

PUBLIC REVIEW DRAFT

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Naples Seawall

Interim and Long Range Repair Project

Prepared for:
City of Long Beach

Prepared By:
RBF Consulting

JANUARY 2010

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**Naples Seawall Interim and Long Range
Repair Project**

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

Note that a hard copy of the Technical Appendices are available for review at the City Public Works Records located at City Hall, 333 West Ocean Boulevard, 10th Floor, Long Beach, CA 90802.

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1.0 INTRODUCTION

The proposed Naples Seawall Interim and Long Range Repair Project (herein referenced as the "project") is located within the City of Long Beach (City) and involves approximately 11,000 linear feet of improvements to the Naples Seawall. The project site is generally located in the southeast portion of the City, south of East 2nd Street. The project includes improvements to the seawall surrounding Naples Island, opposing landside seawall segments, and Treasure Island seawall segments.

Following a preliminary review of the proposed project, the City of Long Beach determined that the improvements are subject to the guidelines and regulations of the California Environmental Quality Act (CEQA). The City has determined an Initial Study/Mitigated Negative Declaration (IS/MND) to be the appropriate level of environmental analysis under the provisions of CEQA.

1.1 STATUTORY AUTHORITY AND REQUIREMENTS

California Environmental Quality Act

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, 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(c), 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. However, the resulting documentation is not 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. This Initial Study addresses the direct, indirect, and cumulative environmental effects of the project, as proposed, under CEQA. 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 INCORPORATION BY REFERENCE

The references outlined below were utilized during preparation of this Initial Study. The documents are available for review at the City of Long Beach Community Development Department, located at 333 West Ocean Boulevard, Long Beach, California 90802.

- *City of Long Beach General Plan*. The *City of Long Beach General Plan (General Plan)* is the long-range planning guide for growth and development for the City. The *General Plan* sets forth the goals, policies, and directions the City will take in managing its future. The *General Plan* is the citizens' blueprint for development; the guide to achieving the City's vision. It is a comprehensive document that addresses seven mandatory elements/issues in accordance with State law. These elements include Land Use, Housing, Circulation, Conservation, Open Space, Noise, and Safety. Other optional issues that affect the City, including Air Quality, Scenic Routes, Seismic Safety, and a Local Coastal Program, have also been addressed in the *General Plan*.

Each element of the *General Plan* was adopted as follows:

- Land Use Element (1989);
- Transportation Element (1991);
- Open Space and Recreation Element (2002);
- Public Safety Element (1975);
- Housing Element (2009);
- Noise Element (1975);
- Conservation Element (1973);
- Air Quality Element (1996);
- Scenic Routes Element (1975); and
- Local Coastal Program (1980).



The *General Plan* was utilized throughout this document as the fundamental planning document governing development on the project site. Background information and policy information from the *General Plan* is cited in several sections of this document.

- *City of Long Beach Municipal Code (enacted April 21, 2009)*. The *City of Long Beach Municipal Code (Municipal Code)*, enacted April 21, 2009, 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 *General Plan* goals and policies. The City Zoning Code, Title 21 of the *Municipal Code*, identifies land uses permitted and prohibited according to the zoning category of particular parcels. The Buildings and Construction Code (Title 18) specifies rules and regulations for construction, alteration, and building for uses of human habitation. Subdivisions, Title 20, are also regulated within the City's *Municipal Code*.



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2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The City of Long Beach (City) is located in the southern portion of Los Angeles County; refer to Exhibit 2-1, Regional Location. The proposed project involves approximately 11,000 linear feet of improvements to the Naples seawall. The Naples Seawall Interim and Long Range Repair Project (herein referenced as the "project") is generally located in the southeastern portion of the City south of East 2nd Street, and includes both interim and long range improvements to the seawall surrounding Naples Island.

2.2 ENVIRONMENTAL SETTING

2.2.1 Existing Land Uses

The system of seawalls on the project site can be divided into three segments: Naples Island, landside, and Treasure Island; refer to Exhibit 2-2, Local Vicinity Map. The Naples Island segment consists of an oval shaped island located in the center of the Naples community. The Rivo Alto Canal surrounds Naples Island, and enters Alamitos Bay to the south. Five bridges provide access to Naples Island. Naples Island contains approximately 82 properties and Colonnade Park that front the water. The landside segment is the mainland waterfront, which extends from the west channel of Alamitos Bay to the east main channel of Alamitos Bay. Approximately 133 properties front the water along the landside segment. The Treasure Island segment consists of a narrow triangular-shaped island located to the southwest of the Naples community. Access to Treasure Island is provided by a bridge from Naples Island. Approximately 39 properties front onto the water on Treasure Island.

The following land uses are located in the vicinity of the proposed improvement areas:

- North. East 2nd Street trends in an east/west direction to north of the project site. Land uses to the north include single-family residential and commercial uses. Alamitos Bay is also located to the north of the project site.
- East. Single-family residential and commercial uses are located to the east of the project site. Alamitos Bay is also located to the east of the project site.
- South. To the south of the project site are Alamitos Bay and the Pacific Ocean. Land uses to the south include residential uses on the Alamitos peninsula.
- West. The community of Belmont Shore is located to the west of the project site. Land uses to the west include residential and institutional uses. Alamitos Bay is also located to the west of the project site.



	Treasure Island Segment
	Naples Island Segment
	Landside Segment

Source: Eagle Aerial, 2008.



