, or special status species with potential to occur in the project area.

**PLANTS**

Forty-three listed and sensitive plant species were identified in the database search that have potential to occur on-site; refer to Biological Report Appendix A, *CNDDB, IPaC, CNPS, and MMPA Database Search Results*. Most plant species are unlikely, or have a low potential, to be present on-site based on the lack of preferred habitat. Previous and on-going site disturbance, including the previous construction of the cruise line terminal and vegetation management (i.e., turf maintenance, landscaping, and mowing), further reduce the likelihood of persistence or establishment of special-status plants within the project area.

Of the 43 special-status plant species, the following 14 species have a moderate potential to occur: aphanisma (*Aphanisma blitoides*), Coulter's saltbush (*Atriplex coulteri*), South coast saltscale (*Atriplex pacifica*), Parish's brittlescale (*Atriplex parishii*), Davidson's saltscale (*Atriplex serenana* var. *davidsonii*), lucky morning-glory (*Calystegia felix*), Peirson's morning-glory (*Calystegia peirsonii*), Lewis' evening-primrose (*Camissoniopsis lewisii*), southern tarplant (*Centromadia parryi* ssp. *australis*), vernal barley (*Hordeum intercedens*), coast woolly-heads (*Nemacaulis denudata* var. *denudata*), Hubby's phacelia (*Phacelia hubbyi*), estuary seablite (*Suaeda esteroa*), and woolly seablite (Suaeda taxifolia). These species are tolerant of and/or prefer disturbed habitats, such as roadsides, irrigated lawns or alkaline/saline substrates and could occur in the general vicinity. However, none of the 14 species are officially State or federally listed as threatened or endangered. Additionally, vegetation on-site is limited to linear landscaped areas adjacent to the existing parking garage and do not provide suitable habitat for any of the special-status plant species. As such, project development would not adversely impact any special-status plant species and impacts would be less than significant in this regard.

**INVERTEBRATES**

Black abalone (*Haliotis cracherodii*) and white abalone (*Haliotis sorenseni*) are federally endangered species and have moderate potential to occur on-site. Black abalone's preferred habitat are rocky intertidal and subtidal environments where protective crevices between rocks can provide shelter. White abalone also prefer rocky refugia in areas near sandy channels typically at depths between 50 to 180 feet where their food source, algae, accumulates. The tidal riprap areas of the project site could provide habitat for either of these species. However, no abalone were documented during historical surveys and suitable habitat has not been reported in the project vicinity. If a few individuals missed detection during the surveys, they would be a small population with limited viability, because these species rely on fertilization in the water column for reproduction and require massive dispersal numbers to increase the odds of successful fertilization. As such, these species are not likely to be significantly impacted by project development. Impacts would be less than significant in this regard.

**FISH**

The Southern California (SC) Steelhead Distinct Population Segment (DPS) (*Oncorhynchus mykiss irideus*) is a federally endangered species and has moderate potential to occur on-site based on database search results. Juvenile

Steelhead use a variety of in-stream habitats depending on age and size. Smaller fish inhabit shallow, slow moving margins of streams or other open water. Larger juveniles move to deeper water with more cover and vegetation. Steelhead juveniles typically have a longer freshwater rearing requirement, and both adults and juveniles are much more variable in the amount of time spent in fresh and salt water. For upstream migration, SC Steelhead DPS require a minimum depth of at least seven inches and a maximum stream velocity of eight feet per second. Spawning requires a minimum of one to three feet per second velocity, clean substrate, and cool temperatures (approximately 39 to 49°F).

This species has a low chance of seasonally occurring in the project area. The SC Steelhead DPS are winter-run populations only. Even if runs have not been documented in streams in recent years, SC Steelhead DPS are known to opportunistically spawn in non-natal streams, and therefore re-colonize watersheds where they were previously extirpated. Any potentially occurring SC Steelhead DPS runs would only be present from January through April when winter rains swell rivers and creeks, allowing passage into breeding habitat. Most construction is expected to be outside this period of time. Given the scarcity of recent records of SC Steelhead DPS is the project vicinity and seasonal avoidance, this species is not likely to be significantly impacted. Impacts would be less than significant in this regard.

**AMPHIBIANS**

No listed, candidate, or special-status amphibian species are likely to occur in the project area. No impacts would occur to special-status amphibian species.

**REPTILES**

Green sea turtle, East Pacific DPS (*Chelonia mydas*) is a federally threatened species with moderate potential to occur on-site. A small, isolated population of green sea turtles is associated with the warm water outfall of the Haynes Generating Station at the mouth of the San Gabriel River, approximately 4.5 miles east of the project site. The population was present as recently as April 2016. Radio tracking has revealed that they typically spend all their time in the river, though a few swim into the ocean during the day and return at night. There have been occasional reports of turtles away from the generating station in coastal waters near Long Beach, but such sightings are rare. Overall, it is unlikely this species would be significantly impacted by project development. Impacts would be less than significant in this regard.

**BIRDS**

The following listed, candidate, or special-status bird species have moderate or high potential to occur on-site: California least tern (*Sternula antillarum browni*), peregrine falcon (*Falco peregrinus*), California brown pelican (*Pelecanus occidentalis californicus*), Caspian tern (*Hydroprogne caspia*), black-crowned night heron (*Nycticorax nycticorax*), double-crested cormorant (*Phalacrocorax auritus*), great blue heron (*Ardea herodias*), great egret (*Ardea alba*), snowy egret (*Egretta thula*), osprey (*Pandion haliaetus*), Cooper's hawk (*Accipiter cooperii*), black skimmer (*Rynchops niger*), California gull (*Larus californicus*), long-billed curlew (*Numenius americanus*), elegant tern (*Thalasseus elegans*), and common loon (*Gavia immer*). Several of these species are also known to forage and nest in the project vicinity and general POLB area.

Additionally, the California least tern and peregrine falcon would most likely be impacted by in-air and underwater noise from pile driving and dredging activities. Analysis of anticipated noise impacts in the Noise Study (Appendix F, *Noise Study*) and Biological Report determined that the largest area of airborne auditory impact (approximately 438.7 feet) would fall short of known California least tern and peregrine falcon nesting sites more than one mile from the proposed construction areas. Nevertheless, mitigation is incorporated to ensure pile driving activities initiate with "soft starts" to allow sensitive bird species a chance to vacate the immediate area before full-force pile driving occurs; refer to Mitigation Measure BIO-1. Mitigation Measure BIO-2 requires a biological monitor be present during pile driving activities with the power to exercise Stop Work Authority if wildlife exhibit substantial behavioral disturbance to pile driving noise.

Further, both maritime and onshore improvements under the proposed project could adversely impact nesting birds protected by the Migratory Bird Treaty Act (MBTA). The MBTA prohibits activities that result in the direct take (defined as killing or possession) of a migratory bird. The proposed project has the potential to impact nesting birds if construction activities occur during the nesting season. As such, during nesting season, a nesting bird survey would be required prior to any construction activities as detailed under Mitigation Measure BIO-3. Implementation of Mitigation Measures BIO-1 through BIO-3 would ensure impacts to listed, candidate, or special-status bird species are minimized to less than significant levels.

**MAMMALS**

The following listed, candidate, or special-status mammal species have moderate to high potential to occur on-site: gray whale, western north Pacific population (*Eschrichtius robustus*), Pacific white-sided dolphin (*Lagenorhynchus obliquidens*), short-beaked common dolphin (*Delphinus delphis*), common bottlenose dolphin (*Tursiops truncatus*), California sea lion (*Zalophus californianus*), and Pacific harbor seal (*Phoca vitulina richardii*). Gray whale seasonally migrate past the POLB and are infrequently observed just outside the outer harbor; Pacific white-sided dolphin and short-beaked common dolphin are infrequently observed in the outer harbor. Common bottlenose dolphin, California sea lion, and Pacific harbor seal are known to occur in the project area year-round. As detailed in Section 2.0, *Project Description*, an Incidental Harassment Authorization (IHA) under the MMMA would be required as part of the project. When fully addressed, the IHA application will provide a narrative that explains, in detail, the proposed action, the nature of the action's anticipated effects on marine mammals, their habitats, and the availability of marine mammals for subsistence uses, and the methods of mitigating, monitoring, and reporting on the effects of the action. The IHA application would be reviewed and approved by the National Oceanic and Atmospheric Administration Fisheries' Office of Protected Resources.

Compliance with regulatory requirements and implementation of Mitigation Measures BIO-1 through BIO-3 would ensure project impacts to listed, candidate, or special-status species are minimized to less than significant levels.

***Mitigation Measures:***

BIO-1 During pile driving activities, the construction contractor shall utilize a "soft start" initiation of the pile driving equipment at the beginning of each day, or following a 30-minute or longer break in pile driving, to give nearby wildlife a chance to vacate the immediate construction area before full-force pile driving is initiated. The "soft start" initiation shall consist of an initial set of strikes at reduced energy followed by a one-minute idling period to allow wildlife to move out of the area.

BIO-2 The project applicant shall retain a qualified biological monitor (defined as an individual with the minimum qualifications of a Bachelor of Science Degree or Bachelor of Arts Degree in biology or related environmental science with a demonstrated familiarity with the natural history, habitat affinities, identification of marine species, and other laws and regulations governing the take of marine species and also approved by the City of Long Beach) to be present during all in-water work and pile driving and dredging activities, to verify that marine mammals and green sea turtle (*Chelonia mydas*) are not present within the construction area. Should marine mammals or green sea turtles be observed, the biological monitor shall have the flexibility and power to exercise Stop Work Authority in determining whether construction activities can continue or halt until the marine animal(s) swim far enough away, as determined by the biological monitor, from the construction area.

BIO-3 If ground-disturbing activities or removal of any trees, shrubs, or any other potential nesting habitat are scheduled within the avian nesting season (generally from March 1 through September 30), a pre-construction clearance survey for nesting birds shall be conducted within three days prior to any ground disturbing activities.

The qualified biologist conducting the clearance survey shall document the negative results if no active bird nests are observed on the project site or within the vicinity during the clearance survey with a brief letter report indicating that no impacts to active bird nests would occur before construction can proceed. If an active avian nest is discovered during the pre-construction clearance survey, construction activities shall stay outside of a 300-foot buffer around the active nest. For raptor species, this buffer shall be 500 feet. A biological monitor shall have the flexibility in delineating the boundaries of the buffer area and be present to monitor the active nest to ensure nesting behavior is not adversely affected by construction activities. Results of the pre-construction survey and any subsequent monitoring shall be provided to the California Department of Fish and Wildlife (CDFW) and other appropriate agencies.

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

***Less Than Significant Impact***. The onshore portion of the project site does not have any riparian habitat or sensitive natural communities. Therefore, onshore improvements within the cruise terminal would have no impact in this regard.

However, according to the Biological Report, the following two marine habitat communities have small areas of known presence in the POLB:

- *Eelgrass*. Eelgrass meadows are designated Essential Fish Habitat (EFH) and a Habitat Area of Particular Concern (HAPC) under the Magnuson-Stevens Fishery Conservation and Management Act of 1996 (MSA). They are important for the foundational ecological functions they play, such as providing cover, foraging habitat, oxygen, and nursery environments for many fish. Eelgrass grows in shallow, semi-protected areas with soft-bottom substrate with its depth distribution constrained to its shallowest extent by the stress of desiccation during low tide, and to the deepest extent by sunlight's ability to penetrate through the water column (affected by turbidity, light intensity, water clarity, etc.). According to the Biological Report, the offshore project area is too deep to support eelgrass communities and no eelgrass has been reported near the project area. Therefore, construction and operations of the proposed project would not impact sensitive eelgrass communities in the POLB.

- *Kelp Forests*. The major species of brown algae or kelp in the Long Beach and Los Angeles Harbors are giant kelp (*Macrocystis pyrifera*) and feather boa kelp (*Egregia menziesii*). Giant kelp plays a key role in aquatic communities by creating structure, serving as nursery habitat and a food source for other organisms. Kelp requires hard, stable surfaces, like riprap, for attachment. It grows best in cold water temperatures when nutrients and oxygen have their highest concentrations, which causes kelp beds to undergo significant seasonal fluctuations. The Central Region Kelp Survey Consortium has been monitoring kelp beds using aerial photography from Ventura to Newport Beach on a quarterly basis since 2003 and has noted kelp beds receding significantly due to warming water temperatures. However, even with the substantial decrease in kelp beds, surveys in 2013 and 2014 identified kelp beds growing as a thin band along the west, south, and east facing outer faces of Pier J and both faces of the breakwater protecting the Pier J slip just southwest of the project's existing berth and docking area. As such, it is possible that kelp beds in the project area would be impacted by project construction activities. As detailed in Response 4.4(c), the project would require a Section 404 permit under the Federal Clean Water Act (CWA) and a Section 10 permit under the Rivers and Harbors Act. Permit approval from the United States Army Corps of Engineers (USACE) may require pre-construction surveys to determine presence/absence of kelp beds in the project vicinity, and if determined present, potential impacts would be minimized via compensatory mitigation to be determined in consultation with the USACE under the Section 404 and 10 permit process. Therefore, compliance with applicable regulatory requirements in accordance with the required CWA permits would ensure project impacts to kelp forests are reduced to less than significant levels.

***Mitigation Measures***: No mitigation measures are required.

***c) Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?***

***Less Than Significant Impact***. There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The USACE Regulatory Branch regulates discharge of dredge or fill materials into "waters of the U.S." pursuant to Section 404 of the CWA and Section 10 of the Rivers and Harbors Act. Of the State agencies, the Regional Water Quality Control Board (RWQCB) regulates discharges to surface waters pursuant to Section 401 of the CWA and the Section 13263 of the California Porter-Cologne Water Quality Control Act and the CDFW regulates alterations to streambed and associated vegetation communities under Section 1600 et seq. of the California Fish and Game Code.

Project development would involve deepening the existing berth by dredging approximately 33,250 cubic yards surrounding the berth and constructing additional mooring dolphins and catwalks on either side of the wharf deck as shown on Exhibit 2-4, *Overall Proposed Modifications*. Therefore, the project would be required to obtain Section 404 and Section 10 permits pursuant to the CWA and Rivers and Harbors Act, respectively, prior to maritime construction activities. Requirements for applicable compensatory mitigation for impacts to Waters of the U.S. would be determined through consultation with USACE during the permit acquisition process. USACE approval and issuance of the required permits would ensure the project's proposed maritime construction activities, including dredging, do not adversely impact waters of the U.S. and would reduce such impacts to less than significant levels.

***Mitigation Measures***: No mitigation measures are required.

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

***Less Than Significant Impact With Mitigation Incorporated***. Refer to Response 4.4(b). EFH, including eelgrass, is designated for species managed in Fisheries Management Plans under the MSA. Under the MSA, the POLB harbor is designated as EFH within Coastal Pelagics Fishery Management Plan (5 species and Euphausiids), Pacific Groundfish Fishery Management Plan (85 species), and the Highly Migratory Species Fishery Management Plan (11 species). The Coastal Pelagics Fishery Management Plan (as amended) was created to promote efficient, sustainable, and profitable fishery practices and to prohibit the harvest of krill species. The Pacific Coast Groundfish Fishery Management Plan (as amended) prohibits activities such as bottom trawling and dredging that could result in long-term damage to the ocean floor, and designates HAPCs, such as kelp, eelgrass beds, and estuaries. The Highly Migratory Species Fishery Management Plan (as amended) seeks to manage sustainable fisheries in the eastern Pacific Ocean across jurisdictional boundaries. HAPCs in the project area include kelp and eelgrass beds in the POLB harbor.

Proposed maritime construction activities, particularly pile driving, could potentially impact EFH managed species and their habitats. It is possible for any of the Coastal Pelagic species to occur in the project area. However, the only species that have a moderate to high potential of occurring in the project area, based on previously biological surveys, are Northern anchovy (*Engraulis mordax*), Pacific sardines (*Sardinops sagax*), and jack mackerel (*Trachurus summetricus*). In addition, the results of extensive biological surveys indicate that the only Pacific Groundfish species likely to occur in the project area are English sole (*Parophrys vetulus*), vermillion rockfish (*Sebastes miniatus*), and California skates (*Raja inornata*). No species managed under the Highly Migratory Species Fishery Management Plan are likely to occur in the project area based on previous biological surveys.

Kelp and eelgrass beds in the Long Beach and Los Angeles harbors are located primarily on the Los Angeles side. As stated above, the project site does not have suitable eelgrass habitat; however, kelp is present in narrow bands along Pier J close to the proposed maritime construction areas. As detailed in Response 4.4(c), the project would require a Section 404 permit under the CWA and a Section 10 permit under the Rivers and Harbors Act. Permit approval from the USACE may require pre-construction surveys to determine presence/absence of kelp beds in the project vicinity,

and potential impacts and mitigation measures would be determined with consultation and coordination with the USACE. Therefore, compliance with applicable regulatory requirements (and implementation of compensatory mitigation as applicable, as required by the USACE) in accordance with the required Section 404 and Section 10 permits would ensure project impacts to kelp forests are reduced to less than significant levels. Additionally, as the maritime improvements consist primarily of minor alterations to the existing berth and surrounding area, no high quality EFH would be lost or substantially impacted.

Further, as stated above, the MBTA protects nesting birds and prohibits activities that could result in the direct take of any migratory birds. The proposed project has the potential to impact nesting birds if construction activities occur during the nesting season. Therefore, implementation of Mitigation Measure BIO-3 would reduce such impacts to less than significant levels. Overall, the project would not substantially interfere 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. Impacts in this regard would be less than significant.

***Mitigation Measures***: Refer to Mitigation Measures BIO-3.

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

***No Impact***. Vegetation removal associated with the proposed project is anticipated to be limited primarily to removal of ornamental trees and landscaping adjacent to the existing parking garage. Upon completion of the parking garage expansion, ornamental trees and landscaping would be replanted along the parking garage's perimeter similar to existing conditions.

LBMC Chapter 14.28, *Trees and Shrubs*, contains regulations on tree and shrub planting, removal, and maintenance, including the protection of all trees located along streets, alleys, courts, or other public places during construction activities. However, implementation of the proposed project would not have any impacts to street trees or other trees along City streets or publicly-owned areas. Consequently, construction of the proposed project would not conflict with any local policies protecting biological resources. Thus, no impacts would occur in this regard.

***Mitigation Measures***: 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***. According to the U.S. Fish and Wildlife Service's *California Natural Community Conservation Plans Map,* the proposed project site is neither located within a Natural Community Conservation Plan (NCCP) nor a Habitat Conservation Plan (HCP).[1] As such, there would be no impact in this regard.

***Mitigation Measures***: No mitigation is required.

[1] California Department of Fish and Wildlife Service, *California Natural Community Conservation Plans*, April 2019.

This page intentionally left blank.

# 4.5 CULTURAL RESOURCES

| *Would the project:* | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5? | | | ✓ | |
| b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5? | | | ✓ | |
| c. Disturb any human remains, including those interred outside of dedicated cemeteries? | | | ✓ | |

This section is based on the Carnival Cruise Line Port of Long Beach Dredge Maintenance & Dock Improvements Historical Resource Research Report (Cultural Report), prepared by Atkins, dated December 2018; refer to Appendix C, *Cultural Report*.

### *a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*

***Less Than Significant Impact***. As part of the Cultural Report, archival research and a field survey was conducted in the project area to identify any historic resources that could be impacted by the proposed development. Archival research included a California Historical Resources Information System (CHRIS) records search by the South Central Coastal Information Center (SCCIC) on May 10, 2016 and review of United States Geological Survey quadrangle maps and authoritative literature. A field survey was conducted on June 9, 2016 to document the current visual conditions of the area surrounding the project area.

The record search revealed that 23 previous studies had been performed within a one-mile radius of the project site and that 100 percent of the project area had been previously surveyed. The record search identified 11 historic resources previously recorded at the SCCIC, as listed on the CHRIS database. None of the historic resources are located within the project area with the exception of the Queen Mary (P-10-180734) and Hughes Flying Boat HK-1 ("The Spruce Goose;" P-19-180753). The Spruce Goose was previously located on-site in the dome as a tourist attraction but was moved to an Oregon facility in 1992 and is therefore no longer relevant to this analysis. The RMS Queen Mary is the only known historic resource within the project area. The field survey also did not identify any new historic resources.

The Queen Mary is located to the west of the project site and is listed in the National Register of Historic Places (NRHP) under Criterion A, Criteria Consideration G at the national level of significance for recreation, social history, and military history. As a floating historic vessel, the Queen Mary is eligible due to her notable eminence in commerce and military history. The Queen Mary is the last example of a North Atlantic passenger liner that exhibited luxury on ocean travel in the 1930s. Soon after, the Queen Mary regularly crossed oceans worldwide during World War II, carrying over 800,000 soldiers on 72 trips. Although the Queen Mary has always lacked a permanent berth or home, the vessel has been at its current berth for the last 25 years. The Queen Mary's eligibility in the NRHP is not based on the setting of the ship, but rather her historic contributions during World War II. As such, large-scale construction and infrastructure changes surrounding the POLB would neither contribute to nor detract from her historic integrity or historic significance and the Queen Mary's eligibility in the NRHP.

While a larger cruise ship docking in proximity to the Queen Mary may alter the Queen Mary's viewshed to the east and southeast, this alteration is not considered to be a significant adverse effect given that existing Carnival ships are currently located alongside the Queen Mary. Therefore, the larger cruise ship planned by Carnival would not have an

adverse effect on the Queen Mary's historic integrity and its ability to adequately convey its historic integrity under which the Queen Mary is listed on the NRHP. Thus, project implementation would not cause a substantial adverse change in the significance of a historical resource and impacts in this regard would be less than significant.

***Mitigation Measures***: No mitigation is required.

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

***Less Than Significant Impact***. According to the Cultural Report, Pier H, including the Long Beach cruise terminal, is located on man-made land. The project area has experienced nearly continuous construction since its inception and is located off dry land. Because the project area is located on artificial fill composed of locally dredged materials and was constructed less than 50 years ago, the site has little potential for in situ historic or prehistoric materials. Several studies covering the project area have been conducted in the past, but no cultural resources have been observed within the project area. As stated above, a field survey was conducted on June 9, 2016 and no new cultural resources were discovered. As such, it is not expected that archaeological resources would be encountered during project construction due to previous disturbance at the site and the lack of native soils. Impacts would be less than significant in this regard.

***Mitigation Measures***: No mitigation is required.

***c) Disturb any human remains, including those interred outside of dedicated cemeteries?***

***Less Than Significant Impact***. No conditions exist that suggest human remains are likely to be found on the project site. Due to the level of past disturbance on-site, it is not anticipated that human remains, including those interred outside of formal cemeteries, would be encountered during earth removal or disturbance activities. If human remains are found, those remains would require proper treatment, in accordance with applicable laws. State of California Public Resources Health and Safety Code Section 7050.5-7055 describe the general provisions for human remains. Specifically, Health and Safety Code Section 7050.5 describes the requirements if any human remains are accidentally discovered during excavation of a site. As required by State law, the requirements and procedures set forth in Section 5097.98 of the California Public Resources Code would be implemented, including notification of the County Coroner, notification of the Native American Heritage Commission and consultation with the individual identified by the Native American Heritage Commission to be the "most likely descendant." If human remains are found during excavation, excavation must stop in the vicinity of the find and any area that is reasonably suspected to overlay adjacent remains until the County Coroner has been called out, and the remains have been investigated and appropriate recommendations have been made for the treatment and disposition of the remains. Following compliance with existing State regulations, which detail the appropriate actions necessary in the event human remains are encountered, impacts in this regard would be considered less than significant.

***Mitigation Measures***: No mitigation is required.

# 4.6 ENERGY

| *Would the project:* | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? | | | ✓ | |
| b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? | | | | ✓ |

This section is based on the *Long Beach Cruise Terminal Improvement Project Air Quality and Greenhouse Gas Assessment* (AQ and GHG Assessment), prepared by Aspen Environmental Group, dated June 2019; refer to Appendix A, *Air Quality/Greenhouse Gas/Energy Analysis*.

***a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?***

***Less Than Significant Impact.***

**PROJECT-RELATED SOURCES OF ENERGY CONSUMPTION**

Project construction would consume energy in two general forms: (1) the fuel energy consumed by construction vehicles and equipment; and (2) bound energy in construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass. Fuel energy consumed during construction would be temporary and would not represent a significant demand on energy resources. In addition, some incidental energy conservation would occur during construction through compliance with State requirements that heavy-duty diesel equipment not in use for more than five minutes be turned off. Project construction equipment would also be required to comply with the latest U.S. Environmental Protection Agency and California Air Resources Board engine emissions standards. These emissions standards require highly efficient combustion systems that maximize fuel efficiency and reduce unnecessary fuel consumption. Due to increasing transportation costs and fuel prices, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary consumption of energy during construction.

The project-related incremental increase in the use of energy bound in construction materials such as asphalt, steel, concrete, pipes and manufactured or processed materials (e.g., lumber and gas) would not substantially increase demand for energy compared to overall local and regional demand for construction materials. As such, construction would have a nominal effect on the local and regional energy supplies. It is noted that construction fuel use is temporary and would cease upon completion of construction activities. There are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in the region or State. Therefore, construction fuel consumption would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature. As such, a less than significant impact would occur in this regard.

**OPERATIONAL ENERGY CONSUMPTION**

The proposed project aims to enable the growth of Carnival Corporation & PLC (Carnival) operations by facilitating safe mooring of a new Vista-class cruise ship (*Carnival Panorama*). In addition, the larger vessel would generate greater demand for staff and customer parking facilities, and thus, expansion of the existing parking garage is proposed. Once the project maritime construction improvements are completed, the *Carnival Panorama* would begin calling at the Long Beach cruise terminal, replacing the existing *Carnival Splendor* and occasional *Carnival Miracle* that would end service at the cruise terminal. The *Carnival Inspiration* and *Carnival Imagination* would continue calling at the

cruise terminal, similar to existing conditions. The project's net energy consumption has been calculated and is provided in Table 4.6-1, *Energy Consumption*.

**Table 4.6-1**
**Energy Consumption**

| Project Phasing | Carnival Splendor | Carnival Panorama | Energy Difference |
|---|---|---|---|
| Parking Structure Improvements[1] | 650,000 kWh per year | 550,000 kWh per year | -100,000 kWh per year |
| Docked at Shore | 4,412,826 kWh per year | 1,169,583 kWh per year | -3,243,243 kWh per year |
| Operations Within SCAB[2] | 12,527,403 kWh per year | 7,074,660 kWh per year | -5,452,743 kWh per year |
| Operations within California Waters[3] | 22,720,462 kWh per year | 14,685,887 kWh per year | -8,034,575 kWh per year |
| Terminal Lighting | 900,000 kWH per year | 900,000 kWH per year | 0 |

Notes: SCAB = South Coast Air Basin; kWh = kilowatt-hour
1. The parking structure improvements would include compliance with the 2019 Title 24 code, which would improve indoor and outdoor lighting with LED lights.
2. Operational Energy usage within the jurisdiction of the South Coast Air Basin.
3. Operational Energy Usage within California Waters.

Source: Aspen Environmental Group, Long Beach Cruise Terminal Improvement Project Air Quality and Greenhouse Gas Assessment, June 2019; refer to Appendix A.

As illustrated in Table 4.6-1, project operations for the proposed *Carnival Panorama* would result in less energy consumption year after year compared to the existing *Carnival Splendor*. By replacing the *Carnival Splendor* with the *Carnival Panorama*, the use of a diesel generator for power while the vessel is docked on-shore would no longer be required. Diesel generators are more wasteful in comparison to their electric counter parts as they lose power in transmission of use. Additionally, the *Carnival Panorama* would reduce energy usage by 3,243,243 kilowatt-hours (kWh) per year while the cruise ship is docked. Energy usage for terminal lighting would remain the same for both the *Carnival Panorama* and *Carnival Splendor*. Following the POLB's Green Port Policy, Carnival would be in compliance with the policy by adopting newer technology to assist with the reduction of wasteful energy as would occur with the change of vessels following the proposed project. Impacts to energy waste or consumption based on the project operations would be less than significant and mitigation is not required.

***Mitigation Measures***: No mitigation measures are required.

***b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?***

***No Impact***. The project would comply with all applicable energy goals and measures identified in the City's Sustainable City Action Plan (SCAP), as detailed in Table 4.6-2, *SCAP Energy Sustainability Goals*. The SCAP contains energy efficient goals and measures that would help implement energy efficient measures and would subsequently reduce GHG emissions within the City. The project would also comply with the POLB's Green Port Policy. Furthermore, the project would cause a reduction of 3,243,243 kWh of energy usage while docked. Therefore, the proposed project would not result in impacts associated with conflicts with renewable energy or energy efficiency plans.