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NAPLES SEAWALL INTERIM AND LONG-RANGE REPAIR PROJECT • IS/MND

Local Vicinity Map

Exhibit 2-2



2.2.2 Existing Seawalls

The existing seawalls are constructed of precast concrete sheet piles that are two to four feet wide by 10 inches thick with lengths of 22, 24, and 26 feet. The wall is topped with a cast-in-place reinforced concrete cap that is 20-inches tall and 20-inches wide. An 18-inch extension was added to the cap in the late 1960s. The original lower cap is in fair condition on the landside of the wall and in very poor condition on the waterside. The upper increment of the cap is severely deteriorated and shows signs of advanced corrosion, cracks, corner spalls, face spalls, rail spalls, insufficient concrete cover "pop spalls", and corrosion bleeding. Over 95 percent of the seawall cap is in advanced deterioration. Approximately 10,730 linear feet of cracks and spalls occur on the visible surfaces of the 11,000 linear-foot seawall cap.

An anodized aluminum guard rail provides pedestrian safety atop the cap. Steel tie-back rods 1-3/8-inch in diameter brace the top of the wall from outward rotation. The rods are buried in the soil behind the wall and extend 18-feet back to a 15-inch square precast concrete soldier pile, which is also buried beneath the earth. The top of the current seawall is approximately nine feet above mean lower low water (MLLW). Mudline depths vary; however, original dredge depths are estimated as five feet below MLLW inside the canals, 6.5 feet below MLLW at the canal entrance channel and along the Main Channel of the Alamitos Bay, and eight feet below MLLW along the West Channel of Alamitos Bay.

The entire waterfront of the Naples community is accessible by public walkways located approximately five feet inboard of the seawall. Multiple areas of the public walkways have experienced vertical displacement which causes public safety hazards. A four-foot soil compaction probe has been used by TranSystems to test for subsidence (i.e., sinkholes, soft soil conditions, etc.). All suspect openings in paving and planting areas were probed for sinkholes, loose soil, and suspect voids. Multiple portions of the paving and planting areas show evidence of subsidence. Raised decks and planters matching or exceeding the height of the seawall cap are estimated to increase the forces on the seawall system by 11 to 14 percent. Large trees can further increase this load in direct proportion to their weight. The Naples Seawall Committee and the City have developed a list of seawall guidelines to address seawall maintenance and repair in order to preserve the seawalls for future generations.

2.3 BACKGROUND AND HISTORY

The Naples canals were first developed between 1905 and 1906, and were originally constructed of timber lagging with concrete facing. The Naples canals total approximately one mile. The 1933 Long Beach earthquake caused severe failures of the timber wall systems, causing the sand fill to collapse back into the canals, resulting in an unsafe shoreline and inaccessibility for boaters and residents. The City of Long Beach, Naples community, and Work Projects Administration collaborated to raise the necessary funding to rebuild the canals between 1938 and 1939 using the precast concrete sheet pile system that exists today.

The Naples community subsided approximately 17 inches between 1928 and 1970 due to oil pumping at the Seal Beach and Wilmington oil fields. This subsidence resulted in seawater overtopping the seawall cap, which resulted in flooding to adjacent streets and walkways at high tides. In response, an 18-inch extension was added to the top of the existing cap between 1967 and 1968. New tie rods were installed below the existing cap, around the Naples Island segment, in response to failures and ongoing deterioration of the existing tie rod system during the mid-1990s and early 2000s. From the mid-1950s to the present, various soil grouting and



sheet pile joint grouting efforts have taken place in response to soil loss through the sheet pile joints and gaps in the seawall.

The studies include engineering investigations on seawall deterioration, a bulkhead survey, a condition evaluation and repair and maintenance plan, a guard rail survey, and geotechnical investigations by Kleinfelder and AESCO Technologies. TranSystems engineers/divers performed underwater and above-water inspections of the entire seawall. Several areas of structural damage and undermined sheets or loss of rock protection along the main channels were noted. Open joints, breaks in the concrete pile cap, wide corrosion cracks, and large concrete spalls were also noted during the inspections. Kleinfelder and AESCO Technologies also took multiple borings throughout the site for geotechnical evaluation of the seawall and surrounding areas.

2.4 PROJECT CHARACTERISTICS

The intent of the project is to identify viable options for the stabilization of the seawall in its present deteriorating state and extend the life of the seawalls. TranSystems Corporation engineers performed an investigation of the distressed concrete sheet pile seawall, analyzed its stability, developed repair concepts, and made repair priorities for the seawalls in 2008. Engineers have assessed the various factors contributing to the seawall's horizontal, vertical, and rotational displacements from the original constructed positions. TranSystems Corporation prepared the *Naples Seawall Stability Investigation and Repair Recommendations* on February 25, 2009 (approved in April 2009), presenting their findings and repair recommendations. Interim as well as long range repairs have been recommended by TranSystems Corporation.

2.4.1 Interim Repairs

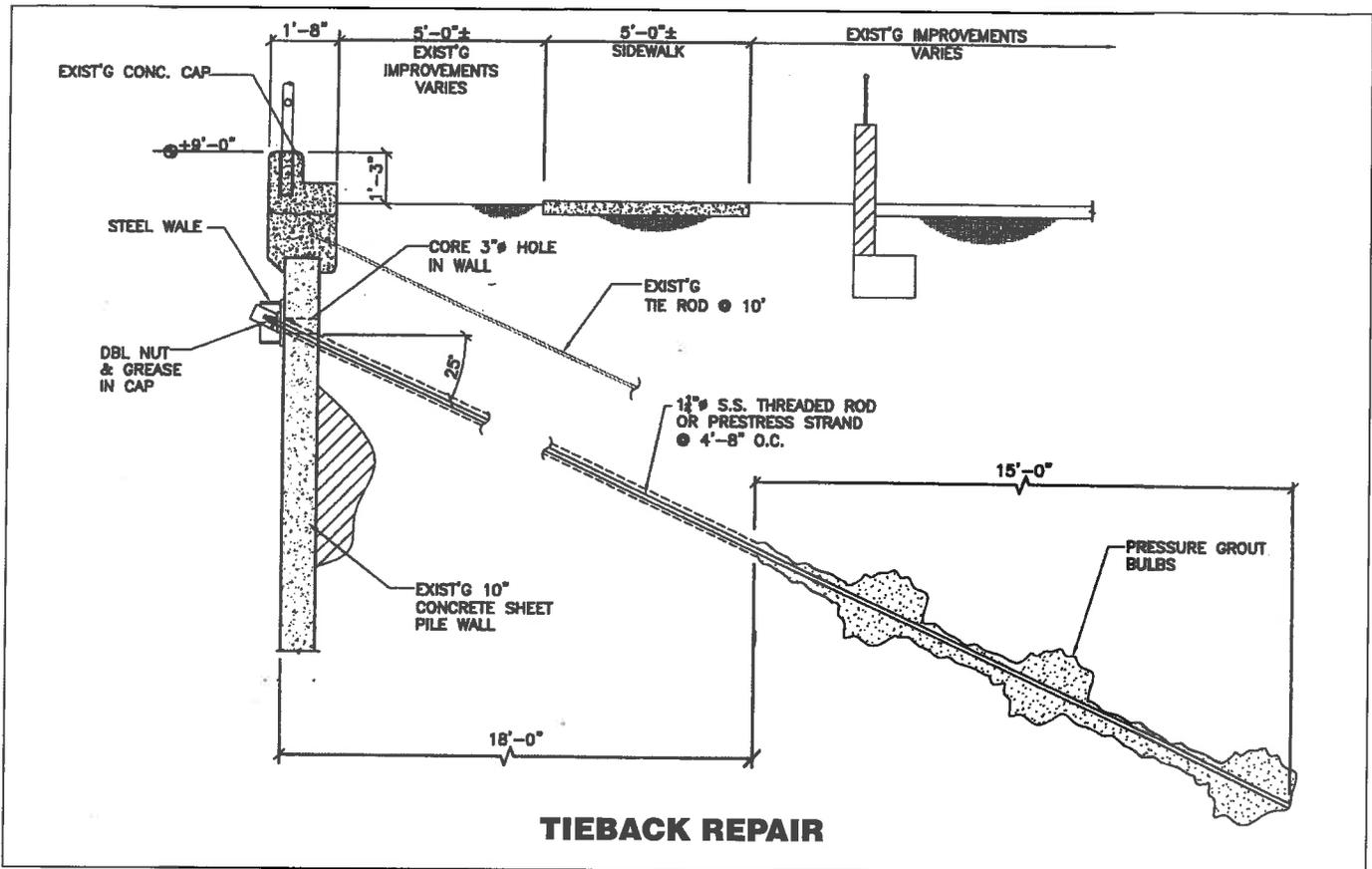
TranSystems has recommended interim repairs for the seawall prior to establishing a funded program to replace the seawalls; refer to Exhibit 2-3, *Interim Repairs Key Map*. Interim repairs would consist of sinkhole repairs (gravel filled bag system beneath sinkholes), a tieback system (grouted rods to relieve stress), and scour repairs (underwater rock protection). Light pole foundation repairs (a single long helical pipe or a trapeze foundation of three smaller helical anchors) and bulkhead repairs are also suggested interim repairs.

Tieback System

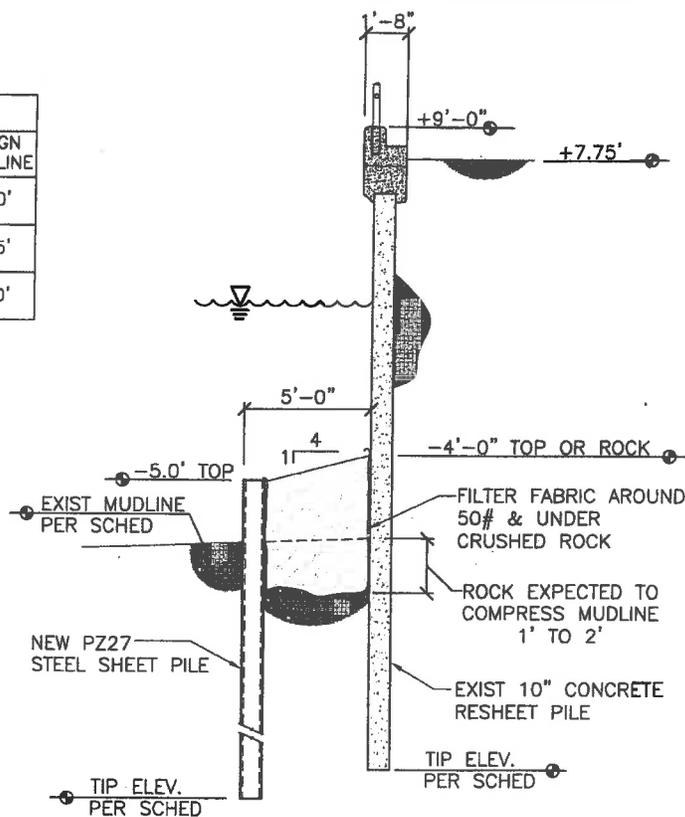
A tieback system is in place on Naples Island. Tieback systems are considered an interim repair for areas where the concrete is in fair condition and may last another 20 years. The existing tieback system has been damaged in many areas from construction activities. Use of tieback systems is recommended for the portion of the seawall along the south side of Treasure Island and the western side of the landside segment; refer to Exhibit 2-4a, *Interim Repairs Cross Sections*. Grouted rods are recommended for the tieback system for these areas. Helical tiebacks were not recommended due to required destructive excavations to install the helical paddles on the tieback shaft.