**Table 4.6-2**
**SCAP Energy Sustainability Goals**

| Energy Sustainability Goal | Energy Initiative | Project Compliance |
|---|---|---|
| **Goal 1:** Reduce greenhouse gas emissions from City facilities and operations by 15 percent by 2020. | **Initiative 1:** Shrink Long Beach's carbon footprint by reducing greenhouse gas emissions. | The proposed project improvements would result in a reduction of approximately 2,741 ($MTCO_2eq/yr$) of greenhouse gases emissions and would therefore help the City reduce its carbon footprint. |
| **Goal 5:** Reduce community electricity use by 15 percent by 2020. | **Initiative 2**: Ensure all of the City's of Long Beach's operational needs are met through energy efficiency, conservation and renewable energy sources. | The project would reduce the existing cruise ship energy demand 3,243,243 kWh while docked and would help the City's meet its operational energy efficiency goals. |
| **Goal 6**: Reduce community natural gas use by 10 percent by 2020. | **Initiative 3:** Reduce electricity and natural gas consumption of the Long Beach Community. | The project would not utilize natural gas for operations and thus, would help the City reduce its natural gas usage. |

Source: City of Long Beach, *Sustainable City Action Plan*, February 2010.

***Mitigation Measures***: No mitigation measures are required.

This page intentionally left blank.

# 4.7 GEOLOGY AND SOILS

| *Would the project:* | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| 1) 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. | | | ✓ | |
| 2) Strong seismic ground shaking? | | | ✓ | |
| 3) Seismic-related ground failure, including liquefaction? | | | ✓ | |
| 4) Landslides? | | | ✓ | |
| b. Result in substantial soil erosion or the loss of topsoil? | | | ✓ | |
| c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? | | | ✓ | |
| d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? | | | ✓ | |
| 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? | | | | ✓ |
| f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | | | | ✓ |

This section is based on the *Long Beach Cruise Terminal Improvement Project Geology and Soils Technical Report* (Geotechnical Report), prepared by Atkins, dated December 12, 2018, and the *Paleontological mitigation – Long Beach Cruise Terminal Improvement at the Port of Long Beach, Long Beach, California* (Paleontological Memorandum), prepared by the San Diego Natural History Museum, dated December 20, 2018; refer to Appendix D, *Geotechnical Report/Paleontological Memorandum*.

***a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:***

***1) 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***. Southern California, including the project area, is subject to the effects of seismic activity due to the active faults that traverse the area. Active faults are defined as those that have experienced surface displacement within Holocene time (approximately the last 11,000 years) and/or are in a State-designated Alquist-Priolo Earthquake Fault Zone.

According to the Geotechnical Report and Plate 2*, Fault Map with Special Study Zones*, of the General Plan Seismic Safety Element, no active faults or Alquist-Priolo Earthquake Fault Zones traverse the project site. An Alquist-Priolo Special Study Zone traverses Long Beach in a northwest-southeast direction; however, it is located approximately 3.7 mile to the northeast of the project site. The probability of damage due to surface ground rupture within the project site is low due to the distance to the known Alquist-Priolo Special Study Zone. Thus, impacts in this regard would be less than significant.

***Mitigation Measures***: No mitigation is required.

***2) Strong seismic ground shaking?***

***Less Than Significant Impact***. Southern California has numerous active seismic faults subjecting residents to potential earthquake and seismic-related hazards. Seismic activity poses two types of potential hazards for residents and structures, categorized either as primary or secondary hazards. Primary hazards include ground rupture, ground shaking, ground displacement, subsidence, and uplift from earth movement. Primary hazards can also induce secondary hazards such as ground failure (lurch cracking, lateral spreading, and slope failure), liquefaction, water waves (seiches), movement on nearby faults (sympathetic fault movement), dam failure, and fires. Both primary and secondary hazards pose a threat to the community as a result of the project's proximity to active regional faults.

The region surrounding the Long Beach area is characterized by a relatively high seismic activity. The greatest damage from earthquakes results from ground shaking. Ground shaking is generally most severe near quake epicenters and generally become weaker further out from the epicenter. Based on the Geotechnical Report and Plate 2*, Fault Map with Special Study Zones*, of the General Plan Seismic Safety Element, the closest major faults to the project site are the Newport-Inglewood fault, Palos Verdes fault, and Puente Hills fault, located approximately 3.4 miles, 3.5 miles, and 11.1 miles from the site, respectively. The San Andreas fault, which is the largest active fault in California, is approximately 51 miles northeast of the site. As such, the project site may be subject to strong seismic shaking during an earthquake event, as is the case with the vast majority of areas throughout southern California.

Implementation of the proposed project would involve improving the existing cruise line terminal with an expanded parking garage, passenger walkway bridge extension, and wharf deck improvements, among others. No habitable structures are proposed. Due to the location of the project site, which is within seismically-active region, there is potential for seismic ground shaking. However, the project, particularly the parking garage structure, would be required to comply with California Building Code (CBC) standards in order to minimize the potential for damage and major injury during a seismic event. The CBC includes design requirements for construction practices, foundation design, structural seismic resistance, and site classifications. Through compliance with CBC standards, impacts associated with strong seismic ground shaking would be less than significant.

***Mitigation Measures***: No mitigation is required.

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

***Less Than Significant Impact***. Liquefaction of cohesionless soils can be caused by strong vibratory motion due to earthquakes. Liquefaction is characterized by a loss of shear strength in the affected soil layers, thereby causing the soils to behave as a viscous liquid. Susceptibility to liquefaction is based on geologic and geotechnical data. River channels and floodplains are considered most susceptible to liquefaction, while alluvial fans have a lower susceptibility. Depth to groundwater is another important element in the susceptibility to liquefaction. Groundwater shallower than 30 feet results in high to very high susceptibility to liquefaction, while deeper water results in low and very low susceptibility.

Based on the California Geological Survey's *Earthquake Zones of Required Investigation Long Beach Quadrangle* and the Geotechnical Report, the project site is mapped as being susceptible to liquefaction.[1] More specifically, the Geotechnical Report identifies the site for the existing pier structure and the proposed new improvements consist of 20 to 25 feet of dredge fill and tidal deposits overlying Pleistocene Estuarine Deposits (i.e., native alluvium). Based on subsurface exploration, the dredged fill and tidal deposits beneath the site generally consist of very soft to soft or loose to medium dense layers of silt, sand, and clay. Laboratory test and analysis suggested that the materials are prone to liquefaction during the ground motions from earthquakes anticipated at the site. The native alluvium soils below the dredge fill and tidal deposit consist of dense to very dense silty sand and stiff to very stiff silt, sandy silt, and silty clay. The native alluvium is not considered susceptible to liquefaction. The potential impacts of soil liquefaction on the project site are discussed below in more detail.

**GROUND SETTLEMENT**

The dredge fill and tidal deposits would be subject to settlement, including subsidence and collapse, during earthquake activities. Based on geotechnical exploration for other projects in the vicinity, most of the materials would behave mainly as "clay-like" soils. Therefore, while the seismically-induced settlement is not anticipated to be excessive, the potential settlement would impose additional loads on the existing and proposed foundation piles associated with the mooring dolphins.

**LOSS OF BEARING STRENGTH**

If liquefaction were to occur, the shear strength of the dredge fill and the tidal flat deposits would be partially lost. However, the strength loss in materials would be considered in the design of the pile foundation supporting the existing pier and proposed structures (i.e., mooring dolphins, tower elements, and platform deck). Additionally, the shear strength of the underlying native alluvium is not expected to be degraded during earthquake shaking.

**LATERAL SPREADING**

The dredge fill and the tidal deposits are susceptible to lateral spreading resulting from liquefaction due to a loss of strength and stiffness in the soils during and shortly after earthquake activities. Nevertheless, the potential for lateral spreading would be considered in the design of the pile foundation supporting the pier and the proposed new structures.

Overall, the project site is identified as being susceptible to liquefaction related to seismic ground shaking and could result in ground settlement, loss of bearing strength, and lateral spreading. However, the design of the project, including the foundation supporting existing and proposed structures, would be required to comply with the CBC. Further, the State Division of Mines and Geology requires all construction projects within liquefaction hazard zones to prepare geotechnical reports that identify design recommendations to mitigate potential impacts to structural integrity during earthquakes. As such, project impacts would be less than significant in this regard.

***Mitigation Measures***: No mitigation is required.

***4) Landslides?***

***Less Than Significant Impact***. Landslides are a geologic hazard, with some moving slowly and causing damage gradually, and others moving rapidly and causing unexpected damage. Gravity is the force driving landslide movement. Factors that commonly allow the force of gravity to overcome the resistance of earth material to landslide movement include saturation by water, steepening of slopes by erosion or construction, alternate freezing or thawing, and seismic shaking.

[1] California Geological Survey, Earthquake Zones of Required Investigation Long Beach Quadrangle, March 25, 1999.

Based on the California Geological Survey's *Earthquake Zones of Required Investigation Long Beach Quadrangle* and the Geotechnical Report, the project site is not susceptible to seismically induced landslides.[2] Additionally, the onshore portion of the project site is predominantly flat and does not have slope stability issues that could result in landslides. Consequently, there is a low potential for landslides to occur on or near the project site as a result of the proposed development. Therefore, there would be a less than significant impact associated with the exposure of people or structures to potential substantial adverse effects involving landslides.

***Mitigation Measures***: No mitigation is required.

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

***Less Than Significant Impact***. The primary concern in regard to soil erosion or loss of topsoil would be during the construction phase of the project. Grading and earthwork activities associated with construction of the onshore improvements (i.e., expanded parking garage) would temporarily expose soils to potential short-term erosion by wind and water. However, the onshore portion of the site is predominantly paved, and topsoil is not present on-site. Additionally, all demolition and construction activities would be subject to compliance with the CBC and the requirements set forth in the National Pollutant Discharge Elimination System (NPDES) Construction General Permit for construction activities; refer to Response 4.9(a). The NPDES Construction General Permit requires preparation of a Stormwater Pollution Prevention Plan (SWPPP), which would identify specific erosion and sediment control Best Management Practices (BMPs) to be implemented in order to protect stormwater runoff during construction activities. Compliance with the CBC and NPDES requirements would minimize effects from erosion. Following compliance with the CBC and NPDES requirements, project implementation would result in a less than significant impact regarding soil erosion.

***Mitigation Measures***: No mitigation is required.

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

***Less Than Significant Impact***. The project site is located within a seismically-active area. As stated within Response 4.7(a)(3), impacts related to liquefaction including lateral spreading and subsidence (i.e., ground settlement and collapse) would be less than significant and, as demonstrated in Response 4.7(a)(4), the project site would not be subject to earthquake-induced landslides. Overall, the geotechnical design of the project would be required to comply with the CBC and the design recommendations detailed in the Geotechnical Report to mitigate potential geologic hazard impacts.

***Mitigation Measures***: 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 direct or indirect risks to life or property?***

***Less Than Significant Impact***. Expansive soils are defined as soils possessing clay particles that react to moisture changes by shrinking (when dry) or swelling (when wet). As stated above, the project site is underlain by 20 to 25 feet of dredge fill and tidal deposits overlying native alluvium. The dredged fill and tidal deposits beneath the site generally consist of very soft to soft or loose to medium dense layers of silt, sand, and clay. The native alluvium soils below the dredge fill and tidal deposit consist of dense to very dense silty sand and stiff to very stiff silt, sandy silt, and silty clay. Based on the Geotechnical Report, the expansion potential of site soils is negligible because the soils would not be subject to changes in moisture content. Further, the proposed project would comply with the CBC to minimize the potential for hazards related to expansive soil. Impacts in this regard would be less than significant.

[2] Ibid.

***Mitigation Measures***: 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***. No septic tanks or alternative wastewater disposal systems would be constructed as part of the project, and no impacts would occur in this regard.

***Mitigation Measures***: No mitigation is required.

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

***No Impact***. According to the Paleontological Memorandum, paleontological resources (i.e., fossils) are preserved in layered sedimentary rocks that accumulated in ancient depositional settings. Potential fossil-bearing sedimentary rocks of Pleistocene age are buried beneath 18 or more feet of Holocene bay deposits under the off-shore portion of the project site. The proposed dredging activities would reach depths of approximately seven feet. Therefore, the Holocene bay deposits more than 18 feet deep would not be impacted by the proposed dredging. Additionally, the onshore improvements associated with the parking garage expansion would be constructed on approximately 55 to 65 feet of artificial fill and thus, would not impact any paleontological resources. Overall, it is unlikely that the proposed construction activities would directly or indirectly impact paleontologically sensitive sedimentary deposits or unique geologic features. No impacts would occur in this regard.

***Mitigation Measures***: No mitigation is required.

This page intentionally left blank.

# 4.8 GREENHOUSE GASES

| *Would the project:* | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | | | ✓ | |
| b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | | | ✓ | |

This section is based on the *Long Beach Cruise Terminal Improvement Project Air Quality and Greenhouse Gas Assessment* (AQGHG Assessment), prepared by Aspen Environmental Group, dated June 2019; refer to Appendix A, Air Quality/Greenhouse Gas/ Energy Analysis.

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

***Less Than Significant Impact.*** Greenhouse gases (GHGs) trap heat in the atmosphere and are emitted from both natural processes and human activities. The State of California and United States Environmental Protection Agency (USEPA) have identified six GHGs generated by human activity that are believed to be the primary contributors to man-made global warming: carbon dioxide ($CO_2$), methane ($CH_4$), nitrous oxide ($N_2O$), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride ($SF_6$). Examples of GHGs produced both by natural processes and human activity include $CO_2$, $CH_4$, and $N_2O$. Examples of GHGs emitted through human activities alone include fluorinated gases and $SF_6$. Of these, $CO_2$, $CH_4$, and $N_2O$ are GHGs of interest in this analysis; HFC, PFC, and $SF_6$ would not be emitted by project activities.

The natural balance of GHGs in the atmosphere regulates the Earth's temperature; without this natural greenhouse effect, the Earth's surface would be approximately 60 degrees Fahrenheit (°F) cooler. However, emissions from fossil fuel combustion by humans and other industrial activities have elevated the concentration of GHGs in the atmosphere to above natural levels.

GHG emissions have varying global warming potential (GWP), which is the ability of a gas or aerosol to trap heat in the atmosphere. By convention, $CO_2$ is assigned a GWP of one. In comparison, $CH_4$ has a GWP of 28, which means that it has a global warming effect 28 times greater than $CO_2$ on an equal-mass basis. To account for their GWP, GHG emissions are often reported as carbon dioxide equivalent ($CO_2e$). $CO_2e$ is calculated by multiplying each GHG emission by its GWP and adding the results together to produce a single, combined emission rate representing all GHG emissions.

Numerous studies document the recent trend of rising atmospheric concentrations of $CO_2$. The longest continuous record of $CO_2$ monitoring extends back to 1958. These data show that atmospheric $CO_2$ levels have risen an average of 1.5 parts per million (ppm) per year over the last 55 years. As of 2014, $CO_2$ levels are approximately 30 percent higher than the highest levels estimated for the 800,000 years preceding the industrial revolution, as determined from $CO_2$ concentrations analyzed from air bubbles in Antarctic ice core samples.

The effects of global climate change to California's public health, infrastructure and natural resources are described in the California's Fourth Climate Change Assessment Statewide Summary Report. According to this report, which builds upon the first three climate change assessment reports, the updated projections reinforce past findings regarding the potential for more extreme events from heat waves, floods, droughts, and wildfires. These extreme climate event

impacts along with reduced improvements in air quality will create an increase in human mortality and damage to property that together will cost in the order of tens of billions of dollars.

The CEQA Guidelines set forth considerations for assessing the significance of impacts from GHG emissions on the environment. The CEQA Guidelines do not specify significance thresholds and allow the lead agencies discretion in how to address and evaluate significance. To provide guidance to local lead agencies, the South Coast Air Quality Management District (SCAQMD) established a threshold of 10,000 metric tons per year of $CO_2e$ for industrial facilities.

## PROJECT-RELATED SOURCES OF GREENHOUSE GASES

The impact of GHG emissions generated by the proposed project is estimated based on aggregated emissions from all sources over the duration of the construction phase (i.e. the total number of days over which each item of construction equipment would be in operation) combined with the incremental change to the annual operational emissions.

Project construction would result in a temporary increase in GHG emissions. Construction-related GHG emissions include those associated with maritime improvements, site preparation, demolition, grading and associated garage construction. These emissions are associated with off-road diesel engine combustion from construction on-road vehicles and off-road equipment and construction harbor craft exhaust. The most recent version of the California Emissions Estimator Model (CalEEMod) model (Version 2016.3.2) was used to calculate onshore construction emissions, while maritime construction emissions were calculated following the methodology presented in the Port of Long Beach Air Emission Inventories (POLB AEI); refer to Appendix A.

Operational GHG emissions have been estimated using combined outputs from emission calculations undertaken using CalEEMod, methodologies set out in the POLB AEI, and the California Air Resources Board's Emissions Factor 2014 (EMFAC2014) on-road emission factors. The following activities associated with the proposed project could directly or indirectly contribute to the generation of GHG emissions:

- Cruise Ship Emissions: The project would result in changes in GHG emissions from propulsion engines, auxiliary engines, and auxiliary boilers. Project-generated cruise ship emissions were calculated based on the methodologies described in the POLB AEI and account for all emissions generated within the SCAB.

- Electricity Consumption: Annual emissions arising from garage lighting and cruise vessel shoreside electricity consumption were estimated using the reported GHG emissions per kilowatt-hour from Southern California Edison, the supplier which would provide electricity for the project. On-terminal electricity use was expected to remain unchanged with the project, while parking garage lighting electricity consumption is expected to reduce due to the introduction of more energy efficient lighting (i.e., light-emitting diodes [LED] lighting); and shoreside power consumption for hoteling cruise ships was expected to increase due to the larger *Carnival Panorama* vessel.

- Mobile Sources: Transportation associated with the proposed project would result in GHG emissions from the combustion of fossil fuels during vehicle trips. Project generated vehicle trips include those associated with additional passengers and staff movements as well as additional supply trucks required to support the larger *Carnival Panorama* vessel. Mobile source emissions were calculated using the on-road emission factors from EMFAC2014 for project increment vehicle trips. For loading equipment, such as forklifts, emissions were calculated using CalEEMod.

- Area and Off-road sources: Area sources include emissions generated by architectural coatings and landscaping equipment associated with the parking garage construction. Off-road emission sources were provided by the Applicant and consist of additional forklifts required to support the larger *Carnival Panorama* vessel. Emissions from both sources were calculated using CalEEMod and are established based on the parking garage land use and additional information provided by the Applicant.

As shown in Table 4.8-1, *Estimated Greenhouse Gas Emissions*, annual GHG emissions would decrease as a result of the proposed project. Therefore, the proposed project would result in a less than significant impact with regard to GHG emissions.

**Table 4.8-1**
**Estimated Greenhouse Gas Emissions**

| Source | Pollutant Emissions ($MTCO_2eq/yr$) |
|---|---|
| **Existing Conditions** | |
| Cruise Ships | 44,760 |
| Electricity Use | 2,067 |
| Off-road Sources | 229 |
| ***Total Existing GHG Emissions*** | ***47,056*** |
| **Proposed Project** | |
| Amortized Construction Emissions | 30 |
| Cruise Ships | 39,482 |
| Electricity Use | 3,053 |
| Incremental Traffic Increase | 1,463 |
| Off-road Sources | 287 |
| ***Total Project Emissions*** | ***44,315*** |
| **Total Net Emissions** | **-2,741** |
| SCAQMD Incremental Threshold | 10,000 |
| **Threshold Exceeded?** | **No** |

Notes:
$MTCO_2eq/yr$ = metric tons carbon dioxide equivalent per year

Source: Aspen Environmental Group, Long Beach Cruise Terminal Improvement Project Air Quality and Greenhouse Gas Assessment, Table 6-10, Construction and Project Incremental Operation GHG Emissions - Unmitigated, June 2019; refer to Appendix A.

***Mitigation Measures:*** No mitigation is required.

***b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?***

***Less Than Significant Impact.*** The California Air Resources Board (CARB) approved the *2017 Climate Change Scoping Plan Update* (Scoping Plan) on December 14, 2017. The Scoping Plan provides the strategy for achieving California's 2030 GHG emissions reduction target that was approved in Senate Bill (SB) 32. The Scoping Plan states that "achieving no net increase in GHG emissions is the correct overall objective" for project-level CEQA analysis, but also recognizes that such a standard may not be appropriate or feasible for every development project. In this case, and as shown in Table 4.8-1, the proposed project would achieve a net decrease of 2,741 $MTCO_2eq/yr$ from the existing baseline conditions and thus, no net increase in GHG emissions would occur. Accordingly, the proposed project would not interfere with implementation of Statewide GHG reduction goals for 2030 or 2050.

Consequently, the proposed project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs, including AB 32, Senate Bill 32, and the Scoping Plan. Impacts would be less than significant.

***Mitigation Measures:*** No mitigation is required.

This page intentionally left blank.

# 4.9 HAZARDS AND HAZARDOUS MATERIALS

| *Would the project:* | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | | | ✓ | |
| 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? | | | ✓ | |
| c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | | | | ✓ |
| 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? | | | | ✓ |
| 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 or excessive noise for people residing or working in the project area? | | | | ✓ |
| f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | | | ✓ | |
| g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? | | | | ✓ |

This section is based on the *Phase I Environmental Site Assessment, Carnival Cruise Terminal Proposed Improvement Areas, 331 Windsor Way, Long Beach, California* (Phase I ESA), prepared by GHD and dated February 1, 2019, and *Sampling and Analysis Plan Report, Long Beach Cruise Terminal Dredging Environmental Investigation Project* (Dredging Soils Report), prepared by Kinnetic Laboratories and dated February 2019; refer to Appendix E, *Phase I ESA/Dredging Soils Report*.

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

***Less Than Significant Impact***. The project involves construction activities associated with onshore and offshore improvements to the Long Beach cruise terminal. Exposure of the public or the environment to hazardous materials could occur through improper handling or use of hazardous materials or hazardous wastes particularly by untrained personnel, a transportation accident, environmentally unsound disposal methods, or fire, explosion, or other emergencies. The severity of potential effects varies with the activity conducted, the concentration and type of hazardous material or wastes present, and the proximity of sensitive receptors.

**CONSTRUCTION**

Project construction could expose construction workers and the public to temporary hazards related to the transport, use, and maintenance of construction materials (i.e., oil, diesel fuel, transmission fluid, etc.). These activities would be short-term, and the materials used would not be in such quantities or stored in such a manner as to pose a significant safety hazard. All project construction activities would demonstrate compliance with the applicable laws and regulations governing the use, storage, and transportation of hazardous materials, ensuring that all potentially hazardous materials are used and handled in an appropriate manner.

The project proposes to deepen the existing berth by dredging approximately 33,250 cubic yards in order to increase navigable and mooring margins. A soil sampling analysis was conducted as part of the Dredging Soils Report to determine whether the dredged sediments could be placed at the LA-2 Ocean Dredge Material Disposal Site (ODMDS). According to the soils sampling and testing results, the dredged sediment showed moderate chemical contamination with some chemical concentrations elevated compared to LA-2 reference samples. However, none of the tested sediments were toxic to *Ampelisca abdita* and *Neanthes arenaceodentata*, which are indicators of sediment toxicity, and there was no observed water column toxicity. Additionally, among others, bioaccumulation testing was conducted to determine whether the dredged materials had an accumulation of chemicals and/or heavy metals in exceedance of permissible concentrations. Based on the analysis, the proposed dredging sediments would not exceed permissible concentrations related to bioaccumulation. Overall, the Dredging Soils Report concluded that the proposed dredging sediments from the Long Beach cruise terminal would be environmentally suitable for placement at the LA-2 ODMDS. As such, impacts concerning the routine transport, use, or disposal of hazardous materials during project construction would be less than significant.

**OPERATIONS**

No changes to existing operations at the Long Beach cruise terminal would occur with project implementation. The proposed improvements would not substantially alter long-term operations, including the use of hazardous materials. Compliance with applicable laws and regulations governing the use, storage, and transportation of hazardous materials would ensure that all potentially hazardous materials are used and handled in an appropriate manner and would minimize the potential for hazardous impacts to occur. Therefore, impacts concerning the routine transport, use, or disposal of hazardous materials during project operations would be less than significant.

***Mitigation Measures***: 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***. Refer to Response 4.9(a). During project construction and operations, there is a possibility of accidental release of hazardous substances such as petroleum-based fuels, hydraulic fluids, and/or cleaning solvents. The level of risk associated with the accidental release of hazardous substances is not considered significant due to the small volume and low concentration of hazardous materials utilized. The construction contractor is required to use standard construction and operational controls and safety procedures that would avoid and minimize the potential for accidental release of such substances into the environment. Standard practices would be observed such that any materials released are appropriately contained and remediated as required by local, State, and Federal law. Further, the Dredging Soils Report determined that approximately 33,250 cubic yards of dredge materials could be properly disposed of at the LA-2 ODMDS without resulting in hazardous conditions.

Additionally, the Phase I ESA included an environmental database search, historical records review, government records review, and site reconnaissance to evaluate the project site for any recognized environmental conditions (RECs). The Phase I ESA identified no evidence of RECs, historical RECs, controlled RECs, or de minimis conditions at the project site. Therefore, no other hazardous materials are anticipated in this regard. Upon adherence to existing

regulations related to hazards and hazardous materials safety, impacts pertaining to the potential for accidental conditions during project construction and operations would be less than significant.

***Mitigation Measures***: 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 closest schools to the project site are located across Queensway Bay in downtown Long Beach, including Cesar Chavez Elementary School approximately 1.5 miles to the north at 730 West 3rd Street and Charter College approximately 1.2 miles to the north at 100 West Broadway. Given the distance, the project would not pose a significant health risk to these existing schools and no impacts would occur in this regard.

***Mitigation Measures***: 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?***

***No Impact***. Government Code Section 65962.5 requires the Department of Toxic Substances Control (DTSC) and the State Water Resources Control Board (SWRCB) to compile and update a regulatory sites listing (per the criteria of the Section). The California Department of Health Services is also required to compile and update, as appropriate, a list of all public drinking water wells that contain detectable levels of organic contaminants and that are subject to water analysis pursuant to Section 116395 of the Health and Safety Code. Government Section 65962.5 requires the local enforcement agency, as designated pursuant to Section 18051 of Title 14 of the California Code of Regulations (CCR), to compile, as appropriate, a list of all solid waste disposal facilities from which there is a known migration of hazardous waste.

The project site is not listed pursuant to Government Code Section 65962.5.[1] Thus, no impact would result in this regard.

***Mitigation Measures***: 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 result in a safety hazard or excessive noise for people residing or working in the project area?***

***No Impact***. The proposed project site is not located within an airport land use plan or within two miles of a public airport or public use airport. The nearest airport to the project site is the Long Beach Airport, located approximately 4.7 miles to the northeast of the project site at 4100 Donald Douglas Drive. The project site is located outside of the Long Beach Airport Influence Area.[2] Therefore, no impacts would occur in this regard.

***Mitigation Measures***: No mitigation is required.

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

***Less Than Significant Impact***. The proposed project would not physically interfere with an adopted emergency response plan or emergency evacuation plan. Construction activities would be confined to the boundaries of the project

1 California Environmental Protection Agency, *Cortese Listing*, https://calepa.ca.gov/sitecleanup/corteselist/, accessed December 13, 2018.
2 Los Angeles County Airport Land Use Commission, *Long Beach Airport, Airport Influence Area Map*, May 13, 2003, http://planning.lacounty.gov/assets/upl/project/aluc_airport-long-beach.pdf, accessed December 13, 2018.

site, and no impacts to surrounding roadways would occur (e.g., temporary traffic detours and lane closures would not be required). Current cruise terminal operations would also continue during construction of the proposed improvements. On a long-term operational basis, the project is not anticipated to generate traffic capable of interfering with emergency operations. Additionally, the project proposes to reconfigure the traffic lanes near the southern corner of the parking garage along Windsor Way to allow a one-way fire access lane for emergency vehicles associated with the Long Beach Fire Department Station 6. As such, impacts in this regard would be less than significant.

***Mitigation Measures***: No mitigation is required.

***g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?***

***No Impact***. The proposed project site is located within an urbanized area of POLB and has been highly disturbed. Further, the California Department of Forestry and Fire Protection does not map any part of Long Beach as a Very High Fire Hazard Severity Zone.[3] Thus, no impacts would occur in this regard.

***Mitigation Measures***: No mitigation is required.

[3] California Department of Forestry and Fire Protection, *Very High Fire Hazard Severity Zones in LRA, Los Angeles County*, September 2011, http://frap.fire.ca.gov/webdata/maps/los_angeles/LosAngelesCounty.pdf, accessed December 13, 2018.

# 4.10 HYDROLOGY AND WATER QUALITY

| *Would the project:* | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? | | | ✓ | |
| b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? | | | ✓ | |
| c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: | | | ✓ | |
| 1) Result in substantial erosion or siltation on- or off-site? | | | ✓ | |
| 2) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite? | | | ✓ | |
| 3) 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? | | | ✓ | |
| 4) Impede or redirect flood flows? | | | ✓ | |
| d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? | | | ✓ | |
| e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? | | | ✓ | |

### *a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?*

***Less Than Significant Impact***. As part of Section 402 of the Clean Water Act, the U.S. Environmental Protection Agency (EPA) has established regulations under the National Pollutant Discharge Elimination System (NPDES) program to control direct stormwater discharges. In California, the State Water Resources Control Board (SWRCB) administers the NPDES permitting program and is responsible for developing NPDES permitting requirements. The NPDES program regulates industrial pollutant discharges, which include construction activities. The SWRCB works in coordination with the Regional Water Quality Control Boards (RWQCB) to preserve, protect, enhance, and restore water quality. The City of Long Beach is within the jurisdiction of the Los Angeles RWQCB.

**SHORT-TERM CONSTRUCTION**

Dischargers whose projects disturb one or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Discharges from Construction Activities Construction General Permit Order 2009-0009-DWQ. Construction activities subject to this permit includes clearing, grading, and disturbances to the ground such as

stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.

The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP would contain a site map(s) which shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP is required to identify Best Management Practices (BMPs) the discharger would use to protect stormwater runoff and the placement of those BMPs. Additionally, the SWPPP would contain a visual monitoring program; chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Section A of the Construction General Permit describes the elements that must be contained in a SWPPP.

The project's construction activity would be subject to the State's Construction General Permit, as discussed above, because the proposed onshore improvements, including the expansion of the parking garage, filling of the abandoned tunnel, and reconfiguration of traffic lanes on-site, involves clearing, grading, and disturbances to the ground such as stockpiling or excavation, and these onshore improvements are part of a larger common plan of development (including the maritime improvements) that in total disturbs at least one acre. More specifically, as part of the project's compliance with NPDES requirements, the project applicant would be required to prepare a Notice of Intent (NOI) for submittal to the Los Angeles RWQCB providing notification of intent to comply with the Construction General Permit. A copy of the SWPPP would be made available and implemented at the construction site at all times. The SWPPP is required to outline the erosion, sediment, and non-stormwater BMPs, in order to minimize the discharge of pollutants at the construction site. These BMPs could include measures to contain runoff from the construction site, prevent sediment from disturbed areas from entering the storm drain system using structural controls (i.e., sand bags at inlets), and cover and contain stockpiled materials to prevent sediment and pollutant transport. Implementation of the BMPs detailed in the project-specific SWPPP would ensure runoff and discharges during the project's construction phase would not violate any water quality standards. Compliance with NPDES requirements would reduce short-term construction-related impacts to surface and ground water quality to a less than significant level.

**LONG-TERM OPERATIONS**

The project would be regulated under the NPDES Phase I Municipal Stormwater Permits issued by the Los Angeles RWQCB for Long Beach. Since 1990, operators of municipal separate storm sewer systems are required to develop a stormwater management program designed to prevent harmful pollutants from impacting water resources via stormwater runoff. The City of Long Beach owns and/or operates a large municipal separate storm sewer system (MS4) that conveys and ultimately discharges into surface waters under the jurisdiction of the Los Angeles RWQCB. These discharges originate as surface runoff from the various land uses within the City's boundary. Untreated, these discharges contain pollutants with the potential to impair or contribute to the impairment of the beneficial uses in surface waters. Since 1999, the City's monitoring data and analyses in support of Total Maximum Daily Load development have identified pollutants of concern in discharges from the MS4. These pollutants of concern vary by receiving water. They generally include, but are not limited to, copper, lead, zinc, cadmium, polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), pyrethroid pesticides, organophosphate pesticides fecal indicator bacteria, and trash.

On March 28, 2014, the Los Angeles RWQCB made effective Order No. R4-2014-0024, which renews the municipal NPDES permit. As prescribed in Order No. R4-2014-0024, *Water Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges from The City of Long Beach*, the City shall develop and implement procedures to ensure that a discharger fulfills the following for non-stormwater discharges to MS4s:[1]

[1] Los Angeles Regional Water Quality Control Board, Order No. R4-2014-0024-01 Amending Order No. R4-2014-0024, NPDES Permit No. CAS004003, Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges from the City of Long Beach, March 28, 2014.

- Notifies the City of the planned discharge in advance, consistent with requirements in Table 7 of Order No. R4-2014-0024 or recommendations pursuant to the applicable BMP manual;
- Obtains any local permits required by the City;
- Provides documentation to the City that it has obtained any other necessary permits of water quality certifications for the discharge;
- Conducts monitoring of the discharge, if required by the City;
- Implements BMPs and/or control measures as specified in Table 7 or in the applicable BMP manual(s) as a condition of the approval to discharge into the MS4; and
- Maintains records of its discharge to the MS4, consistent with requirements in Table 7 or recommendations pursuant to the applicable BMP manual.

In 2001, the City revised its Long Beach Stormwater Management Program (LBSWMP). The LBSWMP is a comprehensive program containing several elements, practices, and activities aimed at reducing or eliminating pollutants in stormwater to the maximum extent possible. Furthermore, the City's NPDES and Standard Urban Stormwater Mitigation Plan (SUSMP) regulations contained in the *City of Long Beach Municipal Code* (LBMC) Chapter 18.61, *NPDES and SUSMP Regulations*, state that:

A. The Building Official shall prepare, maintain, and update, as deemed necessary and appropriate, the *NPDES and SUSMP Regulations Manual* and shall include technical information and implementation parameters, alternative compliance for technical infeasibility, as well as other rules, requirements and procedures as the City deems necessary, for implementing the provisions of this chapter.

B. The Building Official shall develop, as deemed necessary and appropriate, in cooperation with other City departments and stakeholders, informational bulletins, training manuals and educational materials to assist in the implementation of this chapter.

Within the existing cruise terminal and greater Queen Mary Seaport area, the stormwater drainage system consists of existing stormwater outfalls to the harbor. Wastewater accumulated on-site is discharged to the Long Beach Water Department (LBWD) wastewater collection system and transported to the Los Angeles County Sanitation District for treatment and disposal.

At project completion, operations of the cruise terminal would be similar to existing conditions. The project would not introduce any new land uses that could generate large quantities of wastewater or result in any new off-site discharges. Thus, upon compliance with the requirements of the NPDES, LBMC Chapter 18.61, and the LBSWMP, impacts related to water quality standards and waste discharge requirements during long-term operations would be less than significant.

***Mitigation Measures:*** No mitigation is required.

***b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?***

***Less Than Significant Impact.*** The project site is completely developed with the existing Long Beach cruise terminal at Pier H within POLB. The proposed maritime and onshore improvements would be constructed at the existing wharf deck and parking garage, respectively. Pier H and other parts of POLB were constructed from fill material and groundwater is not present on-site. Thus, the site does not currently affect groundwater directly (through pumping, wells, or injection), nor would the proposed project include any components that would directly affect groundwater. The

onshore improvements to the parking garage would result in a nominal increase in impervious surfaces as it would expand the parking garage to cover a slightly larger footprint. However, the increase would be negligible and would not impede sustainable groundwater management. Further, construction and operations of the project would not increase demand for water supply that could be sourced from the City's groundwater supplies. As such, project implementation would not decrease groundwater supplies or interfere with groundwater recharge in a way that could impede sustainable groundwater management. Impacts in this regard would be less than significant.

***Mitigation Measures:*** No mitigation is required.

***c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of stream or river or through the addition of impervious surfaces, in a manner which would:***

***1) Result in substantial erosion or siltation on- or off-site?***

***Less Than Significant Impact***. Soil disturbance would temporarily occur during onshore project construction due to earth-moving activities such as excavation for foundations, soil compaction and moving, and grading for the expanded parking garage. Disturbed soils would be susceptible to erosion from wind and rain, resulting in sediment transport via stormwater runoff from the project site.

The project would be subject to compliance with the requirements set forth in the NPDES Stormwater Construction General Permit for construction activities; refer to Response 4.10(a). Compliance with the NPDES requirements, including preparation of a SWPPP, would reduce the volume of sediment-laden runoff discharging from the site during construction. Implementation of BMPs, such as storm drain inlet protection and fiber rolls, would reduce the potential for sediment and stormwater runoff containing pollutants from entering receiving waters. Therefore, project implementation would not substantially alter the existing drainage pattern of the site during the construction process such that substantial erosion or siltation would occur.

The long-term operation of the proposed project would not have the potential to result in substantial erosion or siltation on- or off-site. At project completion, the cruise terminal would continue to operate similar to existing conditions. The proposed improvements, including both maritime and onshore improvements, would not substantially alter the existing topography or drainage patterns on-site. Stormwater generated at the parking garage onshore would continue to be routed to existing stormwater facilities on-site. Thus, impacts in this regard would be less than significant.

***Mitigation Measures:*** No mitigation is required.

***2) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?***

***Less Than Significant Impact.*** Refer to Response 4.10(c)(1). The project site is generally flat and is located within an urbanized area. At project completion, the cruise terminal would continue to operate similar to existing conditions and no changes would occur to the existing drainage pattern of the site and surrounding area. Additionally, no new land uses are proposed that could substantially increase surface runoff and no substantial changes would occur to the site's topography that could result in flooding on- or off-site. As such, impacts in this regard would be less than significant.

***Mitigation Measures:*** No mitigation is required.

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

***Less Than Significant Impact.*** Refer to Responses 4.10(c)(1) and 4.10(c)(2). The project would not result in an increase in stormwater runoff in comparison to existing conditions. Impacts would be less than significant in this regard.

***Mitigation Measures:*** No mitigation is required.

***4) Impede or redirect flood flows?***

***Less Than Significant Impact.*** According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for the project area, the onshore portion of the project site (parking garage and surrounding areas) is located within "Zone X," an area protected by levees from the one percent annual chance flood while the offshore portion of the project site (existing wharf deck) is located within "Zone VE," a coastal flood zone area with velocity hazard (wave action).[2,3]

The onshore structural improvements involve expanding the existing parking garage. At project completion, onshore surface water flow near the parking garage would be similar to existing conditions. Additionally, given that the onshore portion of the project site is outside of the 100-year flood hazard area, potential flood hazard impacts associated with expanding the parking garage would be less than significant.

The maritime structural improvements involve constructing mooring dolphins and catwalks, a passenger walkway bridge extension, and tower elements on the existing wharf deck and a new proposed platform deck. These structures are not located on land and thus, would not impede or redirect flood flows on-site. Impacts in this regard would be less than significant.

***Mitigation Measures:*** No mitigation is required.

***d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?***

***Less Than Significant Impact.***

**FLOOD**

As stated above, the onshore portion of the project site is located outside of the 100-year flood hazard area while the offshore portion of the project site (existing wharf deck) is located within a coastal flood zone area with velocity hazard (wave action). Therefore, proposed onshore improvements would be outside of the 100-year flood hazard area and would not risk release of pollutants due to project inundation. The offshore improvements would be limited to wharf deck structural improvements (i.e., mooring dolphins, catwalks, tower elements, a platform deck, and fender replacements), which would not result in any release of pollutants should project inundation occur. As such, impacts would be less than significant in this regard.

**TSUNAMI**

A tsunami is a great sea wave, commonly referred to as a tidal wave, produced by a significant undersea disturbance such as tectonic displacement of a sea floor associated with large, shallow earthquakes. The project site is adjacent to Queensway Bay to the north and the Pacific Ocean to the east and south. Based on the California Geological Survey's *Tsunami Inundation Map for Emergency Planning, Long Beach Quadrangle* and the *City of Long Beach General Plan* Seismic Safety Element, the project site is situated within a tsunami inundation area.[4] Due to the open

2 Federal Emergency Management Agency, *Flood Insurance Rate Map #06037C1964F, Panel 1964 of 2350*, September 26, 2008.
3 Federal Emergency Management Agency, *Flood Insurance Rate Map #06037C1970F, Panel 1970 of 2350*, September 26, 2008.
4 California Geological Survey, Tsunami Inundation Map for Emergency Planning, Long Beach Quadrangle, March 1, 2009.

exposure to the Pacific Ocean, the project site is vulnerable to tsunamis generated in the South Seas and offshore southern California. At project completion, no new land uses would be introduced, and project operations would be similar to existing operations. Additionally, appropriate structural reinforcement and design would be implemented for the proposed maritime improvements, including the proposed mooring dolphins and catwalks, passenger walkway bridge extension, and tower elements on the existing wharf deck and new proposed platform deck. Thus, implementation of the proposed improvements would not exacerbate existing potential for inundation by seiche or tsunami beyond existing conditions nor would it risk release of pollutants should inundation occur. Impacts in this regard would be less than significant.

**SEICHE**

A seiche is an oscillation of a body of water in an enclosed or semi-enclosed basin, such as a reservoir, harbor, lake, or storage tank. Given the open exposure to the Pacific Ocean to the east and south and Queensway Bay to the north, the project site is not within a seiche zone. Thus, no impact would occur in this regard.

***Mitigation Measures:*** No mitigation is required.

***e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?***

***Less Than Significant Impact.*** The *Basin Plan for the Coastal Watersheds of Los Angeles and Venture Counties* (Basin Plan) establishes water quality standards for ground and surface waters within the Los Angeles region, which includes the City, and is the basis for the Los Angeles RWQCB's regulatory programs.

The 2014 Sustainable Groundwater Management Act requires local public agencies and groundwater sustainability agencies in high- and medium-priority basins to develop and implement groundwater sustainability plans (GSPs) or prepare an alternative to a groundwater sustainability plan. The City is located within the Coastal Plain of Los Angeles – West Coast groundwater basin, which is designated as a Very Low priority basin.[5] Therefore, there is no groundwater sustainability plan established for the basin. However, the Water Replenishment District of Southern California developed the *Groundwater Basins Master Plan* (GBMP), which identifies projects and programs to enhance basin replenishment, increase reliability of groundwater resources, and improve and protect groundwater quality in the Los Angeles West Coast and Central groundwater basins.[6]

The project generally involves expanding an existing parking garage and structural improvements to an existing wharf deck. No new land uses are proposed as part of the project that would involve increased demand for groundwater supplies. Additionally, project construction and operations would comply with existing NPDES program requirements established by the Los Angeles RWQCB; refer to Response 4.10(a). As such, the project would not conflict with or obstruct implementation of the Los Angeles RWQCB's Basin Plan or Water Replenishment District of Southern California's GBMP. Impacts would be less than significant in this regard.

***Mitigation Measures:*** No mitigation required.

[5] California Department of Water Resources, *SGMA Basin Prioritization Dashboard, Final 2018 (Unmodified Basins)*, https://gis.water.ca.gov/app/bp2018-dashboard/p1/, accessed February 11, 2019.

[6] Water Replenishment District of Southern California, *Groundwater Basins Master Plan*, September 2016, https://www.wrd.org/sites/pr/files/GBMP_FinalReport_Text%20and%20Appendicies.pdf, accessed February 11, 2019.

# 4.11 LAND USE AND PLANNING

| *Would the project:* | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Physically divide an established community? | | | | ✓ |
| b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? | | | ✓ | |

### *a) Physically divide an established community?*

***No Impact***. The proposed project involves improvements to the existing Long Beach cruise terminal to accommodate a larger class of cruise ships and associated increase in passengers. At project completion, the cruise terminal would continue to operate similarly to existing conditions. Surrounding land uses at Pier H associated with the Queen Mary Seaport are primarily comprised of commercial, retail, recreational, and open space uses. Due to the built-out nature of the surrounding area, and since all proposed improvements would occur within the existing cruise terminal, project implementation would not physically divide an established community. As such, no impacts would result in this regard.

***Mitigation Measures***: No mitigation is required.

### *b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?*

***Less Than Significant Impact.*** The *City of Long Beach General Plan* (General Plan) designates the project site and its surrounding areas as Land Use Designation (LUD) 7, Mixed Use District. LUD 7 is intended for large, vital activity centers with uses including retail, offices, medical facilities, higher density residential, visitor-serving facilities, personal and professional services, and recreational facilities. No amendment to the General Plan would be required as part of the project; thus, the project would be consistent with the General Plan land use designation and no land use conflict would occur.

According to the *City of Long Beach Zoning Districts Map*, the project site is zoned Planned Development 21 (PD-21), Queensway Bay. The intent of the *Queensway Bay Planned Development Plan* is to provide a framework of development in the Queensway Bay area that creates a visitor-serving destination for recreational and commercial users in order to enhance downtown Long Beach as a major international business, convention, and tourist center, and POLB as a major international harbor. Within PD-21, the project site is located within Subarea 4. Permitted uses within Subarea 4 include entertainment attractions and display uses; hotel; retail and restaurant establishments; commercial office; shuttle boats; helistop; water taxi stop; and cruise terminals and related uses. The proposed project does not require a zone change and would be consistent with PD-21 permitted uses and development standards. As such, the project is consistent with the City's Zoning Code and no conflicts would occur in this regard.

The project site is also situated within the Coastal Zone. As such, the project would be required to comply with the California Coastal Act (CCA) as administered by the California Coastal Commission. An Application Summary Report was prepared in conjunction with this report, in accordance with the CCA and POLB's *Port Master Plan* (PMP); refer to Section 6.0, *Application Summary Report*. As detailed in Section 6.0, implementation of the proposed project would be consistent with the permitted uses within the PMP's Queensway Bay District (District 7) designation and the stated policies of the CCA and PMP. Upon review of this document and the Application Summary Report, the POLB would be responsible for approving and issuing a Harbor Development Permit for the proposed project.

Overall, the proposed project would be consistent with the General Plan, Zoning Code, PMP, and CCA. Impacts in this regard would be less than significant.

***Mitigation Measures***: No mitigation is required.

# 4.12 MINERAL RESOURCES

| *Would the project:* | Potentially Significant Impact | Less Than Significant Impact With 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? | | | | ✓ |
| 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? | | | | ✓ |

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

***No Impact***. According to the *Generalized Mineral Land Classification Map of Los Angeles County – South Half*, the project site and surrounding piers are designated Mineral Resource Zone 1 (MRZ-1). MRZ-1 is defined as areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.[1] Implementation of the project would involve improvements to the existing Long Beach cruise terminal, which would result in similar cruise operations as existing conditions, and there are no existing or proposed mineral resource extraction activities occurring in the vicinity. Thus, development of the proposed project would not result in a loss of availability of the identified mineral resources and no impacts would occur.

***Mitigation Measures***: 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***. Refer to Response 4.12(a).

***Mitigation Measures***: No mitigation is required.

[1] California Department of Conservation Division of Mines and Geology, *Generalized Mineral Land Classification Map of Los Angeles County – South Half*, 1994, ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ofr/OFR_94-14/OFR_94-14_Plate1B.pdf, accessed November 21, 2018.

This page intentionally left blank.

# 4.13 NOISE

| Would the project result in: | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | | ✓ | | |
| b. Generation of excessive groundborne vibration or groundborne noise levels? | | | ✓ | |
| c. For a project located within the vicinity of a private airstrip or 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? | | | | ✓ |

This section is based on the *Draft Noise Technical Report Long Beach Cruise Terminal Improvement Project* (Noise Study), prepared by GHD and dated April 30, 2019; refer to Appendix F, *Noise Study*.

## FUNDAMENTALS OF NOISE

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air and is characterized by both its amplitude and frequency (or pitch). The human ear does not hear all frequencies equally. In particular, the ear deemphasizes low and very high frequencies. To better approximate the sensitivity of human hearing, the A-weighted decibel scale (dBA) has been developed. On this scale, the human range of hearing extends from approximately 3 dBA to around 140 dBA.

Noise is generally defined as unwanted or excessive sound, which can vary in intensity by over one million times within the range of human hearing; therefore, a logarithmic scale, known as the decibel scale (dB), is used to quantify sound intensity. Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks, and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Noise generated by mobile sources typically attenuates (is reduced) at a rate between 3 dBA and 4.5 dBA per doubling of distance. The rate depends on the ground surface and the number or type of objects between the noise source and the receiver. Hard and flat surfaces, such as concrete or asphalt, have an attenuation rate of 3 dBA per doubling of distance. Soft surfaces, such as uneven or vegetated terrain, have an attenuation rate of about 4.5 dBA per doubling of distance. Noise generated by stationary sources typically attenuates at a rate between 6 dBA and about 7.5 dBA per doubling of distance.

There are a number of metrics used to characterize community noise exposure, which fluctuate constantly over time. One such metric, the equivalent sound level ($L_{eq}$), represents a constant sound that, over the specified period, has the same sound energy as the time-varying sound. Noise exposure over a longer period of time is often evaluated based on the Day-Night Sound Level ($L_{dn}$). This is a measure of 24-hour noise levels that incorporates a 10-dBA penalty for sounds occurring between 10 p.m. and 7 a.m. The penalty is intended to reflect the increased human sensitivity to noises occurring during nighttime hours, particularly at times when people are sleeping and there are lower ambient noise conditions. Typical $L_{dn}$ noise levels for light and medium density residential areas range from 55 dBA to 65 dBA.

Two of the primary factors that reduce levels of environmental sounds are increasing the distance between the sound source to the receiver and having intervening obstacles such as walls, buildings, or terrain features between the sound

source and the receiver. Factors that act to increase the loudness of environmental sounds include moving the sound source closer to the receiver, sound enhancements caused by reflections, and focusing caused by various meteorological conditions.

### Sound in Air versus Water

Due to the fact that water is denser than air, sound waves travel further and faster underwater than in air when unimpeded. In air, noise levels diminish by 6 dB as the distance doubles. In comparison, noise levels only reduce by approximately 4.5 dB per doubling distance underwater (depends on properties of water body). Airborne and underwater noise also have different reference values.

Temperature affects the speed of sound underwater, with sound traveling faster in warm versus cold water. Transmission loss in water, or the "decrease in acoustic intensity as an acoustic pressure waves propagates out from a source" may be also affected by numerous factors other than temperature including water chemistry, topography, and sea conditions.

## REGULATORY SETTING

### State of California

The State Office of Planning and Research *Noise Element Guidelines* include recommended exterior and interior noise level standards for local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The *Noise Element Guidelines* contain a land use compatibility table that describes the compatibility of various land uses with a range of environmental noise levels in terms of the Community Noise Equivalent Level (CNEL). A noise environment of 50 CNEL to 60 CNEL is considered to be of "normally acceptable" for residential uses. The Office of Planning and Research recommendations also note that, under certain conditions, more restrictive standards than the maximum levels cited may be appropriate.

### City of Long Beach

#### Noise Standards

The General Plan Noise Element was adopted in 1975 and provides a description of existing and projected future noise levels, and incorporates comprehensive goals, policies, and implementing actions. Chapter 8.80, *Noise,* of the *Long Beach Municipal Code* (LBMC) sets forth all noise regulations controlling unnecessary, excessive, and annoying noise and vibration in the City. As outlined in Section 8.80.150 of the LBMC, maximum exterior noise levels are based on land use districts. According to the *Noise District Map* of the LBMC, the project site is located within Receiving Land Use District Three, the surrounding uses to the north of the project site are located within Districts One and Two, and the uses to the south and west of the project site are located within District Four. District One is defined as "Predominantly residential with other land use types also present," District Two is defined as "Predominantly commercial with other land use types present," and Districts Three and Four are defined as "Predominantly industrial with other land types use also present." Table 4.13-1, *City of Long Beach Noise Limits*, summarizes the exterior and interior noise limits for the various land use districts within the City.

**Table 4.13-1**
**City of Long Beach Noise Limits**

| Land Use District | Exterior Noise Level ($L_{eq}$) | | Interior Noise Level ($L_{eq}$) | |
|---|---|---|---|---|
| | 7 a.m. to 10 p.m. | 10 p.m. to 7 a.m. | 7 a.m. to 10 p.m. | 10 p.m. to 7 a.m. |
| District One | 50 | 45 | 45 | 35 |
| District Two | 60 | 55 | -[1] | -[1] |
| District Three[2] | 65 | 65 | -[1] | -[1] |
| District Four[2] | 70 | 70 | --[1] | --[1] |

Notes:
1. Interior noise limits vary for different uses within this District.
2. District Three and Four limits are intended primarily for use at their boundaries rather than for noise control within the district.

Source: City of Long Beach Municipal Code, Section 8.80.160 and Section 8.80.170, 1977.

Furthermore, exterior noise sources shall not exceed:

- The noise standard for that land use district as specified in Table 4.13-1 for a cumulative period of more than 30 minutes in any hour; or
- The noise standard plus five decibels for a cumulative period of more than 15 minutes in any hour; or
- The noise standard plus ten decibels for a cumulative period of more than five minutes in any hour; or
- The noise standard plus 15 decibels for a cumulative period of more than one minute in any hour; or
- The noise standard plus 20 decibels or the maximum measured ambient, for any period of time.

## EXISTING CONDITIONS

The project area is within a major port complex which has been extensively modified over a period of more than a century. As a result, most of the area is not in a natural condition, and there is considerable anthropogenic activity which generates noise. In general, noise sources within the POLB include the operation of cranes, forklifts, and truck activities. Truck traffic from the transport of cargo along Interstate 710 (I-710) is identified as the primary source of noise associated with the POLB. According to the City of Long Beach *General Plan Noise Element Update Existing Conditions Report* (2018), noise impacts from POLB operations are rarely audible at the nearest sensitive land uses due to the distance attenuation factors. In general, POLB noise sources generally are separated from the closest sensitive receptors by significant distances and intervening non-sensitive land uses (e.g., industrial properties, roadways, railroads, and the Los Angeles River) that attenuate the noise levels to a large extent.

### Existing Stationary and Mobile Noise Sources

POLB is a typical harbor area, dominated by sound from activities that would occur in a harbor with significant boat activity. Two areas were examined during the background monitoring study, the marina area and the deck of the Queen Mary. Sound sources were considerably different at each location. In the marina, sound was dominated by a number of sources, including wind, boats cables clanking, vehicular traffic, boats in the harbor, pedestrian noise, and plane overflights. On the deck of the Queen Mary, sound was primarily produced by continuously operating deck equipment, which gave a nearly constant background level during the evening and nighttime hours. During the daytime, these levels were increased by the addition of human activity on the decks, plane and helicopter overflights, and boats in the harbor. Note that activities from the POLB contributed relatively little to the overall sound levels in the project vicinity.

## NOISE MEASUREMENTS

Noise measurements were conducted with Larson Davis 831 octave band sound level meters (m)/noise analyzers for one-hour intervals in compliance with the City of Long Beach (City) monitoring requirements. Field calibrations with acoustic calibrators were conducted for all measurements. All instrumentation components, including microphones, preamplifiers and field calibrators have current laboratory certified calibrations traceable to the National Institute of Standards and Technology (NIST). Microphones were fitted with windscreens.

According to the Noise Study, noise measurements were conducted from November 7, 2018 through November 11, 2018. Weather varied moderately during the measurement period. High temperatures ranged from about 71 to 81 degrees Fahrenheit (°F), while lows ranged from about 45 to 55 degrees °F. Winds were out of the northwest, typically at one to five miles per hour (mph). Photos of short-term and long-term sound monitoring stations and their locations are provided in Appendix F.

### Short-Term Noise Measurements

Short-term monitoring, consisting of 20-minute spot measurements, was conducted at the marina and on the Queen Mary to supplement the long-term data at two locations each. Average ($L_{eq}$) recorded sound levels ranged from about 45 to 67 dBA at the marina; refer to Table 4.13-2, *Noise Measurements*.

**Table 4.13-2**
**Noise Measurements**

| Site No. | Location | $L_{eq}$ (dBA) | $L_{90}$ (dBA) | $L_{50}$ (dBA) | $L_{10}$ (dBA) | Date | Time |
|---|---|---|---|---|---|---|---|
| ST1 | South End of Harbor | 58.3 | 61.5 | 54.4 | 62.7 | 11/8/2018 | 8:45 a.m. |
| ST2 | North End of Harbor | 52.6 | 48.4 | 51.5 | 54.7 | 11/8/2018 | 9:12 a.m. |
| ST3 | Queen Mary Mid Deck | 60.0 | 58.9 | 59.5 | 61.0 | 11/8/2018 | 11:02 a.m. |
| ST4 | Queen Mary Fore Deck | 62.4 | 61.8 | 62.1 | 62.8 | 11/8/2018 | 11:25 a.m. |
| ST1 | South End of Harbor | 56.5 | 52.39 | 54.4 | 57.6 | 11/8/2018 | 1:05 p.m. |
| ST2 | North End of Harbor | 62.9 | 53.3 | 56.5 | 61.7 | 11/8/2018 | 1:29 p.m. |
| ST3 | Queen Mary Mid Deck | 62.7 | 62.3 | 62.6 | 63.2 | 11/8/2018 | 9:45 p.m. |
| ST2 | North End of Harbor | 48.3 | 45.8 | 46.7 | 48.4 | 11/8/2018 | 10:28 p.m. |
| ST1 | South End of Harbor | 55.0 | 52.5 | 54.5 | 56.9 | 11/8/2018 | 10:55 a.m. |
| ST1 | South End of Harbor | 54.8 | 51.0 | 53.0 | 56.9 | 11/9/2018 | 1:20 p.m. |
| ST2 | North End of Harbor | 51.7 | 47.5 | 49.7 | 51.7 | 11/9/2018 | 1:46 p.m. |
| ST3 | Queen Mary Mid Deck | 57.8 | 55.6 | 56.8 | 59.9 | 11/9/2018 | 2:32 p.m. |
| ST4 | Queen Mary Fore Deck | 66.8 | 66.5 | 66.8 | 66.9 | 11/9/2018 | 2:56 p.m. |

Source: GHD, *Draft Noise Technical Report Long Beach Cruise Terminal Improvement Project*, April 30,2019; refer to Appendix F.