Bulkhead Repairs

Rock protection by an underwater steel sheet pile bulkhead presents the greatest benefit of relieving stress from the existing weakened concrete at deteriorated areas. Bulkhead repairs are recommended for the northeastern portion of Rivo Alto Canal.



CONSTRUCTION SCHEDULE			
LOC.	CONCRETE PILE TIP	STEEL PILE TIP	DESIGN MUDLINE
22' SHEET	-15.75'	-24.0'	-5.0'
24' SHEET	-17.75'	-26.0'	-6.5'
26' SHEET	-19.75'	-29.0'	-8.0'



Source: Tran Systems, February 25, 2009.



Light pole repairs using a single long helical pipe or a trapeze foundation of three smaller helical anchors would be utilized since both systems have a minimal impact on the site and are capable of being installed in poor soils; refer to Exhibit 2-4a. A 10-foot screw is recommended, as the deepest sinkhole is eight feet deep.

Sinkhole Repairs

A gravel filled bag system is a cost effective means to restore the sidewalks with sinkholes to a safe condition for public access; refer to Exhibit 2-4b, Interim Repairs Cross Sections. Gravel over earth fill would be utilized, as it lasts longer. The gravel can be easily excavated for future utility work or seawall replacement efforts. The planting area adjacent to the sidewalk would be most efficiently maintained by keeping it earth or gravel. However, to reduce maintenance, chemical grouting of the soil could be performed.

Scour Repairs

Scour repairs involve underwater rock protection of the seawalls. Rock over filter fabric could be placed in the scour areas (i.e., the channel entrance area) as temporary mitigation. However, this would pose a navigation hazard unless clearly marked with a warning pile at the work area limits. Scour repairs would be performed at the southwestern corner of Treasure Island and the southern portion of Naples Island; refer to Exhibit 2-4b. The repair can be built up to an elevation of five-feet below MLLW, as long as it stays under the dock width and would not affect navigation or performance of the docks.