On the Queen Mary, average $L_{eq}$ levels ranged from 60 to 67 dBA. The levels show some expected diurnal variation. On the Queen Mary, evening and nighttime sound was dominated by stationary on-board equipment operating continuously. The daytime levels included passenger activities on the aft deck as well as the equipment. In the harbor, the levels varied considerably during the day and night.

Noise sources varied depending on location. In the harbor locations (locations LT1, ST1, and ST2), noise came from a variety of sources, including cars, birds, wind, boats creaking, the Carnival PA system, helicopters, and airplanes. On the Queen Mary, most of the sound came from continuously operating onboard equipment. Additional noises came from boats passing by, helicopters, planes, birds, and strollers on deck.

### Long-Term Noise Measurements

A total of two sites were chosen for long-term (48-hour) sound measurements in the POLB. These sites had daily monitors for two one-day intervals during the monitoring program. These sites were selected to represent the closest residents at the nearby marina and onboard the Queen Mary.

At each location, long-term data was collected in one-hour intervals with the meter on "slow" setting. The $L_{10}$, $L_{50}$, and $L_{90}$ metrics were collected. The hourly $L_{eq}$ (average) level was also collected. Long-term noise monitoring data is provided in Appendix F.

## SENSITIVE RECEPTORS

Human response to noise varies widely depending on the type of noise, time of day, and sensitivity of the receptor. The effects of noise on humans can range from temporary or permanent hearing loss to mild stress and annoyance due to such things as speech interference and sleep deprivation. Prolonged stress, regardless of the cause, is known to contribute to a variety of health disorders. Noise, or the lack thereof, is a factor in the aesthetic perception of some settings, particularly those with religious or cultural significance. Certain land uses are particularly sensitive to noise, including schools, hospitals, rest homes, long-term medical and mental care facilities, and parks and recreation areas. Residential areas are also considered noise sensitive, especially during the nighttime hours. The nearest sensitive receptors are residential properties located approximately 500 meters north of the project site, at residential (liveaboard) vessels within the Long Beach Shoreline Marina off Shoreline Village Drive.

***a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?***

***Less Than Significant Impact With Mitigation Incorporated***. It is difficult to specify noise levels that are generally acceptable to everyone; noise that is considered a nuisance to one person may be unnoticed by another. Standards may be based on documented complaints in response to documented noise levels or based on studies of the ability of people to sleep, talk, or work under various noise conditions. However, all such studies recognize that individual responses vary considerably. Standards usually address the needs of the majority of the general population.

As stated above, the LBMC includes regulations controlling unnecessary, excessive, and annoying noise within the City. As outlined in the LBMC, maximum noise levels are based on land use districts.

## SHORT-TERM NOISE IMPACTS

### In-Air Noise Impacts - Humans

LBMC Section 8.80.202 specifies construction noise limits, restricting construction activity to the hours of 7:00 a.m. to 7:00 p.m. on weekdays and Federal holidays and 9:00 a.m. to 6:00 p.m. on Saturdays. No construction is permitted on Sundays, unless a Sunday work permit has been obtained from the City's Noise Control Officer. In this instance, the permit may allow work on Sundays, only between 9:00 a.m. and 6.00 p.m. However, pursuant to Section 201 of the City Charter, construction noise limitations do not apply to construction activities within the POLB. As such, the proposed project is exempt from LBMC Section 8.80.202. In addition, per the LBMC, temporary breaches of the exterior noise standard are allowable for certain periods of time. The noise standard of 70 dBA could be exceeded by up to 5 dBA for a cumulative period of no more than 15 minutes in any hour. Sound levels of up to 75 dBA for 15 minutes per hour maximum would, therefore, not be in excess of standards established by the LBMC.

The project would be built in a phased approach. An evaluation of the construction noise was completed for the various site activities involved in different construction phases. Sound data was obtained from the Roadway Construction Noise Model (RCNM), the Federal Highway Administration's (FHWA) approved construction noise model, which

contains data from equipment used on the Boston Central Artery project and used in the Cadna/A (Computer Aided Noise Abatement) noise model for modeling purposes. Modeling included the closest residential receptors, which included locations on the Queen Mary and the marina directly across the harbor.

As discussed in the Noise Study, the modeled impact pile driving noise levels would likely exceed the LBMC District Three and Four exterior noise level standards (70 dBA)[1] at both the Long Beach Shoreline Marina (68 dBA to 73 dBA) and the Queen Mary (76 dBA to 84 dBA). However, with implementation of Mitigation Measure NOI-1, vibratory hammer pilings would be used (instead of impact drivers), which would reduce pile driving noise levels by up to 20 dB compared to impact pile drivers. In addition, Mitigation Measure NOI-1 limits pile driving activities to a maximum of five piles per day which would reduce the frequency of pile driving noise events at nearby sensitive receptors. With implementation of these noise reduction features as part of Mitigation Measure NOI-1, pile driving noise levels would not exceed the City's 70 dBA limit at the Queen Mary or any other off-site use and exposure duration would be reduced at nearby sensitive receptors. Dredging and marine construction noise levels would be under the 70 dBA limit at all off-site locations, except at the Queen Mary aft deck (POR-1) monitoring location, which would be slightly above the threshold at 71 dBA during dredging activities. However, according to the Noise Study, existing long-term noise levels measured at the Queen Mary (site LT2) range from approximately 60 dBA to 67 dBA. As such, dredging noise levels (71 dBA) would be barely perceptible compared to existing noise levels (up to 67 dBA) as it takes a 5 dBA increase for a readily perceptible change in noise levels to the human ear.[2] Parking garage construction noise levels (modeled between 70 dBA and 73 dBA) would exceed the City's 70 dBA noise limit at the Queen Mary mid and aft decks during demolition, structure, and hardscape phases. However, as required per Mitigation Measure NOI-1, low-noise generating equipment would be used during garage construction and mufflers would be utilized to reduce construction noise levels at off-site receptors (including the Queen Mary). Therefore, with implementation of Mitigation Measure NOI-1, garage construction noise levels would not exceed the 70 dBA noise limit and would not be readily perceptible (i.e., result in a 5 dBA increase) at receptors on the Queen Mary.

It is noted that the noise modeling assumes that all equipment operates simultaneously and that each piece of equipment is placed in representative positions for site operations in the closest area to each relevant receptor. This modeled the typical worst-case sound conditions. During construction, the equipment may not operate simultaneously, and the equipment would be utilized around the project site, not just by the nearest sensitive receptor. Additionally, operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. As such, the modeled sound levels in the Noise Study are representative of the worst-case conditions and would likely be lower during construction of the proposed project. As described above, project construction activities would not result in a substantial temporary increase in ambient noise levels in the vicinity of the project with implementation of Mitigation Measure NOI-1. Thus, a less than significant impact would occur in this regard.

**Above-Water Noise Impacts - Wildlife**

*Harbor Seals*

Marine mammals are known to occur year-round in the project vicinity and an increase in airborne noise associated with project-related pile driving and dredging could impact marine mammals in the Study Area (i.e., the project area and a modified circular buffer around the project; refer to Appendix F). According to the Noise Study, Pacific Harbor Seals (*Phoca vitulina richardii*) on land within 168.3 meters (552.2 feet) of impact pile driving activities may be disturbed. In addition, Harbor Seals on land within 11 to 11.8 meters (36.1 feet) of dredging activities may be disturbed. This species has a high potential of occurring in the Study Area. Harbor seals are protected under the Federal Marine Mammal Protection Act and disruption of normal feeding activities could constitute harassment (particularly during the breeding season, since this could result in decreased pup provisioning rates). However, disturbances associated with

[1] Since the average Leq sound level at the Queen Mary (60 to 67 dBA) exceeds the 65-dBA level for Noise District 3, the allowable noise exposure standard is increased by five dB and is also 70 dBA.

[2] Federal Highway Administration, *Noise Fundamentals*, https://www.fhwa.dot.gov/environMent/noise/regulations_and_guidance/polguide/polguide02.cfm, accessed June 12, 2019.

pile driving would be temporary and of short duration. In addition, the Long Beach cruise terminal berth only occupies a small portion of the POLB and nearshore Pacific coastline, and harbor seals are found throughout the San Pedro Bay ports (as well as the nearshore Pacific Ocean). No breeding activity (only foraging) is expected to occur within 168 meters of pile driving activities. Thus, it is anticipated that above water noise disturbance from impact pile driving and dredging activities would not result in substantial disturbance to harbor seals on land and therefore have no measurable effect on adult or pup provisioning rates and survival. Additionally, as detailed in Section 4.4, *Biological Resources*, a qualified biological monitor would be present during all in-water work and pile driving and dredging activities to verify that marine mammals are not present within the construction area; refer to Mitigation Measure BIO-2.

*Seabirds*

Seabirds on land (e.g., nest sites and roosts) within 133.7 meters (438.7 feet) of impact pile driving or eight to 9.3 meters (26.2 feet) from dredging activities may be disturbed. The study area provides habitat for numerous common species of gulls, waterfowl, aerial wading birds, and aerial fish foragers, including the Federally and State endangered California Least Tern (*Sternula antillarum browni*). This species is known to forage in the immediate project area. Disruption of normal feeding activities could constitute harassment during the breeding season since this could result in decreased chick provisioning rates. However, all disturbances would be temporary and of short duration. The major seabird nest colony within the POLB is well outside the largest area of airborne auditory impact (438.7 feet). Thus, it is anticipated that above water disturbance from impact pile driving and dredging activities would not result in substantial disturbance to seabirds at nesting or perching sites and therefore have no measurable effect on chick provisioning rates and survival. Additionally, as detailed in Section 4.4, a pre-construction nesting bird clearance survey would be required to ensure construction activities do not adversely impact any active bird nests observed on-site; refer to Mitigation Measure BIO-3.

**Underwater Noise Impacts: Marine Mammals**

According to the Noise Study, unmitigated underwater noise impacts to marine mammals may occur during pile driving and dredging activities. However, Mitigation Measure NOI-1 requires several noise reduction measures to reduce underwater noise impacts to marine mammals, including the use of a vibratory hammer (rather than a pile driver) and bubble curtains to reduce underwater pile driving noise levels; requiring a "soft start" when initiating pile driving to allow marine mammals a chance to vacate the immediate area before full-force pile driving or dredging is initiated; limiting the number of piles installed per day to five; and retaining a marine mammal biological monitor to be present during all dredging and pile driving portions of construction. Furthermore, marine mammals are highly mobile and any individuals in the immediate project vicinity are expected to move out of the area once loud construction activities commence. Thus, a less than significant impact would occur with mitigation incorporated.

**LONG-TERM OFF-SITE MOBILE NOISE IMPACTS**

According to the *Port of Long Beach Carnival Cruise Line Terminal Improvement Project* (Traffic Impact Analysis Report), prepared by GHD and dated April 2019, the existing cruise terminal produces 3,557 trips per day on Saturdays. The proposed project would generate a total of approximately 4,650 daily trips on Saturday, or an additional 1,093 net trips on Saturday when comparing to existing conditions. These additional 1,093 net trips on Saturday includes approximately 266 a.m. peak hour trips and approximately 175 p.m. peak hour trips. According to the U.S. Department of Transportation *Highway Traffic Noise Analysis and Abatement Policy and Guidance* (2017), a doubling of traffic volumes would result in a 3 dB increase in traffic noise levels, which is barely detectable by the human ear.[3] As such, the project's net trip generation of approximately 1,093 trips per day would not double existing traffic volumes and an increase in traffic noise along local roadways would be imperceptible. Furthermore, based on the Traffic Impact

[3] U.S. Department of Transportation, *Highway Traffic Noise Analysis and Abatement Policy and Guidance*, August 24, 2017, https://www.fhwa.dot.gov/environMent/noise/regulations_and_guidance/polguide/polguide02.cfm, accessed June 11, 2019.

Analysis Report, the proposed project would not increase trips per day on any other day besides Saturdays. Therefore, project-related traffic noise would be less than significant.

**LONG-TERM STATIONARY NOISE IMPACTS**

Upon project completion, noise in the project area would not significantly increase; refer to Table 4.13-3, *Modeled Carnival Panorama Ship Stack Levels*. Modeling results show that sound levels in the harbor would be about 44 to 48 dBA at the marina when the *Carnival Panorama* is at anchor and the engine is revving; similar levels would occur when the ship is moving. Levels on board the Queen Mary would be about 52 to 59 dBA from the *Carnival Panorama*. At the marina, these levels would be comparable to those heard typically during the day from waves, wind in trees, and local boat noise. On board the Queen Mary, these levels would be about 5 to 10 dBA less than the typical noise heard on board the boat due to equipment operating on the Queen Mary. Therefore, impacts from long term stationary noise would be less than significant.

**Table 4.13-3**
**Modeled Carnival Panorama Ship Stack Levels**

| Receptor | Receptor Description | Modeled Level (dBA) |
|---|---|---|
| POR 1 | Queen Mary Aft Deck (LT2) | 59 |
| POR 2 | Queen Mary Mid Deck (ST3) | 56 |
| POR 3 | Queen Mary Aft Deck (ST4) | 52 |
| POR 4 | Harbor Center (LT1) | 48 |
| POR 5 | Harbor East End (ST1) | 45 |
| POR 6 | Harbor West End (ST2) | 44 |
| Source: GHD, Draft Noise Technical Report Long Beach Cruise Terminal Improvement Project, April 30, 2019. | | |

**LOADING AND UNLOADING NOISE IMPACTS**

Loading and unloading noise, including traffic noise, should scale with the number of passengers embarking and disembarking. The project would result in approximately 1,000 more passengers loading/unloading at the Carnival Cruise ship loading area compared to existing conditions. According to the Noise Study, this equates to an approximate one dBA increase due to and loading/unloading activities. This would not be a noticeable increase, especially as such activity is currently virtually inaudible across the harbor at the marina, and below the background levels on board the Queen Mary. Therefore, impacts during long term operations would be less than significant.

As discussed above, the project's increase in long-term operational noise levels would be minimal and imperceptible to surrounding receptors/uses. As such, operational noise would be similar to existing conditions in the project area and would not result in a substantial temporary or permanent increase in the vicinity of the project in excess of established standards. A less than significant impact would occur in this regard.

***Mitigation Measures:***

NOI-1 Prior to issuance of a Demolition or Grading Permit, the Applicant shall prepare a Construction Noise Control Plan, to the satisfaction of the City of Long Beach City Engineer, to minimize noise levels during construction activities. The Construction Noise Control Plan shall include the following noise reduction measures, to be implemented during construction activities:

- A vibratory hammer (versus a pile driver) shall be used during construction to partially install steel pipe piles, while an impact pile driver shall be used to proof the piles and set them to their final depth. Vibratory hammers generally produce noise levels 10 to 20 dB lower than impact pile drivers;

- A qualified marine mammal biological monitor shall be present during dredging and pile driving portions of construction (refer also to Mitigation Measure BIO-2);
- Pile driving shall only occur 45 minutes after sunrise to 45 minutes before sunset which allows biological monitors time to complete pre- and post-construction surveys;
- A "soft start" shall be conducted prior to the initiation of full-power pile driving at the beginning of each day, or following a 30-minute or longer break in pile driving, to warn any marine mammals to move away from the construction area. This shall involve an initial set of strikes at reduced energy followed by a one-minute waiting period (to allow wildlife to move out of the area) (refer also to Mitigation Measure BIO-1);
- Bubble curtains shall be implemented in association with pile driving. Use of an air bubble curtain can generally reduce sound pressure levels by five to ten dB, with higher effectiveness at higher sound levels;
- Number of piles installed per day shall be limited to five;
- Heavy equipment, such as dredges, operating from barges or nearshore shall be idled for 15 minutes prior to full-force power; and
- Low-noise generating equipment shall be utilized for garage construction where feasible. The contractor shall work to make sure that construction motorized equipment is well tuned, in a state of good repair, and appropriate effective mufflers shall be utilized on all gasoline or diesel-powered construction equipment.

***b) Generation of excessive groundborne vibration or groundborne noise levels?***

***Less Than Significant Impact***. Project construction can generate varying degrees of groundborne vibration, depending on the construction procedure and the construction equipment used. Operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of the construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. Groundborne vibrations from construction activities rarely reach levels that damage structures.

The Federal Transit Administration (FTA) has published standard vibration velocities for construction equipment operations. In general, the FTA architectural damage criterion for continuous vibrations (i.e., 0.20 inch/second) appears to be conservative. The types of construction vibration impact include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. Typical vibration produced by construction equipment is illustrated in Table 4.13-4, *Typical Vibration Levels for Construction Equipment*.

The nearest structure to the project site is approximately 50 feet to the southeast of the proposed parking garage modifications, across Windsor Way. Groundborne vibration decreases rapidly with distance. As indicated in Table 4.13-4, based on the FTA data, vibration velocities from typical heavy construction equipment operation that would be used during project construction range from 0.0011 to 0.0315 inch-per-second peak particle velocity (PPV) at 50 feet from the source of activity. With regard to the proposed project, groundborne vibration would be generated primarily

during construction activities to the existing parking garage. The proposed construction activities would not be capable of exceeding the 0.2 inch-per-second PPV significance threshold for vibration, as construction activities would not be within 50 feet of the nearest structure. Therefore, construction vibration impacts would be less than significant.

**Table 4.13-4**
**Typical Vibration Levels for Construction Equipment**

| Equipment | Approximate peak particle velocity at 25 feet (inches/second) | Approximate peak particle velocity at 50 feet (inches/second) |
|---|---|---|
| Large bulldozer | 0.089 | 0.0315 |
| Loaded trucks | 0.076 | 0.0269 |
| Small bulldozer | 0.003 | 0.0011 |
| Hoe Ram | 0.089 | 0.0315 |
| Jackhammer | 0.035 | 0.0124 |

Notes:
1. Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Guidelines*, May 2006. Table 12-2.
2. Calculated using the following formula:

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

where: PPV (equip) = the peak particle velocity in in/sec of the equipment adjusted for the distance
PPV (ref) = the reference vibration level in in/sec from Table 12-2 of the FTA *Transit Noise and Vibration Impact Assessment Guidelines*
D = the distance from the equipment to the receiver

***Mitigation Measures***: No mitigation is required.

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

***No Impact***. The proposed project site is not located within an airport land use plan or within two miles of a public airport or public use airport. The nearest airport to the project site is the Long Beach Airport, located approximately 4.4 miles to the north of the project site at 4100 Donald Douglas Drive. In addition, the project site is located outside of the Long Beach Airport Influence Area.[4] In addition, there are no private airstrips located within the project area or in the vicinity. Therefore, no impacts would occur in this regard.

[4] Los Angeles County Airport Land Use Commission, *Long Beach Airport, Airport Influence Area Map*, May 13, 2003.

# 4.14 POPULATION AND HOUSING

| *Would the project:* | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Induce substantial unplanned 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)? | | | ✓ | |
| b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? | | | | ✓ |

***a) Induce substantial unplanned 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)?***

***Less Than Significant Impact***. A project could induce population growth in an area, either directly (for example, by proposing new homes and/or businesses) or indirectly (for example, through extension of roads or other infrastructure). No residential uses would be developed as part of the project. Therefore, the project would not induce unplanned direct population growth in the City through new housing development.

The project would not have the capacity to result in significant impacts related to indirect unplanned population growth. While the project would include maritime and onshore improvements to accommodate a larger class of cruise ships and associated increase in passenger numbers, cruise passengers are visitors to Long Beach and would not result in an indirect increase in permanent residents. As such, development of the project would not induce unplanned indirect population growth through extension of roads or other infrastructure improvements. Impacts would be less than significant.

***Mitigation Measures***: No mitigation is required.

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

***No Impact***. The project site is currently developed with the Long Beach cruise terminal. There is no existing housing on-site. Project implementation would not displace any existing housing or residents. As such, the project would not necessitate the construction of replacement housing elsewhere and no impacts would occur in this regard.

***Mitigation Measures***: No mitigation is required.

This page intentionally left blank.

# 4.15 PUBLIC SERVICES

| *Would the project:* | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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: | | | | |
| 1) Fire protection? | | | ✓ | |
| 2) Police protection? | | | ✓ | |
| 3) Schools? | | | | ✓ |
| 4) Parks? | | | | ✓ |
| 5) Other public facilities? | | | | ✓ |

***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:***

***1) Fire protection?***

***Less Than Significant Impact***. The Long Beach Fire Department (LBFD) provides fire protection within Long Beach and has 23 stations throughout the City. The nearest station to the project site is Fire Station 6, located at 330 Windsor Way, adjacent to the southern end of the project's parking garage. Project implementation is not anticipated to increase response times to the project site or surrounding vicinity. The proposed project involves maritime and onshore improvements to the existing cruise terminal to accommodate a larger class of cruise ships and associated increase in passengers. All proposed improvements would be subject to compliance with requirements set forth in the 2016 California Fire Code (CFC) and 2016 California Building Code (CBC), particularly the improvements associated with the parking garage. The project would also be subject to compliance with the fire provisions specified in the *City of Long Beach Municipal Code* (LBMC), Title 18, *Building and Construction*. The proposed site plan for the parking garage and reconfiguration of traffic lanes adjacent to the parking garage would also be subject to LBFD site/building plan review, which would ensure adequate emergency access, fire hydrant availability, and compliance with all applicable codes. Overall, project implementation is not anticipated to require the construction of new or physically altered fire protection facilities and would not adversely impact existing fire services provided to the project site by LBFD Station 6. Upon compliance with the existing CBC, CFC, LBMC, and LBFD design standards, impacts pertaining to fire hazards would be reduced to less than significant levels.

***Mitigation Measures***: No mitigation is required.

***2) Police protection?***

***Less Than Significant Impact***. The Long Beach Police Department (LBPD) provides law enforcement services to the City, including the project site. According to the *Police Reporting Districts with Divisions & Beats Map*, prepared

by LBPD, the project site is located within the South Police Division, Police Beat 6, Reporting District 21.[1] The LBPD operates out of a central location at 400 West Broadway, which is approximately 1.3 miles north of the project site across Queensway Bay and is the closest LBPD station to the project site. Implementation of the proposed project would not substantially increase the need for additional police protection services to the project site. The project would not introduce any new permanent residents into the City beyond existing conditions. Additionally, the proposed improvements to the cruise terminal would result in similar operations associated with Carnival's cruise lines and would not introduce a new use that would substantially increase the need for police response. As a result, project implementation is not anticipated to increase response times to the project site or surrounding vicinity or require the construction of new or physically altered police protection facilities. In addition, the project would be subject to site plan review by the City prior to project approval to ensure that it meets City requirements in regard to public safety (e.g., nighttime security lighting) to minimize the potential for safety concerns. Thus, impacts in this regard would be less than significant.

***Mitigation Measures***: No mitigation is required.

***3) Schools?***

***No Impact***. The proposed project would not introduce any new permanent residents into the City that may utilize school services provided by the Long Beach Unified School District (LBUSD). Additionally, short-term temporary construction jobs would likely be taken by workers already living in the City or neighboring jurisdictions. As such, implementation of the proposed project would not result in increased demand for LBUSD school services nor the need for the construction of additional school facilities. No impacts would occur in this regard.

***Mitigation Measures***: No mitigation is required.

***4) Parks?***

***No Impact***. The project does not propose new or physically altered parks or recreational facilities. According to the City of Long Beach Parks, Recreation, and Marine Department, the City maintains 170 parks with 26 community centers, among other programs and services.[2] The Harry Bridges Memorial Park is located at Pier H just west of the project site and RMS Queen Mary. Additional parks and recreational facilities across Queensway Bay include the Shoreline Aquatic Park, Golden Shore Marine Biological Reserve Park, Cesar E. Chavez Park, Promenade Square, and Victory Park. Project implementation would not introduce any new permanent residents beyond existing conditions and thus, would not generate a demand for park facilities or increase the use of existing facilities. As such, no impacts would occur in this regard.

***Mitigation Measures***: No mitigation is required.

***5) Other public facilities?***

***No Impact***. Library services for the project area are provided by the Long Beach Public Library. The closest public library to the project site is Long Beach Public Main Library located at 101 Pacific Avenue, approximately 1.1 miles to the north in downtown Long Beach. The proposed cruise terminal improvements would not result in impacts on public facilities beyond those described in Response 4.15(a)(4), including public libraries. Therefore, no impacts would occur in this regard.

***Mitigation Measures***: No mitigation is required.

---

1 City of Long Beach Police Department, *Police Reporting Districts with Divisions & Beats Map*, http://www.longbeach.gov/globalassets/ti/media-library/documents/gis/map-catalog/36x36-citymap_with_policedivisions_beats_rd, accessed November 21, 2018.

2 City of Long Beach, *Long Beach Parks, Recreation and Marine Department Website*, http://www.longbeach.gov/park/, accessed November 21, 2018.

# 4.16 RECREATION

| *Would the project:* | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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? | | | | ✓ |
| 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? | | | | ✓ |

***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?***

***No Impact.*** Refer to Response 4.15(a)(4). Project implementation would not introduce any new permanent residents. Therefore, the proposed project would not result in a substantial increase in demand on parks or other recreational facilities and would not result in the physical deterioration of these facilities. No impacts would occur in this regard.

***Mitigation Measures:*** No mitigation is required.

***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?***

***No Impact.*** The project does not include recreational facilities, nor would it require the construction or expansion of existing recreational facilities. No impacts would result in this regard.

***Mitigation Measures:*** No mitigation is required.

This page intentionally left blank.

# 4.17 TRANSPORTATION

| *Would the project:* | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? | | | ✓ | |
| 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?[1] | | | ✓ | |
| c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | | | ✓ | |
| d. Result in inadequate emergency access? | | | ✓ | |

This section is based on the *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report* (Traffic Impact Analysis), prepared by GHD, dated April 2019; refer to Appendix G, *Traffic Impact Analysis*. The purpose of the Traffic Impact Analysis is to evaluate potential project impacts related to transportation near the project site. The evaluation considers impacts on local intersections and regional transportation facilities. The following analysis scenarios are evaluated in this section:

- Existing Conditions (2018);
- Existing Conditions (2018) Plus Project;
- Opening Year (2020) without Project; and
- Opening Year (2020) Plus Project.

**STUDY AREA**

There are two ongoing projects in the project's vicinity, the Gerald Desmond Bridge Replacement Project (GDBRP) and the Interstate 710 (I-710) Corridor Project. The GDBRP is currently under construction and has associated road closures and detours in the vicinity of I-710 interchanges with Pico Avenue and West Ocean Boulevard. Per the GDBRP website, the project is anticipated to be completed by the end of 2019. Current long-term closures, defined as permanent closures until new roadways are completed and open to traffic, include:

- Eastbound Ocean Boulevard to Northbound I-710 Freeway Connector Closure;
- Westbound and Eastbound Ocean Boulevard over Pico Avenue; and
- Southbound I-710 Freeway to Westbound Ocean Boulevard Connector Closure.

[1] This Appendix G Checklist Question has been modified by the Natural Resources Agency to address consistency with *CEQA Guidelines* Section 15064.3(b), which relates to use of the vehicle miles traveled (VMT) as the methodology for evaluating traffic impact. By July 1, 2020, all lead agencies must analyze a project's transportation impacts using VMT. The City is currently updating its traffic impact guidelines and has not yet adopted a VMT methodology to address this updated Appendix G Checklist Question. Thus, the analysis is based on the City's adopted traffic analysis methodology, which requires use of level of service to evaluate traffic impacts of a project.

The I-710 Corridor Project would have no direct impact to the proposed project and is currently in the Record of Decision/Notice of Determination phase. The proposed improvements associated with the I-710 Corridor Project would not be completed by the proposed project's opening year of 2020.

Traffic study locations were selected based on circulation patterns and significance in the network from the project's trip generation and trip distribution. As stated above, current construction activities associated with the GDBRP have temporarily reconfigured the I-710 interchanges with West Ocean Boulevard, Pico Avenue, and Harbor Scenic Drive. These temporary configurations are necessary to facilitate the new bridge approaches and direct connector ramps to the existing roadway systems. As such, the proposed project's study locations were evaluated under existing conditions based on the temporary configuration and under opening year conditions based on the ultimate configuration for the areas impacted by the GDBRP.

**Existing Conditions Study Intersections, Ramps, and Mainline Segments**

The existing conditions study intersections, ramps, and mainline segments are identified below and illustrated in Exhibit 4.17-1, *Existing Conditions Study Intersections, Ramps, and Mainline Segments*. The numbering below is the same throughout this analysis and correlates to the numbers on Exhibit 4.17-1.

Study Intersections:

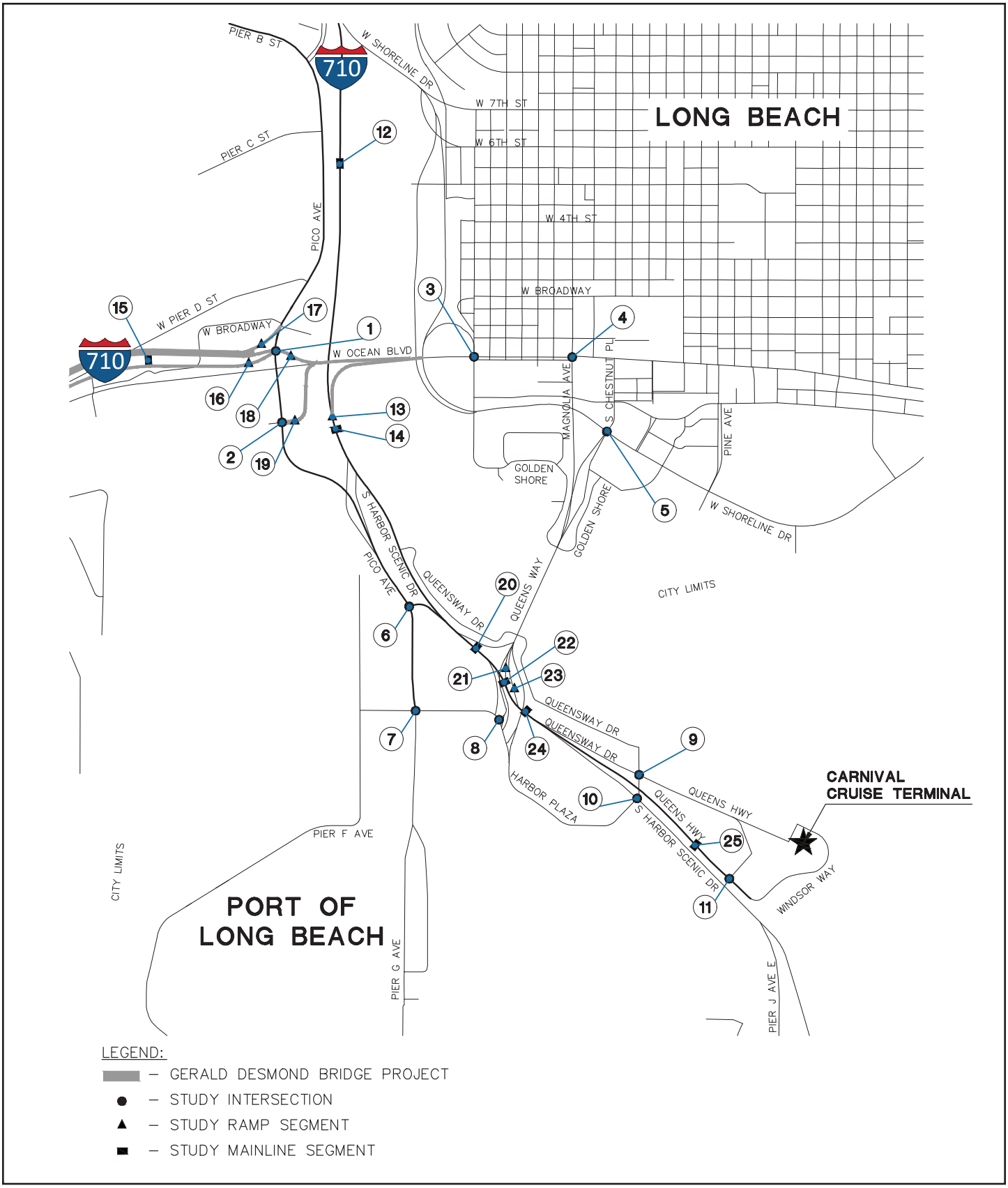
1. Pico Avenue / Westbound West Ocean Boulevard Off-Ramp / I-710 Ramps
2. Pico Avenue / West Ocean Boulevard On-Ramp / Pier E Street
3. Golden Shore / West Ocean Boulevard
4. Queens Way / West Ocean Boulevard
5. Chestnut Place / Queens Way Ramps / West Shoreline Drive
6. Pico Avenue / South Harbor Scenic Drive On-Ramp
7. Pico Avenue / Pier G Avenue / Harbor Plaza
8. Harbor Plaza / South Harbor Scenic Drive Off-Ramps / Queens Way Off-Ramps
9. Queensway Drive / Queens Highway / Harbor Plaza
10. South Harbor Scenic Drive / Harbor Plaza
11. Queens Highway / Windsor Way

Study Mainline Segments:

12. I-710 North of South Harbor Scenic Drive Ramps
14. South Harbor Scenic Drive – South of West Ocean Boulevard Off-Ramp
15. I-710 West of Pico Avenue Off-Ramp
20. South Harbor Scenic Drive – North of Queens Way
22. Southbound South Harbor Scenic Drive – South of Queens Way On-Ramp
24. Northbound Queensway Drive– South of Queens Way Off-Ramp
25. Southbound Queens Highway – North of Carnival / Queen Mary Entrance

Study Ramp Segments:

13. Northbound South Harbor Scenic Drive Off-Ramp to Westbound West Ocean Boulevard
16. Northbound I-710 Off-Ramp to Pico Avenue
17. Pico Avenue On-Ramp to Southbound I-710
18. West Ocean Boulevard Off-Ramp to Pico Avenue
19. Pico Avenue On-Ramp to West Ocean Boulevard
21. Queens Way Off-Ramp to Southbound South Harbor Scenic Drive
23. Queensway Drive Off-Ramp to Queens Way




Source: GHD, April 2019.

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
LONG BEACH CRUISE TERMINAL IMPROVEMENT PROJECT

# Existing Conditions Study Intersections, Ramps, and Mainline Segments

Michael Baker INTERNATIONAL

06/19 JN 169486

**Exhibit 4.17-1**

**Opening Year Study Intersections, Ramps, and Mainline Segments**

With the reconfiguration of I-710 at the South Harbor Scenic Drive/Ocean Boulevard and Pico Avenue interchange, there would be different study intersections and mainline and ramp segments when compared to the current temporary configurations. In addition, traffic movement and patterns would change with the new configuration. As such, opening year study intersections, ramps, and mainline segments are listed below and illustrated on Exhibit 4.17-2, *Opening Year 2020 Study Intersections, Ramps, and Mainline Segments*. The numbering below is the same throughout this analysis and correlates to the numbers on Exhibit 4.17-2. As shown, there would be a new intersection with the proposed improvement (Intersection 1A). Additionally, the intersection at Pico Avenue and West Ocean Boulevard changes configuration with the improvements.

Study Intersections:

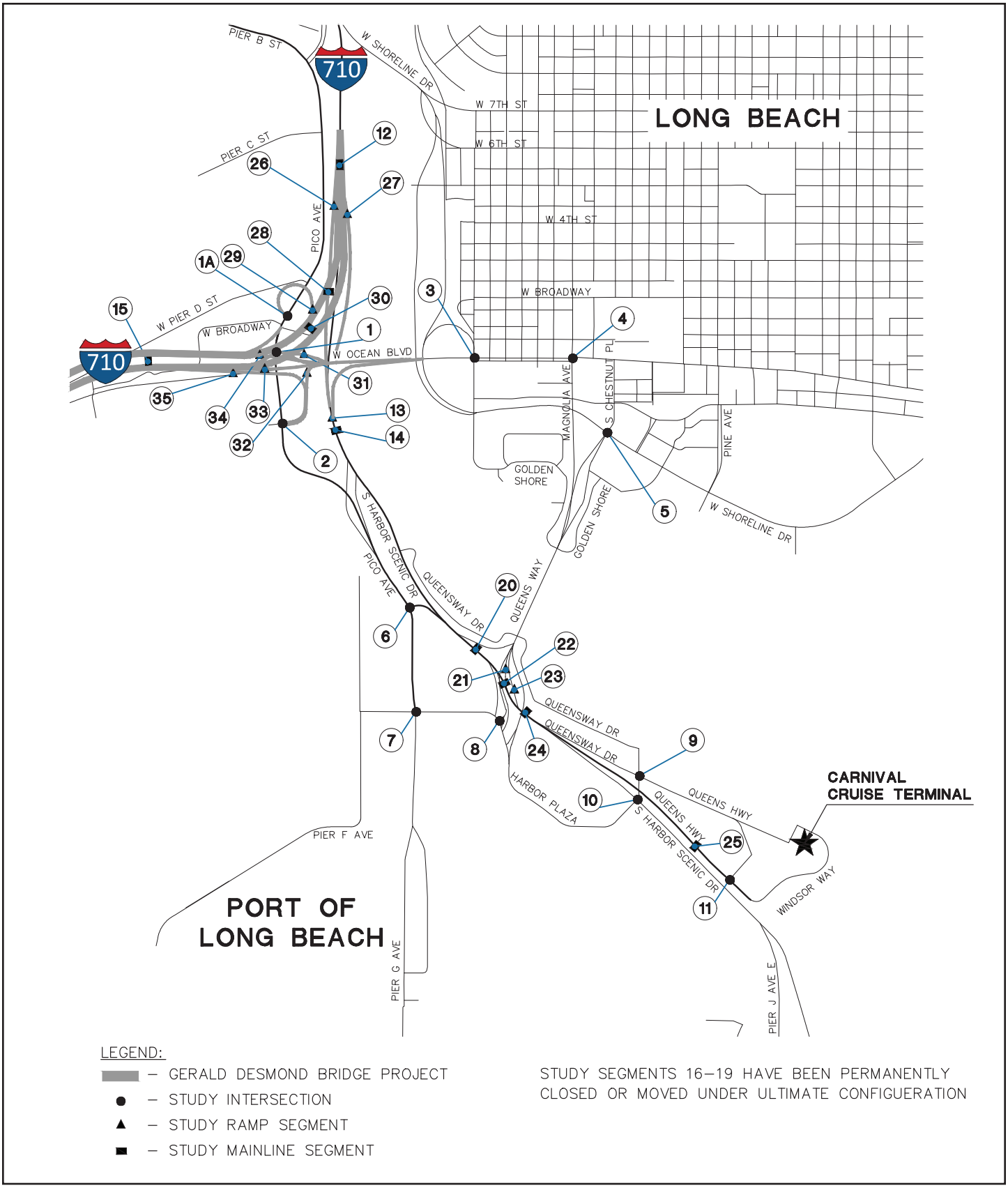
1A. Pico Avenue / I-710 Southbound On-Ramp (new intersection due to improvements)
1. Pico Avenue / Westbound West Ocean Boulevard Off-Ramp
2. Pico Avenue / I-710 Northbound Off-Ramp / Pier E Street
3. Golden Shore / West Ocean Boulevard
4. Queens Way / West Ocean Boulevard
5. Chestnut Place / Queens Way Ramps / West Shoreline Drive
6. Pico Avenue / South Harbor Scenic Drive On-Ramp
7. Pico Avenue / Pier G Avenue / Harbor Plaza
8. Harbor Plaza / South Harbor Scenic Drive Off-Ramps / Queens Way Off-Ramps
9. Queensway Drive / Queens Highway / Harbor Plaza
10. South Harbor Scenic Drive / Harbor Plaza
11. Queens Highway / Windsor Way

Study Mainline Segments:

12. I-710 North of South Harbor Scenic Drive Ramps
14. South Harbor Scenic Drive – South of West Ocean Boulevard Off-Ramp
15. I-710 West of Pico Avenue Off-Ramp
20. South Harbor Scenic Drive – North of Queens Way
22. Southbound South Harbor Scenic Drive – South of Queens Way On-Ramp
24. Northbound Queensway Drive– South of Queens Way Off-Ramp
25. Southbound Queens Highway – North of Carnival / Queen Mary Entrance
28. I-710 – North of Pico Avenue On-Ramp
30. I-710 – South of Pico Avenue On-Ramp

Study Ramp Segments:

13. Northbound South Harbor Scenic Drive Off-Ramp to Westbound West Ocean Boulevard
21. Queens Way On-Ramp to Southbound South Harbor Scenic Drive
23. Queensway Drive Off-Ramp to Queens Way
26. Southbound I-710 Off-Ramp to South Harbor Scenic Drive
27. South Harbor Scenic Drive On-Ramp to Northbound I-710
29. Pico Avenue On-Ramp to Southbound I-710
31. Westbound West Ocean Boulevard Off-Ramp to Pico Avenue
32. Pico Avenue On-Ramp to Eastbound West Ocean Boulevard
33. Northbound I-710 Off-Ramps to West Ocean Boulevard / Pico Avenue
34. Southbound I-710 Off-Ramp to West Ocean Boulevard
35. Northbound I-710 Off-Ramp to West Ocean Boulevard / Pico Avenue




Source: GHD, April 2019.

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
LONG BEACH CRUISE TERMINAL IMPROVEMENT PROJECT

# Opening Year 2020 Study Intersections, Ramps, and Mainline Segments

Michael Baker INTERNATIONAL

06/19 JN 169486

**Exhibit 4.17-2**

## METHODOLOGY

### Intersection Capacity Utilization Methodology

Based on the City's Traffic Impact Analysis guidelines, the Intersection Capacity Utilization (ICU) methodology was used for signalized intersection. Table 4.17-1, *ICU Level of Service Thresholds*, displays the volume-to-capacity (V/C) ratio thresholds for level of service (LOS).

**Table 4.17-1**
**ICU Level of Service Thresholds**

| Level of Service | Description | Volume-to-Capacity (V/C) Ratio |
|---|---|---|
| A | Excellent operation. All approaches to intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation. | < 0.601 |
| B | Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection many occasionally be fully utilized and traffic queues start to form. | 0.601 – 0.700 |
| C | Good operation. Occasionally drivers may have to wait more than 60 seconds, and back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted. | 0.701 – 0.800 |
| D | Fair operation. Vehicles are sometimes required to wait more than 60 seconds during short peaks. There are no long-standing traffic queues. | 0.801 – 0.900 |
| E | Poor operation. Some long-standing vehicular queues develop on critical approaches to intersections. Delays may be up to several minutes. | 0.901 – 1.000 |
| F | Forced flow. Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow. | > 1.000 |

Source: GHD, *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report*, April 2019; refer to Appendix G.

The City of Long Beach considers LOS D as the limit for acceptable intersection operations. A significant impact by a project is considered when the resulting intersection level of service with project traffic is LOS E or F and the project traffic contributed to a V/C ratio of 0.02 or more to the critical movements.

### Highway Capacity Manual Methodology

For unsignalized intersections, the Highway Capacity Manual (HCM) methodology was utilized. Table 4.17-2, *HCM Level of Service Thresholds*, displays the average control delay and corresponding LOS. These thresholds were utilized for two-way stop control and all-way stop control intersections.

**Table 4.17-2**
**HCM Level of Service Thresholds**

| Level of Service | Average Control Delay (seconds per vehicle) |
|---|---|
| A | 0-10 |
| B | >10-15 |
| C | >15-25 |
| D | >25-35 |
| E | >35-50 |
| F | >50 |

Source: GHD, *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report*, April 2019; refer to Appendix G.

### Highway Capacity Manual 6th Edition Methodology

For the mainline and ramp segments, HCM 6th Edition methodology was utilized. HCM 6th Edition calculates LOS based on density and free flow speed. Table 4.17-3, *Urban Freeway Density Thresholds*, identifies the density thresholds and LOS by passenger car – per mile – per lane (pc/mi/ln) for urban freeway facilities (i.e., mainline segments [basic] and ramps [diverge and merge movements]). This is also similar with multilane roadway segments; however, as shown in Table 4.17-4, *Multilane LOS Thresholds*, the multilane roadway segments have additional speed thresholds when approaching LOS E and F.

**Table 4.17-3**
**Urban Freeway Density Thresholds**

| Level of Service | Passenger Car Per Mile Per Lane |
|---|---|
| A | ≤ 11 |
| B | > 11 – 18 |
| C | > 18 – 26 |
| D | > 26 – 35 |
| E | > 35 – 45 |
| F | > 45 or V/C ratio > 1.00 |

Source: GHD, *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report*, April 2019; refer to Appendix G.

**Table 4.17-4**
**Multilane LOS Thresholds**

| Level of Service | Miles Per Hour | Density (Passenger Car Per Mile Per Lane) |
|---|---|---|
| A | All | ≤ 11 |
| B | All | > 11 – 18 |
| C | All | > 18 – 26 |
| D | All | > 26 – 35 |
| E | 60 | > 35 – 40 |
| | 55 | > 35 – 41 |
| | 50 | > 35 – 43 |
| | 45 | > 35 – 45 |
| F | Demand Exceeds Capacity | |
| | 60 | > 40 |
| | 55 | > 41 |
| | 50 | > 43 |
| | 45 | > 45 |

Source: GHD, *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report*, April 2019; refer to Appendix G.

## STUDY PEAK HOURS

The proposed larger cruise vessel, *Carnival Panorama*, would only dock at the Long Beach cruise terminal on Saturdays; therefore, there would only be an increase in project-related trips on Saturdays. As such, Saturday peak hours are analyzed in the Traffic Impact Analysis.

Based on passenger data from Carnival, the morning peak hour is from 9:00 to 10:00 a.m. and the evening peak hour is from 1:00 to 2:00 p.m. on Saturdays. A typical schedule has the ship arriving in the morning with passenger disembarkation occurring between 7:00 to 11:00 a.m. with peak disembarkation from 9:00 to 10:00 a.m. Passenger are assigned a specific arrival time to stagger embarkation. Check-in begins at 10:30 a.m. with some passengers arriving as early as 9:00 a.m. The check-in process is complete by 3:00 p.m. with peak embarkation from 1:00 to 2:00 p.m.

## EXISTING CONDITIONS

### Existing Traffic Volumes

Existing traffic volumes were derived from traffic counts collected in 2018 and early 2019 and historical traffic data. Existing traffic counts were collected on November 15, 16, and 17, 2018 (Thursday – Saturday) for areas not under construction; this week was chosen because it was representative of a typical week for Carnival (no 14-day cruises scheduled this week) and not a holiday week. In addition, weekday traffic counts were provided at the following locations by the listed agency:

- West Ocean Boulevard and Magnolia Avenue/Queens Way (City of Long Beach)
- Harbor Plaza and Pico Avenue (Port of Long Beach)
- Pico Avenue and Pier E Street (Port of Long Beach)
  - During temporary configuration (long-term closure and detour)
- Pico Avenue and Ocean Boulevard (Port of Long Beach)
  - During temporary configuration (long-term closure and detour)

Due to the need to have Saturday traffic counts at the locations listed above, additional traffic counts were collected on Saturday, January 5, 2019. These traffic counts were integrated and balanced as necessary with the other traffic counts. In addition, the study locations affected by the GDBRP were compared to the traffic projections for both the existing configuration and ultimate configuration to capture typical traffic conditions. Refer to Appendix G for all existing traffic counts and figures.

### Existing Conditions Intersection Analysis

As detailed in Table 4.17-5, *Existing Conditions Intersections LOS*, all signalized and unsignalized study intersections currently operate at an acceptable LOS (LOS D or better).

**Table 4.17-5**
**Existing Conditions Intersections LOS**

| No. | Intersection | Control | Saturday Peak Hour | V/C[1] (Signalized) or Delay (Unsignalized) | LOS |
|---|---|---|---|---|---|
| **Signalized Intersections** | | | | | |
| 1 | Pico Avenue / Westbound West Ocean Boulevard Off-Ramp / I-710 Ramps | Signal | AM | 0.775 | C |
| | | | PM | 0.899 | D |
| 2 | Pico Avenue / West Ocean Boulevard On-Ramp / Pier E Street | Signal | AM | 0.554 | A |
| | | | PM | 0.544 | A |
| 3 | Golden Shore / West Ocean Boulevard | Signal | AM | 0.521 | A |
| | | | PM | 0.533 | A |
| 4 | Queens Way / West Ocean Boulevard | Signal | AM | 0.685 | B |
| | | | PM | 0.766 | C |
| 5 | Chestnut Place / Queens Way Ramps / West Shoreline Drive | Signal | AM | 0.765 | C |
| | | | PM | 0.664 | B |
| 7 | Pico Avenue / Pier G Avenue / Harbor Plaza | Signal | AM | 0.625 | B |
| | | | PM | 0.552 | A |
| 9 | Queensway Drive / Queens Highway / Harbor Plaza | Signal | AM | 0.472 | A |
| | | | PM | 0.436 | A |
| 10 | South Harbor Scenic Drive / Harbor Plaza | Signal | AM | 0.420 | A |
| | | | PM | 0.420 | A |

**Table 4.17-5, continued**

| No. | Intersection | Control | Saturday Peak Hour | V/C[1] (Signalized) or Delay (Unsignalized) | LOS |
|---|---|---|---|---|---|
| **Unsignalized Intersections** | | | | | |
| 6 | Pico Avenue / South Harbor Scenic Drive On-Ramp | Free[2] | AM | 1.3 | A |
| | | | PM | 2.2 | A |
| 8 | Harbor Plaza / South Harbor Scenic Drive Off-Ramps / Queens Way Off-Ramps | TWSC[2] | AM | 8.9 | A |
| | | | PM | 9.0 | A |
| 11 | Queens Highway / Windsor Way | AWSC[3] | AM | 8.5 | A |
| | | | PM | 8.1 | A |

Notes: V/C = volume-to-capacity; LOS = level of service; TWSC = two way stop control; AWSC = all-way stop control
[1] For lost time adjustment, 0.1 was added to the ICU intersection summary results.
[2] HCM 2010 and 6th Edition methodology does not support this type of intersection. Therefore, HCM 2000 methodology was utilized to obtain control delay and delay was utilized to obtain free movement approach.
[3] HCM 6th Edition methodology was utilized for control delay.

Source: GHD, *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report*, April 2019; refer to Appendix G.

### Existing Conditions Mainline Segment And Ramp Analysis

Table 4.17-6, *Existing Conditions Mainline Segment LOS*, identifies the mainline density summary with corresponding LOS for the study mainline segments. All segments were analyzed using the multilane methodology except for I-710 North of South Harbor Scenic Drive Ramps (Segment No. 12). At this location, I-710 was operating as a freeway and therefore, this segment was analyzed as such. As shown, all mainline segments currently operate at a LOS A during Saturday morning and evening peak hours; this is attributed to the low traffic volumes during off-peak periods.

**Table 4.17-6**
**Existing Conditions Mainline Segment LOS**

| No. | Segment Name | Direction | No. of Lanes | Free Flow Speed[2] (mph) | Saturday AM Peak Hour | | Saturday PM Peak Hour | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Density[3] | LOS | Density[3] | LOS |
| 12 | I-710 North of South Harbor Scenic Drive Ramps[1] | NB | 3 | 55 | 4.1 | A | 2.6 | A |
| | | SB | 2 | | 4.5 | A | 5.5 | A |
| 14 | South Harbor Scenic Drive South of West Ocean Boulevard Off-Ramp | NB | 2 | 55 | 6.7 | A | 4.6 | A |
| | | SB | 2 | | 4.5 | A | 5.5 | A |
| 15 | I-710 West of Pico Avenue Off-Ramp | EB | 2 | 55 | 11.9 | B | 13.4 | B |
| | | WB | 3 | | 7.0 | A | 7.3 | A |
| 20 | South Harbor Scenic Drive North of Queens Way | NB | 2 | 50 | 4.7 | A | 2.3 | A |
| | | SB | 2 | | 5.2 | A | 5.4 | A |
| 22 | South Harbor Scenic Drive South of Queens Way On-Ramp | SB | 2 | 50 | 2.5 | A | 2.1 | A |
| 24 | Queensway Drive South of Queens Way Off-Ramp | NB | 3 | 50 | 4.5 | A | 3.3 | A |
| 25 | Queens Highway North of Carnival/Queen Mary Entrance | SB | 3 | 45 | 3.8 | A | 3.1 | A |

Notes: mph = miles per hour; LOS = level of service. [1] HCS freeway basic segment analysis. [2] Free flow speed on mainline. [3] Density is shown in passenger cars per mile per line

Source: GHD, *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report*, April 2019; refer to Appendix G.

As shown in Table 4.17-7, *Existing Conditions Ramp Analysis*, all ramp merge and diverge movements currently operate at a LOS A during Saturday morning and evening peak hours.

**Table 4.17-7**
**Existing Conditions Ramp Analysis**

| No. | Segment Name | Direction | No. of Lanes | Free Flow Speed[1] (mph) | Saturday AM Peak Hour | | Saturday PM Peak Hour | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Density[2] | LOS | Density[2] | LOS |
| 13 | Harbor Scenic Drive Off-Ramp to Westbound West Ocean Boulevard | NB | 1 | 35 | 6.9 | A | 5.0 | A |
| 16 | I-710 Off-Ramp to Pico Avenue | NB | 2 | 35 | 4.7 | A | 3.8 | A |
| 17 | Pico Avenue On-Ramp to Southbound I-710 | WB | 2 | 35 | 0.0 | A | 1.3 | A |
| 18 | West Ocean Boulevard Off-Ramp to Pico Avenue | WB | 1 | 35 | 4.4 | A | 6.1 | A |
| 19 | Pico Avenue ON-Ramp to West Ocean Boulevard | EB | 2 | 35 | 0.0 | A | 0.0 | A |
| 21 | Queens Way Off-Ramp to Southbound South Harbor Scenic Drive | SB | 2 | 35 | 0.0 | A | 0.0 | A |
| 23 | Queensway Drive Off-Ramp to Queens Way | NB | 1 | 35 | 6.5 | A | 4.9 | A |

Notes: mph = miles per hour; LOS = level of service. [1] Free flow speed on mainline. [2] Density is shown in passenger cars per mile per line

Source: GHD, *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report*, April 2019; refer to Appendix G.

***a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?***

***Less Than Significant Impact***. The Long Beach cruise terminal is accessible via an offramp at the end of Queens Highway. Currently, Queens Highway lacks sidewalk facilities and does not include bicycle lanes. However, the South Waterfront/Pier J Active Transportation Project (ATP) proposes an Americans with Disabilities Act (ADA)-compliant bike and pedestrian path (shared use path) from Queensway Bridge to Queensway Drive, which would close a critical bicycle network gap between an existing Class I bike path on the Queensway Bridge and an existing Class I bike and pedestrian path along the South Waterfront Park. This path would travel along Harbor Scenic Drive, Harbor Plaza, and segments of Windsor Way and would provide pedestrian and bicycle access to the cruise terminal in the future; refer to Traffic Impact Analysis Figure 7.3, *Active Transportation Projects*. As part of the South Waterfront/Pier J ATP, the Windsor Way and Queens Highway intersection would also be improved with a pedestrian crosswalk to extend the proposed shared use path further south along South Harbor Scenic Drive.

Long Beach Transit provides transit services via The Passport, which is a free circulator bus to major City destinations, including downtown Long Beach, Shoreline Village, Long Beach Convention Center, and Queen Mary Seaport. The Passport also connects to the Long Beach Transit Center and the Metro Blue Line station; refer to Traffic Impact Analysis Figure 7.4, *Alternative Transportation Services*. Further, the Queen Mary is also accessible via bike share, AquaBus, and AquaLink. Given the proximity of the cruise terminal to the Queen Mary, these transit options are also available to existing and future cruise passengers and employees.

The project does not propose any changes to existing or planned pedestrian, bicycle, or transit facilities in the project area. Therefore, development of the proposed maritime and onshore infrastructure improvements would not conflict with any program plan, ordinance, or policy related to alternative transportation circulation systems in the project area. Impacts to roadway capacities are analyzed under Response 4.17(b). A less than significant impact would occur in this regard.

***Mitigation Measures***: 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.***

**CONSTRUCTION**

Short-term construction traffic associated with the project include delivery of construction materials, transfer of construction equipment, and construction worker trips. Although construction traffic may have the potential to temporarily impact the local circulation system, most construction activities would occur on the water (e.g., dredging, mooring dolphin and catwalk construction, passenger bridge extension, and fender replacements). Only construction activities associated with the parking garage expansion, tunnel abandonment, and traffic lane reconfiguration would occur on land. Further, construction equipment, materials, and worker vehicles would be staged and parked on-site and would not impact circulation on study area intersections, mainlines, and ramps. The project would also be required to comply with construction traffic control measures in the California Manual on Uniform Traffic Control Devices (CA MUTCD) and coordinate such efforts with the POLB prior to construction activities.

Additionally, the approximately 33,250 cubic yards of proposed dredged sediment would be disposed of at the LA-2 Ocean Dredged Material Disposal Site in the Pacific Ocean south of the POLB and thus, would not require hauling to a nearby landfill. As such, construction activities associated with the project would not adversely impact study intersections, mainlines, or ramps, and impacts would be less than significant in this regard.