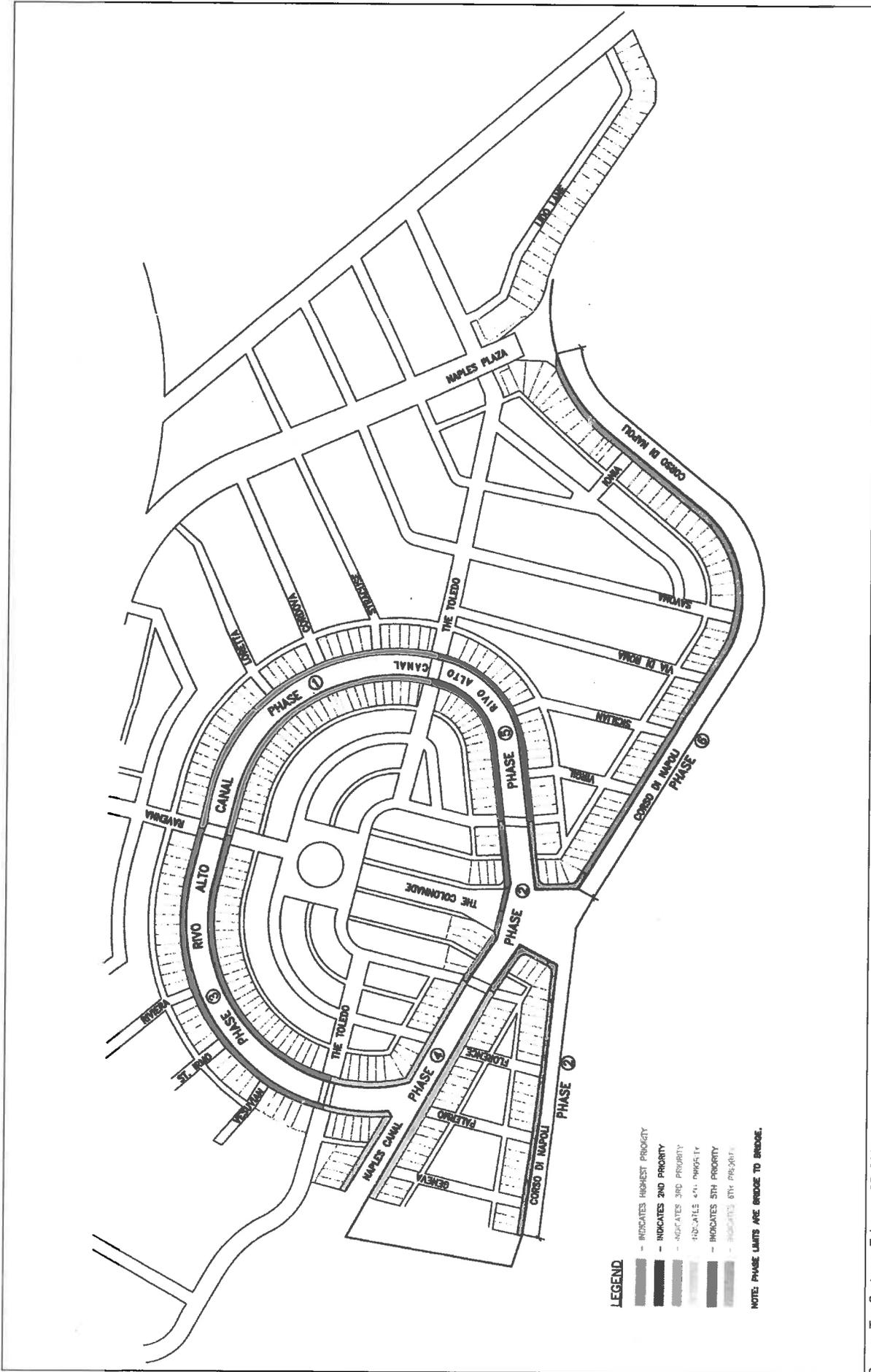
2.4.2 Long Range Repairs

Since the existing seawalls are currently 70 years old, a replacement program was recommended by TranSystems Corporation. Long range repairs would include either waterside or landside repair. The waterside repair option would be least intrusive to residential properties and dock systems. The landside repair option would result in fewer impacts to channel depth and width, and would eliminate corrosive materials from the construction. Refer to Exhibit 2-5, Long Term Repairs Key Plan, for long term repair phasing.

Waterside Repair Option

The waterside repair method involves the replacement of the seawall, and cap and tie-rods with the least intrusive method to the residential properties and dock systems; refer to Exhibit 2-6, Long Term Cross Sections. The majority of activities associated with this repair can be accomplished from the waterside. This repair option consists of the following components:

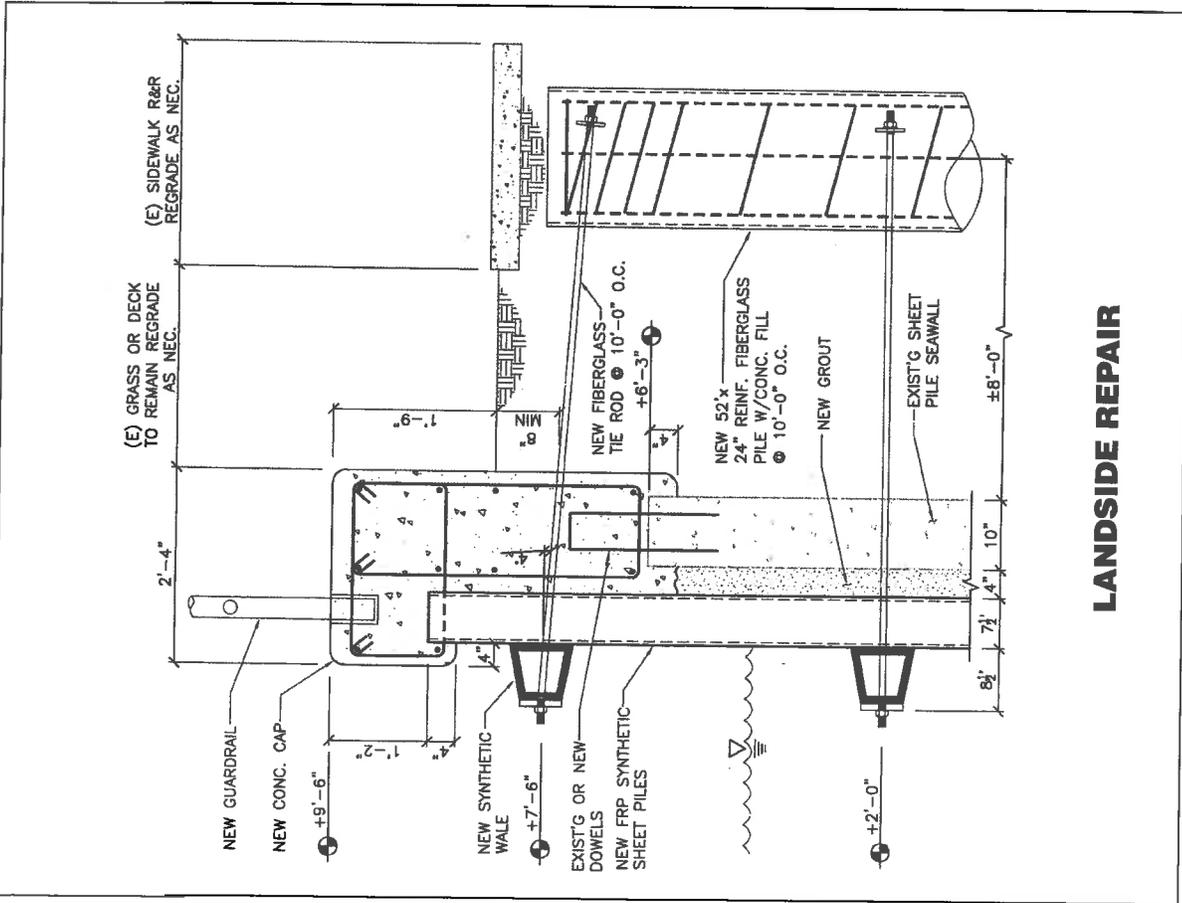
- Pressure washing the existing wall face to remove potential voids of marine growth if trapped in the repair;
- Excavating a shallow trench adjacent to the seawall to remove the sediments down to the level of harder original dredge depth plus one foot at minimum for bearing;
- Driving new steel "H" piles at a spacing between 5 and 10 feet on center;
- Installing recycled plastic spacers to the inboard flange of the "H" pile;
- Setting the precast concrete planks into the space between the "H" piles and securing them plumb with solid plastic blocking on the outboard leg of the "H" pile flange;