**OPERATIONS**

**Project Trip Generation**

To determine existing and project-generated trips, the Traffic Impact Analysis utilized terminal operation information and passenger booking information provided by Carnival. Trip generation was conducted for Thursday and Saturday for Existing Conditions (2018) and Opening Year (2020). These two scenarios were then compared to determine the net increase in project trips for the proposed improvements (Opening Year 2020). The trip generation included the passenger capacity of the vessel, employee and service vehicle trips, average occupancy of vehicles, vehicle type, and transportation mode split. All project trips were translated into passenger car equivalents. Additional details regarding trip generation from supply trucks, employees, and passengers, and passenger car equivalent factors, are provided in Traffic Impact Analysis Section 3, *Trip Generation*.

Based on three months of recent passenger embarkation and disembarkation data from Carnival in 2018, the percentages of passengers per hour were calculated and used in the trip generation. The peak hours based on percentages of passenger per hour were 8:00 to 9:00 a.m. and 1:00 to 2:00 p.m. on Thursday, and 9:00 to 10:00 a.m. and 1:00 to 2:00 p.m. on Saturday. Tables 4.17-8, *Existing Conditions (2018) Trip Generation*, and 4.17-9, *Opening Year (2020) Trip Generation*, details existing conditions and opening year trip generation for a typical Thursday and Saturday, respectively. The trip generation is based on vessel passenger capacity, peak hour percentages, employees, supply trucks, and overall passenger car equivalents. Based on passenger room booking information, average occupancy rates of 2.3 passengers for Thursday and 2.2 passengers for Saturday were utilized in the trip generation. Additional detailed information regarding trip generation is provided in Appendix G.

**Tables 4.17-8**
**Existing Conditions (2018) Trip Generation**

| Total Trips (PCEs) | Daily | AM Peak Hours (Thursdays: 8:00 – 9:00 a.m. Saturdays: 9:00 – 10:00 a.m.) | | | PM Peak Hours (1:00 – 2:00 p.m.) | | |
|---|---|---|---|---|---|---|---|
| | | In | Out | Total | In | Out | Total |
| **Thursday (2018)** | | | | | | | |
| Autos and Light Duty Trucks | 2,029 | 27 | 358 | 385 | 198 | 15 | 213 |
| Heavy Vehicles | 397 | 41 | 43 | 84 | 17 | 20 | 37 |
| **Total** | **2,426** | **68** | **400** | **468** | **215** | **35** | **250** |
| **Saturday (2018)** | | | | | | | |
| Autos and Light Duty Trucks | 3,028 | 48 | 639 | 687 | 421 | 32 | 453 |
| Heavy Vehicles | 529 | 61 | 66 | 126 | 37 | 39 | 76 |
| **Total** | **3,557** | **109** | **705** | **814** | **458** | **71** | **529** |

Notes: PCE = passenger car equivalents

Source: GHD, *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report*, April 2019; refer to Appendix G.

**Table 4.17-9**
**Opening Year (2020) Trip Generation**

| Total Trips (PCEs) | Daily | AM Peak Hours (Thursdays: 8:00 – 9:00 a.m. Saturdays: 9:00 – 10:00 a.m.) | | | PM Peak Hours (1:00 – 2:00 p.m.) | | |
|---|---|---|---|---|---|---|---|
| | | In | Out | Total | In | Out | Total |
| **Thursday (2020)** | | | | | | | |
| Autos and Light Duty Trucks | 2,029 | 27 | 358 | 385 | 198 | 15 | 213 |
| Heavy Vehicles | 397 | 41 | 43 | 84 | 17 | 20 | 37 |
| **Total** | **2,426** | **68** | **400** | **468** | **215** | **35** | **250** |
| **Saturday (2020)** | | | | | | | |
| Autos and Light Duty Trucks | 3,959 | 64 | 850 | 914 | 561 | 42 | 603 |
| Heavy Vehicles | 691 | 80 | 86 | 166 | 49 | 52 | 101 |
| **Total** | **4,650** | **144** | **936** | **1,080** | **610** | **94** | **704** |

Notes: PCE = passenger car equivalents

Source: GHD, *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report*, April 2019; refer to Appendix G.

To calculate net project trips generated by the project, the difference between existing and opening year trip generations were calculated; refer to Table 4.17-10, *Opening Year (2020) Net Project Trip Generation*. As shown, there are no changes in passenger capacity, employees, or supply truck trips on Thursdays, but Saturday shows an increase in project trips. As such, Saturday peak hours are utilized as peak hour conditions in the Traffic Impact Analysis.

**Table 4.17-10**
**Opening Year (2020) Net Project Trip Generation**

| Net Project Trips (PCEs) | Daily | AM Peak Hours (9:00 – 10:00 a.m.) | | | PM Peak Hours (1:00 – 2:00 p.m.) | | |
|---|---|---|---|---|---|---|---|
| | | In | Out | Total | In | Out | Total |
| **Thursday** | | | | | | | |
| Autos and Light Duty Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Heavy Vehicles | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| **Saturday** | | | | | | | |
| Autos and Light Duty Trucks | 931 | 16 | 211 | 227 | 140 | 10 | 150 |
| Heavy Vehicles | 162 | 19 | 20 | 39 | 12 | 13 | 25 |
| **Total** | **1,093** | **35** | **231** | **266** | **152** | **23** | **175** |

Notes: PCE = passenger car equivalents
Source: GHD, *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report*, April 2019; refer to Appendix G.

Based on the trip generation of net project trips in Table 4.17-10 and trip distribution percentages for passengers, supply trucks, and employees detailed under 'Project Trip Distribution,' the trips were assigned on the network based on shortest path and logical routes. Table 4.17-11, *Opening Year 2020 – Net Project Trips by User*, identifies Saturday net project trips generated by user (i.e., passenger, supply trucks, and employees).

**Table 4.17-11**
**Opening Year 2020 – Net Project Trips by User**

| Net Saturday Project Trips (PCEs) | Daily | AM Peak Hours (9:00 – 10:00 a.m.) | | | PM Peak Hours (1:00 – 2:00 p.m.) | | |
|---|---|---|---|---|---|---|---|
| | | In | Out | Total | In | Out | Total |
| Passengers | 1,016 | 34 | 229 | 263 | 152 | 23 | 175 |
| Supply Trucks | 20 | 1 | 2 | 3 | 0 | 2 | 0 |
| Employees | 57 | 0 | 0 | 0 | 0 | 2 | 0 |
| **Total** | **1,093** | **35** | **231** | **266** | **152** | **23** | **175** |

Notes: PCE = passenger car equivalents
Source: GHD, *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report*, April 2019; refer to Appendix G.

### Project Trip Distribution

Traffic Impact Analysis Figures 4.1, *Project Trip Distribution (Passengers)*, 4.2, *Project Trip Distribution (Supply Trucks)*, and 4.3, *Project Trip Distribution (Employees)*, show the trip distribution percentages for passengers, supply trucks, and employees. Passenger trip distribution was determined based on origin and destination for existing passenger booking data from Carnival. Using passenger arrival booking information from the past four most recent Saturdays, the percentage of passengers from the cities and counties in California were determined. If a passenger was from out of State or provided their airport information in the booking, the California airports' city and county information was used. Over 70 percent of passengers took an airplane to the Southern California area with the Los Angeles International Airport (LAX) having the largest percentage of passenger's flights. Based on these percentages, passenger trips were then assigned to the logical routes based on shortest path assumptions.

For supply truck and employee trips, trip distribution was based on current supply vendors and employee travel patterns. Carnival surveyed vendors and employees to obtain the trip distribution percentages for the roadway network.

Trip distribution on the State highway system were based on average historical passenger data from Carnival. Based on origin and destination patterns from passenger zip codes or airports in California, logical routes were assumed based on shortest path assumptions. As shown in Traffic Impact Analysis Figure 4.4, *Select Zone Analysis State*

*Highway System*, traffic analysis zones around the study roads (I-710, Interstate 405 [I-405], State Route [SR] 1, and SR-47) were established to calculate net project trips on Saturday and these trips were then distributed on the roadway network. Based on the select zone analysis, I-710 would be the main route for passenger vehicle trips to and from the Long Beach cruise terminal.

**Existing (2018) Plus Project Conditions**

This section analyzes traffic conditions associated with the addition of trips forecast to be generated by the proposed project on the existing roadway network.

*Signalized Study Intersection Analysis*

As detailed in Table 4.17-12, *Existing Plus Project Conditions – Signalized Study Intersections LOS*, all signalized study intersections would continue operating at an acceptable LOS with the exception of Pico Avenue and Westbound Ocean Boulevard Ramps (Intersection 1) during evening peak hours. Under Existing (2018) Plus Project conditions, the V/C ratio at this intersection would increase from 0.899 (LOS D) to 0.917 (LOS E). It is noted that Intersection 1 currently has a temporary configuration due to the closures on West Ocean Boulevard and I-710 around Pico Avenue. All eastbound and westbound traffic on West Ocean Boulevard and northbound traffic on I-710 must travel through this intersection. However, when the GDBRP is completed, it will no longer have this configuration and traffic patterns on West Ocean Boulevard and I-710 will return. As such, the potentially significant impact at Intersection 1 under the Existing (2018) Plus Project scenario is theoretical in nature since the GDBRP is expected to be completed prior to the addition of trips associated with the proposed project at opening year in 2020. Therefore, the project would have a less than significant impact on signalized study intersections under Existing Plus Project conditions.

**Table 4.17-12**
**Existing Plus Project Conditions – Signalized Study Intersections LOS**

| No. | Intersection | Control | Saturday Peak Hour | Existing | | Existing Plus Project | | Change in V/C | Significant Impact[2] |
|---|---|---|---|---|---|---|---|---|---|
| | | | | V/C[1] | LOS | V/C[1] | LOS | | |
| 1 | Pico Avenue / Westbound West Ocean Boulevard Off-Ramp / I-710 Ramps | Signal | AM | 0.775 | C | 0.779 | C | 0.004 | No |
| | | | PM | 0.899 | D | 0.917 | E | 0.018 | **Yes** |
| 2 | Pico Avenue / West Ocean Boulevard On-Ramp / Pier E Street | Signal | AM | 0.554 | A | 0.554 | A | 0 | No |
| | | | PM | 0.544 | A | 0.544 | A | 0 | No |
| 3 | Golden Shore / West Ocean Boulevard | Signal | AM | 0.521 | A | 0.521 | A | 0 | No |
| | | | PM | 0.533 | A | 0.533 | A | 0 | No |
| 4 | Queens Way / West Ocean Boulevard | Signal | AM | 0.685 | B | 0.685 | B | 0 | No |
| | | | PM | 0.766 | C | 0.766 | C | 0 | No |
| 5 | Chestnut Place / Queens Way Ramps / West Shoreline Drive | Signal | AM | 0.765 | C | 0.765 | C | 0 | No |
| | | | PM | 0.664 | B | 0.723 | C | 0.059 | No |
| 7 | Pico Avenue / Pier G Avenue / Harbor Plaza | Signal | AM | 0.625 | B | 0.645 | B | 0.020 | No |
| | | | PM | 0.552 | A | 0.553 | A | 0.001 | No |
| 9 | Queensway Drive / Queens Highway / Harbor Plaza | Signal | AM | 0.472 | A | 0.525 | A | 0.053 | No |
| | | | PM | 0.436 | A | 0.442 | A | 0.006 | No |
| 10 | South Harbor Scenic Drive / Harbor Plaza | Signal | AM | 0.420 | A | 0.420 | A | 0 | No |
| | | | PM | 0.420 | A | 0.420 | A | 0 | No |

Notes: V/C = volume-to-capacity; LOS = level of service
[1] For lost time adjustment, 0.1 was added to the ICU intersection summary results.
[2] The City of Long Beach determines a significant impact has occurred where project traffic causes an intersection to deteriorate from an LOS D to LOS E or F, or if the project traffic causes an increase in volume-to-capacity ratio of 0.02 or greater when the intersection is operating at LOS E or F in the baseline condition.

Source: GHD, *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report*, April 2019; refer to Appendix G.

*Unsignalized Study Intersection Analysis*

Table 4.17-13, *Existing Plus Project Conditions – Unsignalized Study Intersections LOS*, shows that all unsignalized study intersections would continue to operate at an acceptable LOS under Existing Plus Project conditions. Impacts would be less than significant in this regard.

**Table 4.17-13**
**Existing Plus Project Conditions – Unsignalized Study Intersections LOS**

| No. | Intersection | Control | Saturday Peak Hour | Existing | | Existing Plus Project | | Change in Delay | Significant Impact[3] |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay | LOS | Delay | LOS | | |
| 6 | Pico Avenue / South Harbor Scenic Drive On-Ramp | Free[1] | AM | 1.3 | A | 1.8 | A | 0.5 | No |
| | | | PM | 2.2 | A | 3.5 | A | 1.3 | No |
| 8 | Harbor Plaza / South Harbor Scenic Drive Off-Ramps / Queens Way Off-Ramps | TWSC[1] | AM | 8.9 | A | 9.1 | A | 0.2 | No |
| | | | PM | 9.0 | A | 9.1 | A | 0.1 | No |
| 11 | Queens Highway / Windsor Way | AWSC[2] | AM | 8.5 | A | 8.8 | A | 0.3 | No |
| | | | PM | 8.1 | A | 9.4 | A | 1.3 | No |

Notes: TWSC = two way stop control; AWSC = all-way stop control; LOS = level of service
1. HCM 2010 and 6th Edition methodology does not support this type of intersection. HCM 2000 methodology was used to get control delay and for free movements approach delay was used.
2. HCM 6th Edition methodology used for control delay.
3. The City of Long Beach determines a significant impact has occurred where project traffic causes an intersection to deteriorate from an LOS D to LOS E or F.

Source: GHD, *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report*, April 2019; refer to Appendix G.

*Mainline Segments and Ramps Analysis*

Tables 4.17-14, *Existing Plus Project Conditions – Mainline Segments*, and 4.17-15, *Existing Plus Project Conditions – Ramp Summary*, show that study mainline segments and ramps would continue to operate LOS A under Existing Plus Project conditions, and no significant impact would occur.

**Table 4.17-14**
**Existing Plus Project Conditions – Mainline Segments**

| No. | Segment Name | Direction | No. of Lanes | Free Flow Speed[2] (mph) | Saturday AM Peak Hour | | Saturday PM Peak Hour | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Density[3] | LOS | Density[3] | LOS |
| 12 | I-710 North of South Harbor Scenic Drive Ramps[1] | NB | 3 | 55 | 5.2 | A | 2.7 | A |
| | | SB | 2 | | 4.8 | A | 6.6 | A |
| 14 | South Harbor Scenic Drive South of West Ocean Boulevard Off-Ramp | NB | 2 | 55 | 8.3 | A | 4.7 | A |
| | | SB | 2 | | 4.8 | A | 6.6 | A |
| 15 | I-710 West of Pico Avenue Off-Ramp | EB | 2 | 55 | 11.9 | B | 11.2 | B |
| | | WB | 3 | | 7.3 | A | 9.0 | A |
| 20 | South Harbor Scenic Drive North of Queens Way | NB | 2 | 50 | 6.5 | A | 2.5 | A |
| | | SB | 2 | | 5.5 | A | 6.9 | A |
| 22 | South Harbor Scenic Drive South of Queens Way On-Ramp | SB | 2 | 50 | 2.9 | A | 3.8 | A |
| 24 | Queensway Drive South of Queens Way Off-Ramp | NB | 3 | 50 | 6.0 | A | 3.8 | A |
| 25 | Queens Highway North of Carnival/Queen Mary Entrance | SB | 3 | 45 | 4.1 | A | 3.4 | A |

Notes: mph = miles per hour; LOS = level of service. [1] HCS freeway basic segment analysis. [2] Free flow speed on mainline. [3] Density is shown in passenger cars per mile per line

Source: GHD, *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report*, April 2019; refer to Appendix G.

**Table 4.17-15**
**Existing Plus Project Conditions – Ramp Summary**

| No. | Segment Name | Direction | No. of Lanes | Free Flow Speed[1] (mph) | Saturday AM Peak Hour | | Saturday PM Peak Hour | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Density[2] | LOS | Density[2] | LOS |
| 13 | Harbor Scenic Drive Off-Ramp to Westbound West Ocean Boulevard | NB | 1 | 35 | 8.5 | A | 5.1 | A |
| 16 | I-710 Off-Ramp to Pico Avenue | NB | 2 | 35 | 4.7 | A | 4.1 | A |
| 17 | Pico Avenue On-Ramp to Southbound I-710 | WB | 2 | 35 | 0.0 | A | 1.4 | A |
| 18 | West Ocean Boulevard Off-Ramp to Pico Avenue | WB | 1 | 35 | 4.5 | A | 6.1 | A |
| 19 | Pico Avenue ON-Ramp to West Ocean Boulevard | EB | 2 | 35 | 0.0 | A | 0.0 | A |
| 21 | Queens Way Off-Ramp to Southbound South Harbor Scenic Drive | SB | 2 | 35 | 0.0 | A | 0.0 | A |
| 23 | Queensway Drive Off-Ramp to Queens Way | NB | 1 | 35 | 8.3 | A | 5.1 | A |

Notes: mph = miles per hour; LOS = level of service. [1] Free flow speed on mainline. [2] Density is shown in passenger cars per mile per line

Source: GHD, *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report*, April 2019; refer to Appendix G.

**Opening Year (2020) Conditions**

*Ambient Growth*

Ambient traffic growth is defined as traffic growth that would occur in the study area due to general growth in the area and overall regional growth in the Southern California area. Per the Southern California Association of Governments (SCAG) growth rates for Long Beach and the POLB Travel Demand Model (PortTAM), a growth rate of 1 percent per year was utilized in the Traffic Impact Analysis.

*Cumulative Projects*

In addition to ambient traffic growth, trips generated by cumulative projects were also considered in the Opening Year (2020) conditions. The following three cumulative projects were identified by the City and/or POLB and are described below.

- 100 East Ocean Boulevard Project. This mixed-use hotel-residential development would consist of 419 hotel rooms, 12 apartment units, and an 18,976-square foot restaurant. The project is projected to open in 2021 and would generate 361 trips in the a.m. peak hour and 437 trips in the p.m. peak hour. However, peak periods for this project occur on weekdays while the proposed project's peak periods occur on Saturdays. Additionally, the opening year for the 100 East Ocean Boulevard Project would occur after the proposed project. Thus, trips generated by this cumulative project were not included in the cumulative analysis.

- 125 Long Beach Boulevard Project. This mixed use project is anticipated to open in 2021 and would consist of 218 residential units and approximately 7,300 square feet of retail use. The project is expected to generate 55 a.m. peak hour trips and 72 p.m. peak hour trips during the weekday. Based on the project's far distance from the proposed project and the opening year occurring after the proposed project, no trips related to the 125 Long Beach Boulevard Project were added to the cumulative analysis.

- Middle Harbor Redevelopment Project. This project would consolidate and expand POLB facilities to include the Pier E and F terminals and underutilized land north of the Gerald Desmond Bridge and Ocean Boulevard. This project is anticipated to be constructed over a nine year timeframe (2011 to 2020). Traffic generated by the Middle Harbor Development Project was added to applicable intersections for the cumulative analysis. Traffic volumes for this cumulative project are detailed in Appendix G.

*Signalized Study Intersection Analysis*

As shown in Table 4.17-16, *Opening Year (2020) Plus Project Conditions – Signalized Study Intersections LOS*, Opening Year (2020) without Project and Opening Year (2020) Plus Project conditions were compared to determine if the project would result in any significant impacts to signalized study intersections. All signalized intersections would maintain an acceptable LOS due primarily to the off-peak traffic periods on Saturday and ultimate configuration of I-710 and West Ocean Boulevard after construct of the GDBRP is complete. As such, impacts would be less than significant.

**Table 4.17-16**
**Opening Year (2020) Plus Project Conditions – Signalized Study Intersections LOS**

| No. | Intersection | Control | Saturday Peak Hour | 2020 Opening Year | | 2020 Opening Year Plus Project | | Change in V/C | Significant Impact[2] |
|---|---|---|---|---|---|---|---|---|---|
| | | | | V/C[1] | LOS | V/C[1] | LOS | | |
| 2 | Pico Avenue / West Ocean Boulevard On-Ramp / Pier E Street | Signal | AM | 0.684 | B | 0.688 | B | 0.004 | No |
| | | | PM | 0.656 | B | 0.672 | B | 0.016 | No |
| 3 | Golden Shore / West Ocean Boulevard | Signal | AM | 0.527 | A | 0.527 | A | 0 | No |
| | | | PM | 0.537 | A | 0.537 | A | 0 | No |
| 4 | Queens Way / West Ocean Boulevard | Signal | AM | 0.686 | B | 0.686 | B | 0 | No |
| | | | PM | 0.773 | C | 0.773 | C | 0 | No |
| 5 | Chestnut Place / Queens Way Ramps / West Shoreline Drive | Signal | AM | 0.774 | C | 0.774 | C | 0 | No |
| | | | PM | 0.671 | B | 0.672 | B | 0.001 | No |
| 7 | Pico Avenue / Pier G Avenue / Harbor Plaza | Signal | AM | 0.652 | B | 0.667 | B | 0.015 | No |
| | | | PM | 0.575 | A | 0.577 | A | 0.002 | No |
| 9 | Queensway Drive / Queens Highway / Harbor Plaza | Signal | AM | 0.474 | A | 0.527 | A | 0.053 | No |
| | | | PM | 0.438 | A | 0.443 | A | 0.005 | No |
| 10 | South Harbor Scenic Drive / Harbor Plaza | Signal | AM | 0.420 | A | 0.420 | A | 0 | No |
| | | | PM | 0.420 | A | 0.420 | A | 0 | No |

Notes: V/C = volume-to-capacity; LOS = level of service
[1] For lost time adjustment, 0.1 was added to the ICU intersection summary results.
[2] The City of Long Beach determines a significant impact has occurred where project traffic causes an intersection to deteriorate from an LOS D to LOS E or F, or if the project traffic causes an increase in volume-to-capacity ratio of 0.02 or greater when the intersection is operating at LOS E or F in the baseline condition.

Source: GHD, *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report*, April 2019; refer to Appendix G.

*Unsignalized Study Intersection Analysis*

Table 4.17-17, *Opening Year (2020) Plus Project Conditions – Unsignalized Study Intersections LOS*, compares Opening Year (2020) without Project and Opening Year (2020) Plus Project conditions for unsignalized study intersections. As shown, the project would not result in any significant impact to unsignalized study intersections. Impacts would be less than significant in this regard.

**Table 4.17-17**
**Opening Year (2020) Plus Project Conditions – Unsignalized Study Intersections LOS**

| No. | Intersection | Control | Saturday Peak Hour | Existing | | Existing Plus Project | | Change in Delay | Significant Impact[3] |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay | LOS | Delay | LOS | | |
| 1A* | Pico Avenue / I-710 Southbound On-Ramp | Free[1] | AM | 4.7 | A | 5.5 | A | 0.8 | No |
| | | | PM | 5.5 | A | 5.6 | A | 0.1 | No |
| 1 | Pico Avenue / Westbound Ocean Boulevard Ramps | TWSC[2] | AM | 8.8 | A | 8.9 | A | 0.1 | No |
| | | | PM | 8.7 | A | 8.7 | A | 0.0 | No |
| 6 | Pico Avenue / South Harbor Scenic Drive On-Ramp | Free[1] | AM | 1.3 | A | 1.8 | A | 0.5 | No |
| | | | PM | 2.3 | A | 3.6 | A | 1.3 | No |
| 8 | Harbor Plaza / South Harbor Scenic Drive Off-Ramps / Queens Way Off-Ramps | TWSC[1] | AM | 8.9 | A | 9.2 | A | 0.3 | No |
| | | | PM | 9.1 | A | 9.1 | A | 0.0 | No |
| 11 | Queens Highway / Windsor Way | AWSC[2] | AM | 8.5 | A | 8.8 | A | 0.3 | No |
| | | | PM | 8.2 | A | 9.4 | A | 1.2 | No |

Notes: LOS = level of service; TWSC = two way stop control; AWSC = all-way stop control
* New intersection with the Gerald Desmond Bridge Project
1. HCM 2010 and 6th Edition methodology does not support this type of intersection. HCM 2000 methodology was used to get control delay and for free movements approach delay was used.
2. HCM 6th Edition methodology used.
3. The City of Long Beach determines a significant impact ahs occurred where project traffic causes an intersection to deteriorate from an LOS D to LOS E or F.

Source: GHD, *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report*, April 2019; refer to Appendix G.

*Mainline Segments and Ramps Analysis*

Tables 4.17-18, *Opening Year (2020) Plus Project Conditions – I-710 Mainline*, and 4.17-19, *Opening Year (2020) Plus Project Conditions – I-710 Ramps*, show mainline and ramp analyses under opening year conditions with and without the proposed project. As shown, with the addition of project-generated trips, the I-710 mainline segments and ramps would continue operating at an acceptable LOS. Thus, no significant impact would occur in this regard.

**Tables 4.17-18**
**Opening Year (2020) Plus Project Conditions – I-710 Mainline**

| No. | Segment Name | Direction | No. of Lanes | Opening Year 2020 | | | | Opening Year 2020 Plus Project | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Saturday AM | | Saturday PM | | Saturday AM | | Saturday PM | |
| | | | | Density[1] | LOS | Density[1] | LOS | Density[1] | LOS | Density[1] | LOS |
| 12 | I-710 North of South Harbor Scenic Drive Ramps | NB | 3 | 6.6 | A | 4.7 | A | 7.4 | A | 4.8 | A |
| | | SB | 3 | 5.4 | A | 6.3 | A | 5.6 | A | 6.8 | A |
| 15 | I-710 West of Pico Avenue Off-Ramp | NB | 3 | 5.9 | A | 5.4 | A | 5.9 | A | 5.5 | A |
| | | SB | 3 | 5.2 | A | 6.5 | A | 5.4 | A | 6.5 | A |
| 28 | I-710 North of Pico Avenue On-Ramp | NB | 3 | 3.7 | A | 4.3 | A | 3.7 | A | 4.3 | A |
| | | SB | 3 | 3.0 | A | 5.2 | A | 3.0 | A | 5.2 | A |
| 30 | I-710 South of Pico Avenue On-Ramp | NB | 3 | 3.7 | A | 2.9 | A | 3.7 | A | 2.9 | A |
| | | SB | 3 | 3.6 | A | 4.0 | A | 3.8 | A | 4.1 | A |

Notes: LOS = level of service
1. Density is shown in passenger cars per mile per line.

Source: GHD, *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report*, April 2019; refer to Appendix G.

**Table 4.17-19**
**Opening Year (2020) Plus Project Conditions – I-710 Ramps**

| No. | Segment Name | Type | Direction | No. of Lanes | Opening Year 2020 | | | | Opening Year 2020 Plus Project | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Saturday AM | | Saturday PM | | Saturday AM | | Saturday PM | |
| | | | | | Density[1] | LOS | Density[1] | LOS | Density[1] | LOS | Density[1] | LOS |
| 26 | Southbound I-710 Off-Ramp to South Harbor Scenic Drive | Diverge | SB | 2 | 9.0 | A | 10.5 | A | 9.2 | A | 11.4 | B |
| 27 | South Harbor Scenic Drive On-Ramp to Northbound I-710 | Merge | NB | 2 | 10.7 | A | 7.7 | A | 12.0 | A | 7.8 | A |
| 29 | Pico Avenue ON-Ramp to Southbound I-710 | Merge | SB | 2 | 6.2 | A | 7.0 | A | 6.5 | A | 7.1 | A |
| 33 | Northbound I-710 Off-Ramps to West Ocean Boulevard/Pico Avenue | Diverge | NB | 2 | 3.6 | A | 4.7 | A | 3.6 | A | 4.7 | A |
| 34 | Southbound I-710 Off-Ramp to West Ocean Boulevard | Merge | SB | 2 | 8.4 | A | 10.5 | A | 8.7 | A | 10.6 | A |
| 35 | Northbound I-710 Off-Ramps to West Ocean Boulevard/Pico Avenue | Diverge | NB | 2 | 9.7 | A | 5.7 | A | 9.8 | A | 5.8 | A |

Notes: LOS = level of service. 1. Density is shown in passenger cars per mile per line.
Source: GHD, *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report*, April 2019; refer to Appendix G.

Mainline segments and ramps within POLB were also analyzed utilizing the multilane and ramp methodologies as shown in Tables 4.17-20, *Opening Year (2020) Plus Project Conditions – POLB Mainline*, and 4.17-21, *Opening Year (2020) Plus Project Conditions – POLB Ramps*. All study mainline segments and ramps would continue operating at a LOS A with the addition of project-generated trips. As such, impacts in this regard would be less than significant.

**Tables 4.17-20**
**Opening Year (2020) Plus Project Conditions – POLB Mainline**

| No. | Segment Name | Direction | No. of Lanes | Free Flow[1] Speed (mph) | Opening Year 2020 | | | | Opening Year 2020 Plus Project | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Saturday AM | | Saturday PM | | Saturday AM | | Saturday PM | |
| | | | | | Density[2] | LOS | Density[2] | LOS | Density[2] | LOS | Density[2] | LOS |
| 14 | South Harbor Scenic Drive South of West Ocean Boulevard Off-Ramp | NB | 2 | 55 | 6.5 | A | 4.5 | A | 8.1 | A | 4.6 | A |
| | | SB | 2 | | 5.0 | A | 5.9 | A | 5.3 | A | 6.9 | A |
| 20 | South Harbor Scenic Drive North of Queens Way | NB | 2 | 55 | 4.1 | A | 2.0 | A | 5.7 | A | 2.2 | A |
| | | SB | 2 | | 5.2 | A | 5.3 | A | 5.5 | A | 6.6 | A |
| 22 | South Harbor Scenic Drive South of Queens Way On-Ramp | SB | 2 | 50 | 2.5 | A | 2.0 | A | 2.8 | A | 3.6 | A |
| 24 | Queensway Drive South of Queens Way Off-Ramp | NB | 3 | 50 | 4.4 | A | 3.2 | A | 5.8 | A | 3.3 | A |
| 25 | Queens Highway North of Carnival/ Queen Mary Entrance | SB | 3 | 45 | 3.3 | A | 3.2 | A | 3.6 | A | 3.8 | A |

Notes: mph = miles per hour; LOS = level of service. 1. Free flow speed on mainline. 2. Density is shown in passenger cars per mile per line.
Source: GHD, *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report*, April 2019; refer to Appendix G.

**Table 4.17-21**
**Opening Year (2020) Plus Project Conditions – POLB Ramps**

| No. | Segment Name | Direction | No. of Lanes | Free Flow[1] Speed (mph) | Opening Year 2020 | | | | Opening Year 2020 Plus Project | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Saturday AM | | Saturday PM | | Saturday AM | | Saturday PM | |
| | | | | | Density[2] | LOS | Density[2] | LOS | Density[2] | LOS | Density[2] | LOS |
| 13 | South Harbor Scenic Drive On-Ramp to Westbound West Ocean Boulevard | NB | 1 | 35 | 6.8 | A | 4.9 | A | 8.3 | A | 5.0 | A |
| 21 | Queens Way Off-Ramp to Southbound South Harbor Scenic Drive | SB | 2 | 35 | 0.0 | A | 0.0 | A | 0.0 | A | 0.0 | A |
| 23 | Queens Way On-Ramp from Queensway Drive | NB | 2 | 35 | 6.4 | A | 4.8 | A | 8.1 | A | 5.0 | A |
| 31 | West Ocean Boulevard Off-Ramp to Pico Avenue | WB | 1 | 35 | 3.5 | A | 4.7 | A | 3.6 | A | 4.7 | A |
| 32 | West Ocean Boulevard On-Ramp from Pico Avenue | EB | 1 | 35 | 3.4 | A | 4.2 | A | 3.4 | A | 4.2 | A |

Notes: mph = miles per hour; LOS = level of service. 1. Free flow speed on mainline. 2. Density is shown in passenger cars per mile per line.

Source: GHD, *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report*, April 2019; refer to Appendix G.

*Queue Analysis for Off-Ramps*

Per the California Department of Transportation, queue analysis needs to be performed for any off-ramps that meet a ramp terminal. This analysis is necessary in assessing if the queue from the ramp terminal would queue back onto the mainline. Within the study area, the Opening Year off-ramp from I-710 to Pico Avenue (Intersection 33) is the only off-ramp that meets the criteria. No off-ramps met this criteria under existing conditions as I-710 is currently under construction with detours. As shown in Table 4.17-22, *I-710 Off-Ramp Queue Analysis*, the I-710 off-ramp to Pico Avenue would have an approximately queuing length of 100 feet and would not exceed the 85 percent of ramp storage length (510 feet) threshold. As such, project-related queuing at the I-710 off-ramp to Pico Avenue would not result in any significant impacts.

**Table 4.17-22**
**I-710 Off-Ramp Queue Analysis**

| No. | Ramp Name | Ramp Length | 85% Ramp Length | Opening Year 2020 | | Opening Year 2020 Plus Project | | Exceeds 85% Ramp Storage? |
|---|---|---|---|---|---|---|---|---|
| | | | | 95th Percentile AM Queue | 95th Percentile PM Queue | 95th Percentile AM Queue | 95th Percentile PM Queue | |
| 33 | I-710 Off-Ramp to Pico Avenue | 600 feet | 510 feet | 92 | 82 | 98 | 93 | No |

Source: GHD, *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report*, April 2019; refer to Appendix G.

Overall, construction and operational activities associated with the proposed project would result in less than significant impacts in these regards.

***Mitigation Measures***: No mitigation is required.

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

***Less Than Significant Impact***. The proposed project involves maritime and onshore infrastructure improvements to the Long Beach cruise terminal to accommodate a larger class of cruise ships and associated increase in passenger numbers. Similar to existing conditions, Queens Highway would provide entry to the cruise terminal at project completion. However, the project proposes to reconfigure traffic lanes around the southern corner of the existing parking garage. Currently, circulation is available in both directions to the public with traffic moving counter-clockwise on the outside lanes and clockwise on the inside lanes. The project would modify the traffic lane configurations to be open to the public only on the inside lane in a counter-clockwise direction to allow an emergency vehicle-only fire lane along the outside lane to travel in a clockwise direction. The fire lane would be primarily utilized by emergency vehicles associated with the Long Beach Fire Department Station 6, located adjacent to the parking garage to the south at 330 Windsor Way. The reconfigured traffic lanes would be beneficial for emergency access in the project area and would not result in any sharp curves, dangerous intersections, or incompatible uses that could result in increased circulation hazards on- or off-site. As such, impacts in this regard would be less than significant.

***Mitigation Measures***: No mitigation is required.

***d) Result in inadequate emergency access?***

***Less Than Significant Impact***. Refer to Response 4.17(c), above.

***Mitigation Measures***: No mitigation is required.

This page intentionally left blank.

# 4.18 TRIBAL CULTURAL RESOURCES

| *Would the project:* | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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: | | | | |
| 1) 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 | | ✓ | | |
| 2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. | | ✓ | | |

As of July 1, 2015, California Assembly Bill 52 (AB 52) was enacted and expanded CEQA by establishing a formal consultation process for California tribes within the CEQA process. The bill specifies that any project may affect or cause a substantial adverse change in the significance of a tribal cultural resource would require a lead agency to "begin consultation with a California Native American tribe that is traditional and culturally affiliated with the geographic area of the proposed project." Section 21074 of AB 52 also defines a new category of resources under CEQA called "tribal cultural resources." Tribal cultural resources are defined as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and is either listed on or eligible for the California Register of Historical Resources or a local historic register, or if the lead agency chooses to treat the resource as a tribal cultural resource.

In compliance with AB 52, the City of Long Beach distributed letters on October 24, 2018 and October 28, 2018 to Native American tribes notifying each tribe of the opportunity to consult with the City regarding the proposed project; refer to Appendix H, *AB 52 Consultation*. The tribes were identified based on a list provided by the Native American Heritage Commission (NAHC) or were tribes that had previously requested to be notified of future projects proposed by the City.

On February 19, 2016, the California Natural Resources Agency proposed to adopt and amend regulations as part of AB 52 implementing Title 14, Division 6, Chapter 3 of the California Code of Regulations, CEQA Guidelines, to include consideration of impacts to tribal cultural resources pursuant to Government Code Section 11346.6. On September 27, 2016, the California Office of Administrative Law approved the amendments to Appendix G of the CEQA Guidelines, and these amendments are addressed within this environmental document.

***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:***

***1) 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***

***Less Than Significant Impact With Mitigation Incorporated***. Refer to Response 4.5(a). The only known historic resource in the project area is the Queen Mary, which is listed in the National Register of Historic Places (NRHP) under Criterion A, Criteria Consideration G at the national level of significance for recreation, social history, and military history.

As stated, in accordance with AB 52, the City distributed letters on October 24, 2018 and October 28, 2018 to Native American tribes notifying each tribe of the opportunity to consult with the City regarding the proposed project. One response was received from the Gabrieleno Band of Mission Indians – Kizh Nation on November 2, 2018 requesting consultation with the City for the project under AB 52; refer to Appendix H. The City consulted with the tribe on January 24, 2019. Given that the project site is located on artificial fill and no natural areas are present, the tribe is not concerned about potential project impacts on tribal cultural resources. Additionally, the tribe did not identify the Queen Mary as a potentially significant resource. However, the tribe requested that construction activities stop should any potential cultural resources or human remains be excavated; refer to Mitigation Measure TCR-1. Overall, it is not expected that any tribal cultural resources as defined in Public Resources Code Section 21074 would occur within the project area. Therefore, the proposed project would not have a significant impact to a historical resource, as defined in PRC Section 5020.1(k). Mitigation Measure TCR-1 would be implemented to minimize impacts to potential tribal cultural resources in the event they are found during the construction process. Thus, impacts to a listed or eligible resource under the California Register of Historical Resources or a local register as defined under Public Resources Code section 5020.1(k) are anticipated to be less than significant.

***Mitigation Measures:***

TCR-1 If evidence of subsurface tribal cultural resources is found during construction, all activity within 50 feet of the find shall cease and the construction contractor shall contact the City of Long Beach Development Services Department. With direction from the Development Services Department, an archaeologist certified by the County of Los Angeles shall be retained to evaluate the discovery prior to resuming grading in the immediate vicinity of the find. If warranted, the archaeologist shall collect the resource and prepare a technical report describing the results of the investigation. The test-level report shall evaluate the site including discussion of significance (depth, nature, condition, and extent of the resources), final mitigation recommendations, and cost estimates.

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

***Less Than Significant Impact With Mitigation Incorporated***. Refer to Response 4.18(a). The project area is developed and located on artificial fill. As a result, tribal cultural resources are unlikely to be present below the artificial fill. Should any potential resources be excavated during onshore construction activities, implementation of Mitigation Measure TCR-1 would minimize such impacts. As such, the proposed project would not have a significant impact to a tribal cultural resource, as defined in PRC Section 5024.1(c), and impacts would be less than significant with implementation of Mitigation Measure TCR-1.

***Mitigation Measures***: Refer to Mitigation Measure TCR-1.

# 4.19 UTILITIES AND SERVICE SYSTEMS

| *Would the project:* | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? | | | ✓ | |
| b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? | | | ✓ | |
| c. 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? | | | ✓ | |
| d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? | | | ✓ | |
| e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? | | | ✓ | |

***a) Require or result in the relocation or construction of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?***

***Less Than Significant Impact.***

**WASTEWATER**

Sewer services for the project site are provided by Long Beach Water Department (LBWD). The LBWD operates and maintains nearly 765 miles of sanitary sewer lines, delivering over 40 million gallons per day to Los Angeles County Sanitation Districts (LACSD) facilities located on the north and south sides of the City. Currently, a majority of the City's wastewater is delivered to the Joint Water Pollution Control Plant (JWPCP) of the LACSD. The remaining portion of the City's wastewater is delivered to the Long Beach Water Reclamation Plant of the LACSD. JWPCP is located approximately 6.4 miles northwest of the project site at 24501 South Figueroa Street in the City of Carson. The JWPCP is the largest of the LACSD's wastewater treatment plants and provides both primary and secondary treatment for 280 million gallons of wastewater per day. The Long Beach Water Reclamation Plant is located at 7400 East Willow Street in the City of Long Beach, approximately 6.7 miles to the northeast of the project site. The plant provides primary, secondary, and tertiary treatment for 25 million gallons of wastewater per day.

Implementation of the proposed project would result in maritime and onshore improvements to accommodate a larger class of cruise ships at the existing Long Beach cruise terminal. Temporary construction activities associated with the project would not generate substantial wastewater beyond existing conditions. At project completion, the new 4,008-passenger vessel would result in an additional 996 passengers visiting and traveling through the Long Beach cruise terminal. Although the POLB would experience a temporary increase of passengers one a week (i.e., Saturdays only), the 996 additional passengers would not generate a substantial increase in wastewater and would not require the

expansion of existing facilities or the construction of new wastewater treatment facilities. Overall, the project would not introduce a new use that could generate additional wastewater substantially beyond existing conditions. As such, it is not expected that the project would require or result in the relocation or construction of new or expanded wastewater treatment facilities. Thus, impacts in this regard would be less than significant.

**WATER**

The LBWD maintains and operates its own municipal water system and would continue to provide water service to the project site. Construction of the proposed cruise terminal improvements would not substantially increase water use. Similarly, as stated above, the 996 additional passengers visiting and traveling through the Long Beach cruise terminal would occur only one day a week (i.e., Saturday only) and would not substantially increase water demand in a manner that would require the expansion of existing facilities or the construction of new water facilities. Further, the project would not introduce a new use that would result in an increase in water demand. Thus, the project would not substantially increase water demand on-site and would continue to be adequately served by LBWD. Overall, the project would not require or result in the relocation or construction of new or expanded water facilities. Impacts in this regard would be less than significant.

**STORM WATER**

The existing cruise terminal is regulated under the National Pollutant Discharge Environmental System stormwater permit issued by the Los Angeles RWQCB for Long Beach. Construction and operations of the project would not generate additional stormwater compared to existing conditions. At project completion, stormwater generated onshore would continue to be collected by the City's existing stormwater drainage facilities. No stormwater drainage facility improvements are proposed or required as part of the project. As such, impacts in this regard would be less than significant.

**DRY UTILITIES**

Dry utilities include electric power, natural gas, and telecommunications facilities and are provided to the project site and the POLB by Southern California Edison (SCE) for electricity; Southern California Gas Company (SCGC) for natural gas; and Spectrum Communication, Frontier Communications, and AT&T U-Verse for telecommunications. Project construction and operations would not increase dry utility use substantially above existing conditions in a manner that would require or result in the relocation or construction of new or expanded dry utilities facilities. No new land uses are proposed, and demand for electricity, natural gas, and telecommunications on-site would be similar to existing conditions. Impacts would be less than significant in this regard.

***Mitigation Measures***: No mitigation is required.

***b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?***

***Less Than Significant Impact***. As described in Response 4.19(a), construction and operational activities associated with the proposed project would not generate an increase in demand for water supply. The project would not introduce a new land use that could increase demand for water services, and at completion, the proposed maritime and onshore improvements would result in similar cruise line operations as existing conditions. Thus, the project would not increase water demand and would continue to be adequately served by LBWD's existing water entitlements and resources. Therefore, LBWD's ability to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years would not be adversely impacted. Impacts in this regard would be less than significant.

***Mitigation Measures***: No mitigation is required.

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

***Less Than Significant Impact***. Refer to Response 4.19(a). Construction and operational activities associated with the project would not result in an increase in wastewater generation on-site. Wastewater treatment capacity at the JWPCP or the Long Beach Water Reclamation Plant would not be adversely impacted, and impacts would be less than significant.

***Mitigation Measures***: No mitigation is required.

***d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?***

***Less Than Significant Impact***. The City contracts solid waste collection services with various private solid waste haulers. The majority of the City's solid waste is processed at LACSD's Southeast Resource Recovery Facility (SERRF) at 120 Pier S Avenue in Long Beach, approximately 2.9 miles west of the project site. SERRF is owned by a separate authority created by a joint powers agreement between LACSD and the City but is operated by a private company under contract. Solid waste is sent to SERRF where it is processed through one of three boilers. In addition, SERRF performs "front-end" and "back-end" recycling by recovering items, such as white goods prior to incineration and collection metals removed from the boilers after incineration. After processing, waste is transferred to a nearby landfill for disposal. The nearest landfill to the project site that would handle solid waste and recycling for the project is Savage Canyon Landfill located at 13919 Penn Street in the City of Whittier, approximately 18.6 miles to the northeast of the project site.[1]

Demolition and construction activities associated with the proposed cruise terminal improvements would generate construction debris (e.g., soil, concrete, and demolished materials). In particular, the maritime improvements would require dredging of approximately 33,250 cubic yards of soil to accommodate the larger cruise ships at the existing berth. All construction debris would be short-term in nature and would not have the capability to substantially affect the capacity of regional landfills. The approximately 33,250 cubic yards of dredged soils would be disposed of at the LA-2 Ocean Dredge Material Disposal Site located offshore approximately 11 miles southwest of the cruise terminal. Therefore, dredged soils would not impact regional landfill capacities.

At project completion, operational activities would be similar to existing cruise terminal operations. While more passengers would visit the cruise terminal, no new land uses are proposed that would substantially increase solid waste generation beyond existing conditions. As such, operational impacts in this regard would be less than significant.

Further, the project would be required to comply with all applicable Federal, State, and local statutes and regulations related to solid waste. Specifically, the project would be required to comply with Assembly Bills (AB) 939 and 1327, which require measures to enhance recycling and source reduction. The project would also be required to comply with the *City of Long Beach Municipal Code* (LBMC) Chapter 18.67, *Construction and Demolition Recycling Program*, which requires covered projects, including the proposed project, to divert at least 65 percent of all project-related construction and demolition materials. LBMC Chapter 18.67 also requires preparation of a Waste Management Plan for the project. The Waste Management Plan is required to detail the estimated volume or weight of debris, by material type, to be generated; the maximum volume or weight of such materials that can be diverted via reuse or recycle; the vendor and facility where the materials would be collected and received; and the estimated volume or weight of debris that would

[1] CalRecycle, *Jurisdiction Disposal by Facility With Reported Alternative Daily Cover (ADC) and Alternative Intermediate Cover (AIC), Disposal during 2017 for Long Beach,* 2017.

be landfilled. Compliance with AB 939 and AB 1327, as well as LBMC Chapter 18.67 would reduce impacts in this regard to less than significant levels.

***Mitigation Measures***: No mitigation is required.

***e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?***

***Less Than Significant Impact***. Refer to Response 4.19(d).

***Mitigation Measures***: No mitigation is required.

# 4.20 WILDFIRE

| *If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project:* | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Substantially impair an adopted emergency response plan or emergency evacuation plan? | | | | ✓ |
| b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? | | | | ✓ |
| c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? | | | | ✓ |
| d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? | | | | ✓ |

***a) Substantially impair an adopted emergency response plan or emergency evacuation plan?***

***No Impact.*** According to the California Department of Forestry and Fire, the project site and entire City of Long Beach is not located within or near a State responsibility area or identified as a Fire Hazard Severity Zone.[1] Therefore, no impacts would occur in this regard.

***Mitigation Measures:*** No mitigation is required.

***b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?***

***No Impact.*** Refer to Response 4.20(a).

***Mitigation Measures:*** No mitigation is required.

***c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?***

***No Impact.*** Refer to Response 4.20(a).

***Mitigation Measures:*** No mitigation is required.

***d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?***

***No Impact.*** Refer to Response 4.20(a).

***Mitigation Measures:*** No mitigation is required.

[1] California Department of Forestry and Fire, *Los Angeles County Fire Hazard Severity Zones in SRA*, November 6, 2007, http://frap.fire.ca.gov/webdata/maps/los_angeles/fhszs_map.19.jpg, accessed February 11, 2019.

This page intentionally left blank.

# 4.21 MANDATORY FINDINGS OF SIGNIFICANCE

| *Would the project:* | Potentially Significant Impact | Less Than Significant Impact With Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| 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? | | ✓ | | |
| 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)? | | ✓ | | |
| c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | | ✓ | | |

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

***Less Than Significant Impact With Mitigation Incorporated***. As detailed in Section 4.4, *Biological Resources*, construction activities associated with the proposed project could adversely impact listed, candidate, or special-status reptile, bird, and marine mammal species. Additionally, the project could impact nesting birds protected by the Migratory Bird Treaty Act (MBTA). Implementation of Mitigation Measures BIO-1 through BIO-3 would minimize potential impacts to special-status species and nesting birds to less than significant levels. Additionally, the project is requesting approval of an Incidental Harassment Authorization (IHA) pursuant to the Marine Mammal Protection Act from the National Oceanic and Atmospheric Administration Fisheries' Office of Protected Resources to reduce project impacts on special-status marine mammals, and Section 404 and Section 10 permits from the United States Army Corps of Engineers to reduce impacts related to dredging and mooring dolphin construction to waters of the United States.

In addition, as described within Section 4.5, *Cultural Resources* and Section 4.18, *Tribal Cultural Resources*, the project site is located on artificial fill with no natural areas on-site and has been completely disturbed by development. As such, no archaeological, paleontological, or tribal cultural resources likely occur on-site. Additionally, the Queen Mary, the only historic resource in the project area, would not be adversely impacted by project development. Nevertheless, Mitigation Measure TCR-1 would be required in the event unexpected tribal cultural resources are uncovered during onshore construction activities. As such, the project is not anticipated to eliminate important examples of the major periods of California history or prehistory and impacts would be less than significant in this regard.

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

***Less Than Significant Impact With Mitigation Incorporated***. The proposed project involves maritime and onshore improvements to the existing Long Beach cruise terminal. The project would not result in any new land uses at the project site and no new jobs would be created that could result in substantial population growth within the area, either directly or indirectly. Although the project may incrementally affect other resources that were determined to be less than significant, the project's contribution to these effects is not considered "cumulatively considerable," in consideration of the relatively nominal impacts of the project and mitigation measures provided.

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

***Less Than Significant Impact With Mitigation Incorporated***. Previous sections of this Initial Study reviewed the proposed project's potential impacts related to aesthetics, air quality, geology and soils, greenhouse gases, hydrology/water quality, noise, hazards and hazardous materials, traffic, and other issues. As concluded in these previous discussions, the proposed project would result in less than significant environmental impacts with implementation of the recommended mitigation measures. Therefore, the proposed project would not result in environmental impacts that would cause substantial adverse effects on human beings.

## 4.22 REFERENCES

The following references were utilized during preparation of this Initial Study. These documents are available for review at the City of Long Beach Development Services Department, located at 333 West Ocean Boulevard, 5th Floor, Long Beach, California 90802.

1. Aspen Environmental Group, Long Beach Cruise Terminal Improvement Project Air Quality and Greenhouse Gas Assessment, June 2019.

2. Atkins, *Carnival Cruise Line Port of Long Beach Dredge Maintenance & Dock Improvements Historical Resource Research Report*, December 2018.

3. Atkins, *Long Beach Cruise Terminal Improvement Project Geology and Soils Technical Report*, December 12, 2018.

4. California Department of Conservation Division of Land Resource Protection, *Los Angeles County Williamson Act FY 2015/2016*, ftp://ftp.consrv.ca.gov/pub/dlrp/wa/LA_15_16_WA.pdf, accessed November 21, 2018.

5. California Department of Conservation Division of Mines and Geology, *Generalized Mineral Land Classification Map of Los Angeles County – South Half*, 1994, ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ofr/OFR_94-14/OFR_94-14_Plate1B.pdf, accessed November 21, 2018.

6. California Department of Conservation Farmland Mapping and Monitoring Program, *California Important Farmland Finder*, https://maps.conservation.ca.gov/dlrp/ciff/, accessed on November 21, 2018.

7. California Department of Fish and Wildlife Service, *California Natural Community Conservation Plans*, April 2019.

8. California Department of Forestry and Fire Protection, *Very High Fire Hazard Severity Zones in LRA, Los Angeles County*, September 2011, http://frap.fire.ca.gov/webdata/maps/los_angeles/LosAngelesCounty.pdf, accessed December 13, 2018.

9. California Department of Forestry and Fire, *Los Angeles County Fire Hazard Severity Zones in SRA*, November 6, 2007, http://frap.fire.ca.gov/webdata/maps/los_angeles/fhszs_map.19.jpg, accessed February 11, 2019.

10. California Department of Transportation, *California Scenic Highway Mapping System*, http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/, accessed November 28, 2018.

11. California Department of Water Resources, *SGMA Basin Prioritization Dashboard, Final 2018 (Unmodified Basins)*, https://gis.water.ca.gov/app/bp2018-dashboard/p1/, accessed February 11, 2019.

12. California Environmental Protection Agency, *Cortese Listing*, https://calepa.ca.gov/sitecleanup/corteselist/, accessed December 13, 2018.

13. California Environmental Quality Act, 1970, as amended, *Public Resources Code Sections 21000-21178*.

14. California Geological Survey, *Earthquake Zones of Required Investigation Long Beach Quadrangle*, March 25, 1999.

15. California Geological Survey, *Tsunami Inundation Map for Emergency Planning, Long Beach Quadrangle*, March 1, 2009.

16. CalRecycle, *Jurisdiction Disposal by Facility With Reported Alternative Daily Cover (ADC) and Alternative Intermediate Cover (AIC), Disposal during 2017 for Long Beach*, 2017.

17. City of Long Beach, *City of Long Beach General Plan*, last updated October 2013.

18. City of Long Beach, *City of Long Beach Municipal Code*, codified through Ordinance No. ORD-18-0027, enacted October 9, 2018.

19. City of Long Beach, *City of Long Beach Local Coastal Program*, adopted February 12, 1980, certified July 22, 1980.

20. City of Long Beach, *Long Beach Parks, Recreation and Marine Department Website*, http://www.longbeach.gov/park/, accessed November 21, 2018.

21. City of Long Beach Police Department, *Police Reporting Districts with Divisions & Beats Map*, http://www.longbeach.gov/globalassets/ti/media-library/documents/gis/map-catalog/36x36-citymap_with_policedivisions_beats_rd, accessed November 21, 2018.

22. City of Long Beach, *Sustainable City Action Plan*, February 2010.

23. Federal Emergency Management Agency, *Flood Insurance Rate Map #06037C1964F, Panel 1964 of 2350*, September 26, 2008.

24. Federal Emergency Management Agency, *Flood Insurance Rate Map #06037C1970F, Panel 1970 of 2350*, September 26, 2008.

25. Federal Highway Administration, *Noise Fundamentals*, https://www.fhwa.dot.gov/environMent/noise/regulations_and_guidance/polguide/polguide02.cfm, accessed June 12, 2019.

26. GHD, *Long Beach Cruise Terminal Improvement Project Biological Resources Report*, April 30, 2019.

27. GHD, *Long Beach Cruise Terminal Improvement Project Draft Noise Technical Report*, April 30, 2019.

28. GHD, *Phase I Environmental Site Assessment, Carnival Cruise Terminal Proposed Improvement Areas, 331 Windsor Way, Long Beach, California*, February 1, 2019.

29. GHD, *Port of Long Beach Carnival Cruise Line Terminal Improvement Project Traffic Impact Analysis Report*, April 2019.

30. Google Earth Maps, 2019.

31. Kinnetic Laboratories, *Sampling and Analysis Plan Report, Long Beach Cruise Terminal Dredging Environmental Investigation Project*, February 2019.

32. Los Angeles County Airport Land Use Commission, *Long Beach Airport, Airport Influence Area Map*, May 13, 2003, http://planning.lacounty.gov/assets/upl/project/aluc_airport-long-beach.pdf, accessed December 13, 2018.

33. Los Angeles County Airport Land Use Commission, *Long Beach Airport, Airport Influence Area Map*, May 13, 2003.

34. Los Angeles Regional Water Quality Control Board, *Order No. R4-2014-0024-01 Amending Order No. R4-2014-0024, NPDES Permit No. CAS004003, Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges from the City of Long Beach*, March 28, 2014.

35. Port of Long Beach, *Port of Long Beach Port Master Plan*, updated 1990.

36. Port of Long Beach Website, *Facts at a Glance*, http://www.polb.com/about/facts.asp, accessed May 29, 2019.

37. San Diego Natural History Museum, *Paleontological mitigation – Long Beach Cruise Terminal Improvement at the Port of Long Beach, Long Beach, California*, December 20, 2018.

38. U.S. Department of Transportation, *Highway Traffic Noise Analysis and Abatement Policy and Guidance*, August 24, 2017, https://www.fhwa.dot.gov/environMent/noise/regulations_and_guidance/polguide/polguide02.cfm, accessed June 11, 2019.

39. Water Replenishment District of Southern California, *Groundwater Basins Master Plan*, September 2016, https://www.wrd.org/sites/pr/files/GBMP_FinalReport_Text%20and%20Appendicies.pdf, accessed February 11, 2019.

This page intentionally left blank.