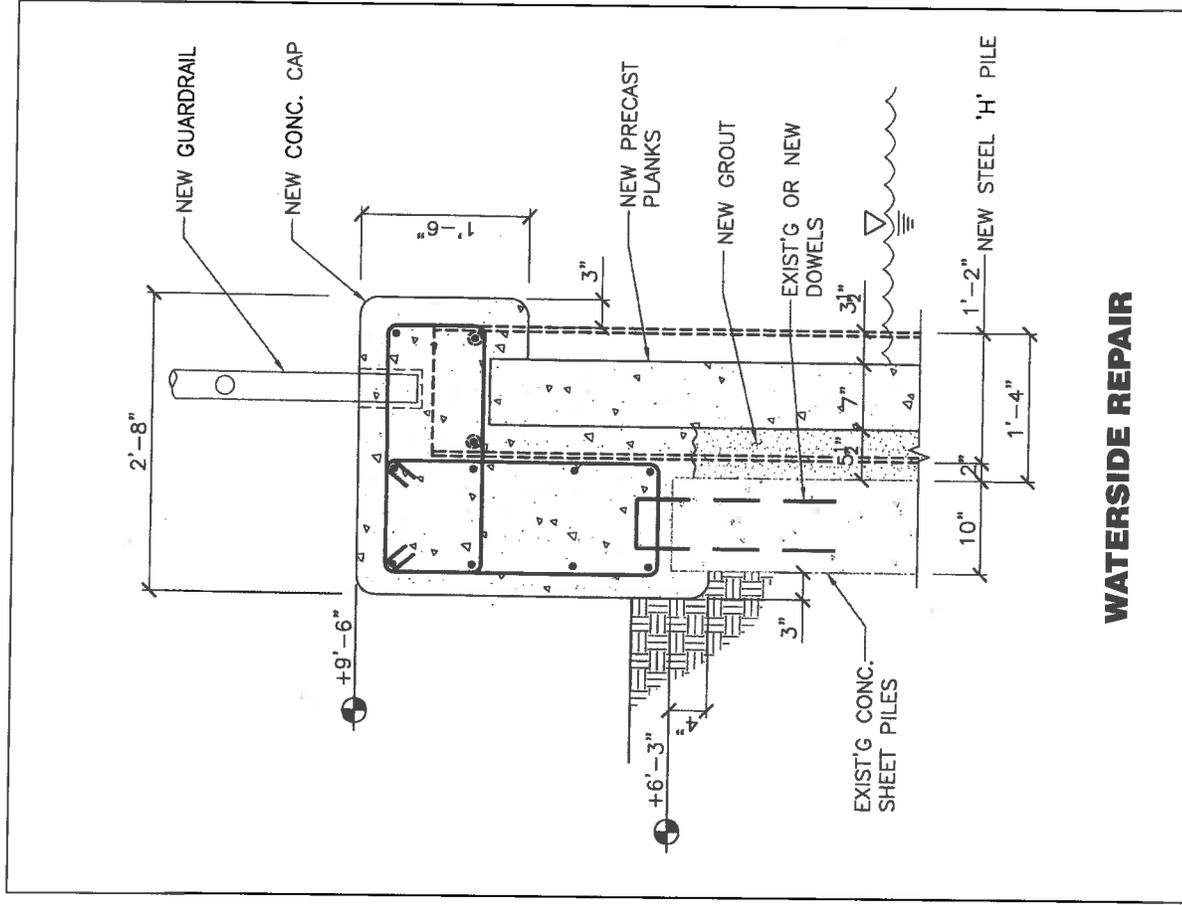
Source: TranSystems, February 25, 2009.



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Source: Tran Systems, February 25, 2009.





- Grouting the gap between the new concrete planks and the existing seawall with a pea gravel concrete mix up to the base of the existing cap (where grout is placed below water it should use a tremmie method and the concrete should have an anti-washout admixture);
- Demolish the existing cap and construct a new cap to encapsulate both the new "H" pile top and the existing sheet piles; and
- Install a new guard rail, sidewalks, and repair subsidence areas behind the wall.