# 4.23 REPORT PREPARATION PERSONNEL

## LEAD AGENCY

**CITY OF LONG BEACH**
333 West Ocean Boulevard, 5th Floor
Long Beach, California 90802
562.570.6872

*Christopher Koontz, AICP, Planning Bureau Manager*
*Alexis Oropeza, Current Planning Officer*
*Amy L. Harbin, AICP, Planner*

**PORT OF LONG BEACH**
4801 Airport Plaza Drive
Long Beach, California 90815
562.283.7100

*Kirsten Berg, Environmental Specialist*

## PROJECT APPLICANT

**CARNIVAL CORPORATION & PLC**
231 Windsor Way
Long Beach, California 90802
562.243.2191

*Wilkin Mes, Director – Cruise Terminal and Commercial Development*

**ATKINS**
3570 Carmel Mountain Road, Suite 300
San Diego, California 92130
858.514.1083

*Sandra Pentney, Environmental Team Lead*
*Mark Stroik, Coastal Project Manager*

## CEQA CONSULTANT

**MICHAEL BAKER INTERNATIONAL**
5 Hutton Centre Drive, Suite 500
Santa Ana, California 92707
949.472.3505

*Alan Ashimine, Project Manager*
*Frances Yau, AICP, Environmental Specialist*
*Ryan Chiene, Air Quality/GHG/Noise*
*Pierre Glaize, Air Quality/GHG/Noise*
*Faye Stroud, Graphic Artist*
*Hilary Ellis, Word Processing*

**ASPEN ENVIRONMENTAL GROUP**
5020 Chesebro Road, Suite 200
Agoura Hills, California 91301
818.597.3407

*William Walters, PE, Senior Engineer*

**COGSTONE RESOURCE MANAGEMENT**
1518 West Taft Avenue
Orange, California 92865
714.974.8300

*Molly Valasik, RPA, Principal Investigator/Archaeologist*
*Kim Scott, Vice President/Principal Paleontologist*

**GANDDINI GROUP, INC.**
550 Parkcenter Drive, Suite 202
Santa Ana, California 92705
714.795.3100

*Giancarlo Ganddini, PE, PTP, Principal*

**ILANCO ENVIRONMENTAL, LLC**
1817 Harriman Lane, Suite B
Redondo Beach, California 90278
310.408.8297 *Lora Granovsky, Principal*

**PI ENVIRONMENTAL, LLC**
1029 Capistrano Drive
Oceanside, California 92058
760.730.5909 *Brent Mardian, Senior Marine Scientist*

# 5.0 INVENTORY OF MITIGATION MEASURES

## AIR QUALITY

AQ-1 Prior to issuance of a Demolition or Grading Permit, the City Engineer shall confirm that the following Best Management Practices (BMPs) are included in the Grading Plan and specifications to reduce construction emissions in compliance with the San Pedro Bay Ports Clean Air Action Plan (CAAP):

- Off-road Engine Tier: Construction terrestrial off-road equipment shall be required to meet final Tier 4 emissions standards.
- Electric Dredges: Dredging equipment shall be powered electrically by a shore power connection.
- Construction Tug Boat Engine Tier: If appropriately sized and available, tug boats with Tier 3 or higher engines shall be used during construction.

AQ-2 Prior to approval of project plans, the Applicant shall provide proof to the City of Long Beach Development Services of a written commitment from a qualified seller/lessee detailing the purchase or lease of unencumbered Emission Reduction Credits sufficient to reduce the project's construction-related nitrous oxide ($NO_x$) emissions to below the South Coast Air Quality Management District's threshold of 100 pounds per day for the duration of proposed dredging activities.

## BIOLOGICAL RESOURCES

BIO-1 During pile driving activities, the construction contractor shall utilize a "soft start" initiation of the pile driving equipment to give nearby birds a chance to vacate the immediate construction area before full-force pile driving is initiated. The "soft start" initiation shall consist of an initial set of strikes at reduced energy followed by a one-minute idling period to allow wildlife to move out of the area.

BIO-2 The project applicant shall retain a qualified biological monitor (defined as an individual with the minimum qualifications of a Bachelor of Science Degree or Bachelor of Arts Degree in biology or related environmental science with a demonstrated familiarity with the natural history, habitat affinities, identification of marine species, and other laws and regulations governing the take of marine species and also approved by the City of Long Beach) to be present during all in-water work and pile driving and dredging activities, to verify that marine mammals and green sea turtle (*Chelonia mydas*) are not present within the construction area. Should marine mammals or green sea turtles be observed, the biological monitor shall have the flexibility and power to exercise Stop Work Authority in determining whether construction activities can continue or halt until the marine animal(s) swim far enough away, as determined by the biological monitor, from the construction area.

BIO-3 If ground-disturbing activities or removal of any trees, shrubs, or any other potential nesting habitat are scheduled within the avian nesting season (generally from March 1 through August 31 for passerines and January 1 through August 31 for raptors), a pre-construction clearance survey for nesting birds shall be conducted within three days prior to any ground disturbing activities.

The qualified biologist conducting the clearance survey shall document the negative results if no active bird nests are observed on the project site or within the vicinity during the clearance survey with a brief letter report indicating that no impacts to active bird nests would occur before construction can proceed. If an active avian nest is discovered during the pre-construction clearance survey, construction activities shall stay outside of a 300-foot buffer around the active nest. For raptor species, this buffer shall be 500

feet. A biological monitor shall have the flexibility in delineating the boundaries of the buffer area and be present to monitor the active nest to ensure nesting behavior is not adversely affected by construction activities. Results of the pre-construction survey and any subsequent monitoring shall be provided to the California Department of Fish and Wildlife (CDFW) and other appropriate agencies.

## NOISE

NOI-1 Prior to issuance of Pile Driving or Dredging Permits, the applicant shall prepare a Construction Noise Control Plan, to the satisfaction of the City of Long Beach City Engineer, to minimize noise levels at off-site uses during construction activities. The Construction Noise Control Plan shall include:

- A vibratory hammer (versus a pile driver) shall be used during construction to partially install steel pipe piles, while an impact pile driver will be used to proof the piles and set them to their final depth. Vibratory hammers are frequently employed as a mitigation measure to reduce environmental impacts on aquatic wildlife since they generally produce noise levels 10 to 20 dB lower than impact pile drivers (Buehler et al. 2015).
- A qualified marine mammal biological monitor shall be present during dredging and pile driving portions of construction.
- Pile driving shall only occur 45 minutes after sunrise to 45 minutes before sunset which allows biological monitors time to complete their pre- and post-construction surveys.
- A “soft start” shall be conducted prior to the initiation of full-power pile driving at the beginning of each day, or following a 30 minute or longer break in pile driving, to warn any marine mammals to move away from the construction area. This shall involve an initial set of strikes at reduced energy followed by a 1 minute waiting period (to allow wildlife to move out of the area).
- Bubble curtains shall be implemented in association with pile driving. Use of an air bubble curtain can generally reduce sound pressure levels by 5-10 dB, with higher effectiveness at higher sound levels (Buehler et al. 2015).
- Number of piles installed per day shall be limited to five.
- Heavy equipment, such as dredges, operating from barges or nearshore shall be idled for 15 minutes prior to full-force power.
- Low noise equipment shall be utilized for garage construction where feasible. The contractor shall work to make sure that construction motorized equipment is well tuned, in a state of good repair, and appropriate effective mufflers shall be utilized on all gasoline or diesel-powered construction equipment.

## TRIBAL CULTURAL RESOURCES

TCR-1 If evidence of subsurface tribal cultural resources is found during construction, all activity within 50 feet of the find shall cease and the construction contractor shall contact the City of Long Beach Development Services Department. With direction from the Development Services Department, an archaeologist certified by the County of Los Angeles shall be retained to evaluate the discovery prior to resuming grading in the immediate vicinity of the find. If warranted, the archaeologist shall collect the resource and prepare a technical report describing the results of the investigation. The test-level report shall evaluate the site including discussion of significance (depth, nature, condition, and extent of the resources), final mitigation recommendations, and cost estimates.

# 6.0 APPLICATION SUMMARY REPORT

This chapter, in conjunction with the Initial Study/Mitigated Negative Declaration (IS/MND), constitutes an Application Summary Report prepared in accordance with the *Port of Long Beach Port Master Plan* (PMP), as amended, and the California Coastal Act of 1976 (CCA). As discussed below, the proposed project is in conformance with the stated policies of the PMP and the CCA.

## 6.1 CALIFORNIA COASTAL ACT CONSISTENCY ANALYSIS

Relevant sections of the CCA are listed below with a discussion of the proposed project's consistency with each.

### CHAPTER 3 – COASTAL RESOURCES PLANNING AND MANAGEMENT POLICIES

Given that the proposed project is not among the appealable project categories in Section 30715, *Permit authority; appealable approvals*, of CCA Chapter 8, *Ports*, the specific policies of Chapter 3 do not apply to the proposed project.

### CHAPTER 8 – PORTS

Chapter 8, *Ports*, of the CCA recognizes California ports, including the Port of Long Beach (POLB), as primary economic and coastal resources that are essential elements of the national maritime industry (CCA Section 30701(a)). Relevant sections of Chapter 8 are listed below and include a discussion of their relationships to the proposed project.

**Section 30705, Diking, filling or dredging water areas**

*(a) Water areas may be diked, filled, or dredged when consistent with a certified port master plan only for the following:*

*(1) Such construction, deepening, widening, lengthening, or maintenance of ship channel approaches, ship channels, turning basins, berthing areas, and facilities as are required for the safety and the accommodation of commerce and vessels to be served by port facilities.*

*(2) New or expanded facilities or waterfront land for port-related facilities.*

*(3) New or expanded commercial fishing facilities or recreational boating facilities.*

*(4) Incidental public service purposes, including, but not limited to, burying cables or pipes or inspection of piers and maintenance of existing intake and outfall lines.*

*(5) Mineral extraction, including sand for restoring beaches, except in biologically sensitive areas.*

*(6) Restoration purposes or creation of new habitat areas.*

*(7) Nature study, mariculture, or similar resource-dependent activities.*

*(8) Minor fill for improving shoreline appearance or public access to the water.*

*(b) The design and location of new or expanded facilities shall, to the extent practicable, take advantage of existing water depths, water circulation, siltation patterns, and means available to reduce controllable sedimentation so as to diminish the need for future dredging.*

The proposed project involves maritime improvements along the existing berth at the Long Beach cruise terminal to accommodate Carnival's future class of larger cruise ships. To accommodate the larger ships, the project proposes to

deepen the existing berth from its current design depth of 30 feet Mean Lower Low Water (MLLW) plus one foot to a new design depth of 36 feet MLLW plus one foot of over-dredge for a total depth of 37 feet MLLW. In total, the project proposes to dredge approximately 33,250 cubic yards within the existing and proposed berth areas; refer to Exhibit 2-4, *Overall Proposed Modifications*. The proposed dredging would increase navigable and mooring margins, in order to safely cope with the pitch and roll movements of the ships due to long period wave swells and manage mooring loads on the wharf deck. Additionally, dredging is only proposed near the existing wharf deck to accommodate the larger cruise ships, and thus, would take advantage of existing water depths at the cruise terminal berth. As such, the project would be consistent with Sections 30705(a) and (b) of the CCA.

*(c) Dredging shall be planned, scheduled, and carried out to minimize disruption to fish and bird breeding and migrations, marine habitats, and water circulation. Bottom sediments or sediment elutriate shall be analyzed for toxicants prior to dredging or mining, and where water quality standards are met, dredge spoils may be deposited in open coastal water sites designated to minimize potential adverse impacts on marine organisms, or in confined coastal waters designated as fill sites by the master plan where such spoil can be isolated and contained, or in fill basins on upland sites. Dredge material shall not be transported from coastal waters into estuarine or fresh water areas for disposal.*

The proposed dredging would increase navigable and mooring margins, in order to cope with the pitch and roll movement of the vessels due to long period wave swells and manage mooring loads on the wharf deck. The dredging volume would total approximately 33,250 cubic yards and would be disposed of at the LA-2 Ocean Dredge Material Disposal Site (ODMDS) located offshore approximately 11 miles southwest of the cruise terminal. The Dredging Soils Report determined that the proposed dredging sediments would be environmentally suitable for placement at the LA-2 ODMDS; refer to Appendix E, *Phase I ESA/Dredging Soils Report*.

Further, as detailed in Section 4.4, *Biological Resources*, Mitigation Measure BIO-3 requires a nesting bird survey be conducted if construction occurs during the nesting season to ensure construction-related project impacts on nesting birds, including dredging activities, are reduced to less than significant levels. The project applicant would also be required to obtain Section 404 and Section 10 permits from the United States Army Corps of Engineers pursuant to the Federal Clean Water Act and Rivers and Harbors Act, respectively, to ensure dredging activities do not adversely impact waters of the United States. Thus, the project would be consistent with Section 30705(c) of the CCA.

*(d) For water areas to be diked, filled, or dredged, the commission shall balance and consider socioeconomic and environmental factors.*

This IS/MND analyzes the project's potential environmental impacts pursuant to the California Environmental Quality Act (CEQA). As lead agency, the City of Long Beach has the authority to balance and consider socioeconomic and environmental factors associated with the proposed dredging of POLB's water areas and overall project approval.

**Section 30706, Fill**

*In addition to the other provisions of this chapter, the policies contained in this section shall govern filling seaward of the mean high tide line within the jurisdiction of ports:*

*(a) The water area to be filled shall be the minimum necessary to achieve the purpose of the fill.*

*(b) The nature, location, and extent of any fill, including the disposal of dredge spoils within an area designated for fill, shall minimize harmful effects to coastal resources, such as water quality, fish or wildlife resources, recreational resources, or sand transport systems, and shall minimize reductions of the volume, surface area, or circulation of water.*

As stated above, the approximately 33,250 cubic yards of dredged sediment would be disposed of at the LA-2 ODMDS located offshore approximately 11 miles southwest of the cruise terminal. A soil sampling analysis was conducted as part of the Dredging Soils Report to determine whether the dredged sediments could be placed at the LA-2 ODMDS.

According to the soils sampling and testing results, the dredged sediment showed moderate chemical contamination with some chemical concentrations elevated compared to LA-2 reference samples. However, none of the tested sediments were toxic to *Ampelisca abdita* and *Neanthes arenaceodentata*, which are indicators of sediment toxicity, and there was no observed water column toxicity. Additionally, among others, bioaccumulation testing was conducted to determine whether the dredged materials had an accumulation of chemicals and/or heavy metals in exceedance of permissible concentrations. Based on the analysis, the proposed dredging sediments would not exceed permissible concentrations related to bioaccumulation. Overall, the Dredging Soils Report concluded that the proposed dredging sediments from the Long Beach cruise terminal would be environmentally suitable for placement at the LA-2 ODMDS. As such, the project would be consistent with Section 30706 of the CCA.

**Section 30708, Location, design, and construction of port-related developments**

*All port-related developments shall be located, designed, and constructed so as to:*

*(a) Minimize substantial adverse environmental impacts.*

This IS/MND prepared pursuant to CEQA finds that the proposed project would result in potentially significant impacts to air quality, biological resources, noise, and tribal cultural resources; however, with the proposed mitigation measures detailed in Section 5.0, *Inventory of Mitigation Measures*, these impacts would be reduced to less than significant levels. Therefore, the proposed project would result in no significant adverse environmental impacts and would be consistent with Section 30708(a) of the CCA.

*(b) Minimize potential traffic conflicts between vessels.*

The proposed project involves improvements to the existing Long Beach cruise terminal to accommodate a new larger class of cruise ships and its associated passengers. The new cruise ship, *Carnival Panorama*, would replace the *Carnival Splendor* currently home-ported at POLB until the new ship arrives. At completion, project operations would be similar to existing conditions and no traffic conflicts would occur between vessels. As such, the project would be consistent with Section 30708(b) of the CCA.

*(c) Give highest priority to the use of existing land space within harbors for port purposes, including, but not limited to, navigational facilities, shipping industries, and necessary support and access facilities.*

The project's onshore improvements are limited to expanding the existing parking garage, filling the abandoned tunnel to the south of the parking garage, and reconfiguring traffic lanes to the east of the parking garage. All proposed improvements would be located within the cruise terminal and would not impact any available land space within POLB that could be utilized for port purposes, including navigational facilities, shipping industries, and necessary support and access facilities. Therefore, the project would be consistent with Section 30708(c) of the CCA.

*(d) Provide for other beneficial uses consistent with the public trust, including, but not limited to, recreation and wildlife habitat uses, to the extent feasible.*

The proposed cruise terminal improvements would help accommodate a larger class of cruise ships and associated passengers at the existing berth and parking garage on-site. Approximately 600,000 passengers are transported by Carnival into POLB for embarkation and debarkation per year. The new approximately 4,008-passenger *Carnival Panorama* is expected, under current economic conditions, to generate an additional 50,000 passengers per year. As such, the project would improve and expand public access to the existing cruise terminal and associated recreational and commercial areas of the Queen Mary Seaport. The project would be consistent with this section of the CCA.

**Section 30715, Permit authority; appealable approvals**

*(a) Until such time as a port master plan or any portion thereof has been certified, the commission shall permit developments within ports as provided for in Chapter 7 (commencing with Section 30600). After a port master*

*plan or any portion thereof has been certified, the permit authority of the commission provided in Chapter 7 (commencing with Section 30600) shall no longer be exercised by the commission over any new development contained in the certified plan or any portion thereof and shall at that time be delegated to the appropriate port governing body, except that approvals of any of the following categories of development by the port governing body may be appealed to the commission:*

*(1) Developments for the storage, transmission, and processing of liquefied natural gas and crude oil in such quantities as would have a significant impact upon the oil and gas supply of the state or nation or both the state and nation. A development which has a significant impact shall be defined in the master plans.*

*(2) Waste water treatment facilities, except for those facilities which process waste water discharged incidental to normal port activities or by vessels.*

*(3) Roads or highways which are not principally for internal circulation within the port boundaries.*

*(4) Office and residential buildings not principally devoted to the administration of activities within the port; hotels, motels, and shopping facilities not principally devoted to the sale of commercial goods utilized for water-oriented purposes; commercial fishing facilities; and recreational small craft marina related facilities.*

*(5) Oil refineries.*

*(6) Petrochemical production plants.*

*(b) If maintenance dredging is part of, or is associated with, any category of development specified in paragraphs (1) to (6), inclusive, of subdivision (a), the commission shall not consider that maintenance dredging in its review and approval of those categories.*

The proposed project involves maritime and onshore improvements to the existing Long Beach cruise terminal and is not among the specific project types identified as appealable in Section 30715 of the CCA. Therefore, the proposed project would be consistent with this section of the CCA.

**Section 30715.5, Finding of conformity**

*No developments within the area covered by the certified port master plan shall be approved by the port governing body unless it finds that the proposed development conforms with such certified plan.*

As analyzed under Section 6.1.2, *Consistency with the Port Master Plan*, the proposed project conforms with the PMP. Therefore, the proposed project would be consistent with Section 30715.5 of the CCA.

## 6.2 PORT MASTER PLAN CONSISTENCY ANALYSIS

According to the PMP, the project site is within the Queensway Bay District (District 7). Permitted uses within District 7 include recreation, commercial, primary port facilities, oil production, and ancillary port facilities. The proposed project would not introduce any new land uses, and thus, would remain consistent with the permitted uses in District 7.

**PMP GOALS**

The PMP identifies six long-range planning goals and objectives for developing policies involving future POLB development and expansion. Among the POLB-wide development and expansion goals cited in the PMP, the proposed project would support the following.

**Goal 2: Encourage Maximum Utilization of Facilities**

The proposed project would improve the existing Long Beach cruise terminal to accommodate a larger class of cruise ships at the existing wharf deck and associated passengers at the parking garage on-site. Approximately 600,000 passengers are transported by Carnival into POLB for embarkation and debarkation per year. The new approximately 4,008-passenger cruise ship (*Carnival Panorama*) is expected, under current economic conditions, to generate an additional 50,000 passengers per year. As such, the project would improve and maximize utilization of the existing cruise terminal without expanding Carnival's existing land lease space at POLB.

**Goal 4: Provide for the Safe Cargo Handling and Movement of Vessels within the Port**

While the project improvements are proposed to accommodate Carnival's larger class of cruise ships, the improvements would also provide for the safe movement of such vessels within POLB. More specifically, the proposed dredging would increase navigable and mooring margins, help cope with the pitch and roll movement of the ships during long periods of wave swells, and manage mooring loads on the wharf deck. Additionally, the current dolphins have been experiencing capacity issues for current ship calls, and thus, the two proposed mooring dolphins would alleviate these existing problems and accommodate the future larger class ships. The project also proposes to replace existing worn foam-filled fenders with new oversized high-density foam-filled fenders to improve the dampening characteristics that manage vessel movement and provide safe vessel stand-off distances. Thus, the project would be consistent with and support Goal 4 of the PMP.

**Goal 6: Protect, Maintain, and Enhance the Overall Quality of the Coastal Environment**

The proposed project involves onshore and maritime improvements to the existing cruise terminal. Construction activities onshore would be limited to the parking garage expansion, tunnel abandonment, and traffic lane configurations, which would have no impact on the POLB's coastal environment. Cruise terminal operations would be similar to existing conditions at project completion. Maritime improvements would be limited to areas in the vicinity of the existing wharf deck; refer to Exhibit 2-4. Project impacts to the coastal environment would only occur during construction activities, primarily related to dredging and pile driving activities. However, mitigation measures detailed in Section 4.4 ensure pile driving activities are monitored by a qualified biological monitor to ensure marine mammals and green sea turtles are not adversely impacted, and pile driving equipment is initiated with a "soft-start" to give nearby birds a chance to vacate the immediate construction area before full-force pile driving is initiated. Implementation of required mitigation would ensure the coastal environment, including wildlife species, are protected. Thus, the project would be consistent with and support Goal 6 of the PMP.

**PLAN ELEMENTS**

The PMP provides guidance and direction for policy and business decisions affecting the future growth and development of POLB. The six plan elements of the PMP include Public Access, Visual Quality, and Recreation/Tourist; Navigation; Environmental; Vehicular Transportation/Circulation; Intermodal Rail Facilities; and Oil Production and Operations. Each plan element outlines specific planning goals and issues and provides a list of recommendations and/or an implementation program. Of the six plan elements, the following four are applicable to the proposed project.

**Public Access, Visual Quality, and Recreation/Tourist Element**

This element focuses on public and commercial recreational opportunities within and near Queensway Bay. The specific issues of concern in this element are public access, increased recreational use of the flood control channel, visual quality, and recreational/tourist facilities. Planning goals associated with this element that are applicable to the project include: Revitalize the Queensway Bay area; Promote quality recreational and tourist activities in the Queensway Bay District; Develop a cruise ship passenger terminal; Enhance Public Access in the Queensway Bay District; and Minimize disruptive views.

The proposed improvements to the existing cruise terminal would allow Carnival to introduce a larger class of cruise ships that can generate an additional 50,000 passengers per year on top of the current approximately 600,000 passengers transported by Carnival into POLB for embarkation and debarkation per year. Thus, the project would help in revitalizing and promoting recreational and tourist activities in the Queensway Bay area. Public access would also be enhanced with the introduction of a larger cruise ship at the existing terminal and the proposed improvements would have a negligible impact on existing views within and near the Queensway Bay. As such, the project would help attain these goals associated with the Public Access, Visual Quality, and Recreation/Tourist Element of the PMP.

**Navigation Element**

The Navigation Element considers the existing navigational procedures and operational and physical constraints governing the maneuvering of vessels for existing and proposed vessel activities within POLB. One of the four goals in this element is applicable to the proposed project: remain current to the changing needs of the maritime industry with respect to deep water access to commercial berths and anchorage areas by deepening channels to accommodate the existing and future tanker, dry bulk, and general cargo fleet.

The project is proposing to deepen the existing berth from 31 to 37 feet MLLW by dredging approximately 33,250 cubic yards of soils to accommodate a larger commercial berth and improve safety. As such, the project is supported by this goal to remain current to the changing needs of the maritime industry with respect to deep water access.

**Environmental Element**

The specific issues of concern listed in the Environmental Element are: air quality; habitat preservation/marine mitigation; hazardous waste; and permit processing. Of the five planning goals related to this element, the following goals are applicable to the proposed project: minimize pollutant levels from existing and future sources, and minimize habitat loss within POLB boundaries.

The proposed project involves minor maritime and onshore improvements to the existing cruise terminal. At project completion, operations of the cruise terminal would be similar to existing conditions. As discussed in Sections 4.3, *Air Quality*, and 4.8, *Greenhouse Gases*, project construction and operations would not exceed established South Coast Air Quality Management District significance thresholds for air quality and greenhouse gas (GHG) emissions with implementation of required Mitigation Measures AQ-1 and AQ-2. Additionally, the project site is located in an urban area of the POLB that is primarily developed with structures, roadways, and paved areas. Minimal landscaped areas are present adjacent to the existing parking garage. Development of the project would not result in any habitat loss. As such, the proposed project would be consistent with the Environmental Element of the PMP.

**Vehicle Transportation/Circulation Element**

This element is essential for establishing the direction of vehicular, truck, and rail related transportation activities in POLB and has been prepared to: 1) identify existing transportation/circulation problems, 2) identify future transportation needs of POLB, and 3) present current plans and recommendations to address POLB's transportation demands. Of the five goals related to vehicle transportation/circulation, the following goal is applicable to the proposed project: provide safe and convenient parking for port tenants and visitors while minimizing the amount of primary port land devoted exclusively to parking.

The project proposes to expand the existing parking garage on-site from 1,430 parking spaces to 2,055 parking spaces by extending the parking garage laterally towards the southwest and northeast; refer to Exhibit 2-4. The expanded parking garage would not extend beyond Carnival's existing property line and would utilize an unused area on the property currently developed with a dilapidated and abandoned tunnel to the southwest of the parking garage; refer to Exhibit 2-4. Thus, the project would maximize use of the project site and existing parking garage to provide additional parking for port tenants and visitors associated with the cruise terminal and the greater Pier H area.

## DISTRICT 7 – QUEENSWAY BAY DISTRICT

The PMP identifies four goals for the Queensway Bay District, as detailed below.

**Goal 1: Intensify commercial and recreational activities consistent with Chapter 3 of the Coastal Act**

As stated above, the proposed project would improve the existing cruise terminal to accommodate a larger class of cruise ships at the existing wharf deck and associated passengers at the parking garage on-site. The new approximately 4,008-passenger cruise ship (*Carnival Panorama*) is expected, under current economic conditions, to generate an additional 50,000 passengers per year on top of the current 600,000 passengers transported by Carnival into POLB for embarkation and debarkation per year. As such, the project would intensity commercial and recreational activities consistent with the CCA.

**Goal 2: Maintain and enhance landscaping as a buffer between Queensway Bay District and the inner harbor area**

The project site is located at the southern end of the Queensway Bay District and separated from the inner harbor area by Harbor Scenic Drive and Interstate 710. Existing landscaping between the Queensway Bay District and the inner harbor area would not be impacted by onshore improvements associated with the parking garage.

**Goal 3: Minimize disruptions of significant view corridors.**

As detailed in Section 4.1, *Aesthetics*, the PMP identifies three sensitive views within POLB: (1) predominant structures visible to the east from downtown Long Beach and along the ocean bluffs, (2) ground-level views along the boundary of Queensway Bay, and (3) ground-level views along Harbor Scenic Drive from the southbound lanes south of Anaheim Street.

Of the three sensitive views identified in the PMP, the project site is partially visible from two sensitive views: ground-level views along the boundary of Queensway Bay and ground-level views along Harbor Scenic Drive from southbound lanes south of Anaheim Street. However, the proposed improvements to the cruise terminal would have a minimal impact to these scenic vistas.

- *Ground-level views along the boundary of Queensway Bay*. The maritime improvements at the project's wharf deck would be visible from across Queensway Bay only from Grissom Island and the nearby marina. However, given the distance across Queensway Bay, it would be difficult to distinguish the proposed improvements from existing structures already developed on and near the wharf deck. Further, the scenic value looking towards the project site from across Queensway Bay is mostly attributed towards the waterfront, RMS Queen Mary, and Harry Bridges Memorial Park rather than the cruise terminal wharf deck, which blends with other wharf decks in the Queensway Bay and marina area. All other ground-level views towards the project site along the boundary of Queensway Bay are blocked by the cruise terminal dome, including the parking garage and pedestrian bridge. Thus, development of the project would not substantially impact views along the boundary of Queensway Bay and impacts would be less than significant in this regard.

- *Ground-level views along Harbor Scenic Drive from southbound lanes south of Anaheim Street*. The proposed maritime improvements would be blocked by the existing dome from ground-level views along Harbor Scenic Drive. The onshore improvements, primarily the expanded parking garage, would be partially visible along Harbor Scenic Drive near the entrance of the Queen Mary Seaport parking area. However, the expanded parking garage would look similar to the existing garage as it would only be extended on its northeast and southwest sides; refer to Exhibit 2-4. Thus, scenic views looking south along Harbor Scenic Drive near the project site would not be substantially impacted.

Overall, the proposed improvements would not substantially impact sensitive views identified in the PMP. Most scenic views looking towards the project site and proposed improvements would be blocked by the dome and the

improvements would not result in substantial changes to the overall visual character of the existing cruise terminal and wharf deck.

**Goal 4: Encourage increased use of the flood control channel for non-contact water sports.**

This goal is not applicable to the proposed project as it does not propose non-contact water sports use.