The waterside repair method has several associated factors. Positive factors associated with the waterside repair method include the following:

- Least intrusive on existing homeowners and public walkways;
- Precast concrete panels would allow for faster construction;
- Method can be started and stopped at any location for phasing or work interruptions;
- Repair would seal all voids, gaps, and cracks in the existing seawall to alleviate the ongoing loss of soil and settlement from tidal pumping;
- Repair would replace the deteriorated seawall cap and be an aesthetic improvement;
- Repair would improve the seismic capacity of the seawall and protect the value of adjacent properties;
- Repair would significantly reduce future maintenance costs for several years;
- The sidewalk system would have few, if any, closures for wall or tie-back repairs for the next 25 to 50 years;
- Repair could address sea level rise, if desired, at minimal cost;
- No effect on floating dock clearances;
- Storm drains could reasonably be extended through precast concrete; and
- All equipment is expected to work from "flexi-float" platforms built for the project.

Other factors associated with the waterside repair method include the following:

- Steel corrodes and the "H" piles require epoxy coating and sacrificial cathodic protection anodes to resist this. The first 15 years would not require maintenance but 12 to 15 year interval recoating would be necessary;
- "H" piles would reduce the channel width an estimated 16 inches on each side;
- Requires temporary relocation of the floating dock systems and a mid-sized floating crane to drive the piles; and
- Storm drains must avoid "H" pile locations.

Landside Repair Option

The landside repair method attempts to address the replacement of the seawall, cap, and tie-rods with the least impact on the adjacent properties, channel depth, channel width, and elimination of corrosive materials from the construction; refer to Exhibit 2-6, Long Term Cross Sections. This method would utilize a combination of waterside fiberglass sheet piling to seal the wall and composite caisson on the landside to brace the tie-back rods required for the fiberglass sheet pile wall. This repair option consists of the following components:



- Pressure washing the existing wall face to remove potential voids of marine growth if trapped in the repair;
- Removing the sidewalks adjacent to the seawall to excavate the 24-inch diameter caissons at 5 to 10 feet on-center, to be optimized by the designer;
- Lining the caisson excavation with a hollow fiberglass pipe pile;
- Driving new fiberglass sheet piling a few inches clear of the existing wall;
- Installing the rebar cage inside the fiberglass lined caisson;
- Marking and drilling holes through the existing wall and fiberglass pipe in order to install two new tie rods into each caisson;
- Dewater and fill the caisson with concrete;
- Attach a new high and low dense plastic composite wale to the face of the new sheet piling and secure with the new tie rods;
- Fill the void between the existing and new seawall with concrete grout up to the base of the existing cap;
- Demolish the existing seawall cap and construct a new cap to encapsulate both the top of the new fiberglass sheets and the existing sheet piles;
- Install a new guard rail on the cap; and
- Bury the caissons tops, re-grade, and construct new sidewalks.

The landside repair method has several associated factors. Positive factors associated with the landside repair method include the following:

- Does not require major landside excavation and requires minimal removal of existing homeowner improvements for construction;
- Highly resistant to corrosion, which results in minimal maintenance for the service life of the structure;
- Method can be started and stopped easily for phasing or work interruptions;
- Repair would seal all voids, gaps, and cracks in the existing seawall to alleviate the ongoing loss of soil and settlement from tidal pumping;
- Repair would improve the seismic capacity of the seawall and protect the value of adjacent properties;
- The sidewalk system would have few, if any, closures for wall or tie-back repairs for the next 25 to 50 years;
- Repair could address sea level rise, if desired, at minimal cost;
- No effect on floating dock clearances;
- Can use a smaller crane (as compared to the waterside repair option) during construction; and
- Lesser construction cost than the waterside repair option.

Other factors associated with the landside repair method include the following:

- Requires longer disruption of public walkway;
- The fiberglass sheet pile work requires a slightly longer construction schedule than the waterside repair option;



- Reduces the channel width an estimated 12 inches on each side plus 8.5 inches more at each whaler;
- Requires temporary relocation of the floating dock systems;
- Ultraviolet light on the waterfront would fade the color pigment in the fiberglass sheet piling and wales, but this does not weaken the members;
- Continuous sheet pile systems may hit more obstruction buried below the mud and have to work around them rather than beat through them, which an "H" pile can often do;
- Storm drains require careful coordination of special integrated drain extension sheet pile sections; and
- Sidewalk work would be dirty work with removal of wet soil during caisson construction.

2.5 PROJECT PHASING

The project would be divided into six work areas, separated by the existing bridges to Naples Island. Interim repairs as well as long range repairs have been recommended for the project. One phase would be constructed per year under the long range repair option and each phase would require approximately six months of construction. Long range project phasing has been recommended based on repair priority, and is as follows:

- Phase 1: Northeast portion of the Naples seawall (from the Ravenna Drive bridge to the East The Toledo bridge) and the opposing landside seawall.
- Phase 2: Southern portion of the Naples seawall, between the West Neapolitan Lane bridge and the East Neapolitan Lane bridge. Phase 2 also includes the portions of the seawall along the eastern and southern edges of Treasure Island as well as the western edge of the landside seawall (west of the East Neapolitan Lane bridge).
- Phase 3: Northwestern portion of the Naples seawall (between the East The Toledo bridge and the Ravenna Drive bridge) and the opposing landside seawall.
- Phase 4: Southwestern portion of the Naples seawall (between the East The Toledo bridge and the West Neapolitan Lane bridge) and the portion of the seawall along the northern edge of Treasure Island.
- Phase 5: Southeastern portion of the Naples seawall (between the East Neapolitan Lane bridge and the East The Toledo Bridge) and the opposing portion of the seawall along the northern edge of the landside seawall.
- Phase 6: Southern portion of the landside seawall, southeast of Naples Island along Corso di Napoli to Naples Plaza.

Interim seawall repairs would be completed over a nine-year period of time, from spring of 2010 to fall of 2019. Interim tieback and sinkhole repairs would be the only interim repair requiring demolition. Pile driving would occur during bulkhead repairs.

Long range repairs would be completed over a six-year period of time, from spring of 2020 to fall of 2026. Demolition would occur throughout the life of the construction of the project under both waterside and landside repair options. Pile driving would occur during both waterside and landside repair options on Naples Island. Construction staging would occur within the public rights-of-ways of alleys in the vicinity of the public seawall under both interim and long range repairs.



2.6 AGREEMENTS, PERMITS, AND APPROVALS

The City and other applicable agency approvals required for development of the project would include the following, among others:

- CEQA clearance;
- Los Angeles Regional Water Quality Control Board Permits(s);
- U.S. Army Corps of Engineers (ACOE) Permit(s);
- National Marine Fisheries Service Section 7 ESA Consultation (in cooperation with the ACOE);
- U.S. Fish and Wildlife Service Permit(s);
- Excavation Permit;
- Water District Permit(s); and
- California Coastal Commission, Coastal Development Permit.



**City of Long Beach
Naples Seawall Interim and Long Range Repair Project
Initial Study/Mitigated Negative Declaration**

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3.0 INITIAL STUDY CHECKLIST

3.1 BACKGROUND

1.	Project Title: Naples Seawall Interim and Long Range Repair Project
2.	Lead Agency Name and Address: City of Long Beach 333 West Ocean Boulevard Long Beach, California 90802
3.	Contact Person and Phone Number: Mr. Mark Christoffels Deputy Director of Public Works/City Engineer 562.570.6771
4.	Project Location: The proposed project involves approximately 11,000 linear feet of improvements to the Naples seawall located in the community of Naples, City of Long Beach (City). The project site is generally located in the southeast portion of the City, south of East 2 nd Street; refer to <u>Exhibit 2, Local Vicinity Map</u> .
5.	Project Sponsor's Name and Address: Department of Public Works City of Long Beach 333 West Ocean Boulevard Long Beach, California 90802
6.	General Plan Designation: The project site is located within Land Use District Number 1 (Single-Family) in the <i>General Plan</i> .
7.	Zoning Designation: The project site is located within zoning districts R-1-S (Single-Family Residential, small lot) and R-4-N (Medium-Density Multiple Residential).
8.	Description of the Project: Refer to <u>Section 2.4, Project Characteristics</u> .
9.	Surrounding Land Uses and Setting: Refer to <u>Section 2.1 and 2.3.1, Project Location</u> and <u>Existing Land Uses</u> .
10.	Other public agencies whose approval is required (e.g., permits, financing approval or participation agreement): Refer to <u>Section 2.6, Agreements, Permits, and Approvals</u> .



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" or "Less Than Significant Impact With Mitigation Incorporated," as indicated by the checklist on the following pages.

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

3.3 LEAD AGENCY DETERMINATION

On the basis of this initial evaluation:

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

I find 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, *Inventory of Mitigation Measures*, have been added. A MITIGATED NEGATIVE DECLARATION will be prepared.

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

I find 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.

 ✓



Signature
 Jill Griffiths
 Printed Name

Advance Planning Officer
 City of Long Beach

 Agency
 January 21, 2010

 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 Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities and Service Systems

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the *CEQA Guidelines*, as amended, 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 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 could have impacts, which may be considered significant, and therefore additional analysis is required to identify mitigation measures that could reduce potentially significant 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.



**City of Long Beach
Naples Seawall Interim and Long Range Repair Project
Initial Study/Mitigated Negative Declaration**

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4.0 ENVIRONMENTAL ANALYSIS

The project is being analyzed in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Sections 21000-21177) and pursuant to Section 15063 of Title 14 of the California Code of Regulations (CCR), with the City of Long Beach (City) acting in the capacity of Lead Agency.

The following provides a discussion of the potential project impacts as identified in the Initial Study/Mitigated Negative Declaration (IS/MND). The project proposes long range as well as interim seawall repairs. Long range repairs consist of either a waterside or landside repair option, which would result in the replacement of the seawalls. Interim repairs consist of temporary seawall improvements until funding becomes available for seawall replacement. As part of this analysis, both the proposed long range repairs and interim repairs to the seawalls have been analyzed separately under each identified impact threshold in the IS/MND, as impacts may vary under both improvement scenarios. As the long range repairs represent the worst-case scenario, this repair option is analyzed first and is then followed by an analysis of the impacts associated with the interim repairs. Explanations are provided within each corresponding impact category in this analysis.



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4.1 AESTHETICS

<i>Would the project:</i>	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. Substantially degrade the existing visual character or quality of the site and its surroundings?			✓	
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.

Long Range Repair Option

The *General Plan* identifies multiple aesthetic visual assets throughout the community. Visual assets include vistas of the ocean, port facilities, oil islands, Bixby Park, Bluff Park, and other vantage points. Additionally, views from Signal Hill are important visual assets to the City. Scenic vistas within the viewshed of the proposed project include the ocean and Alamitos Bay.

Long range repairs would include elevating the seawall cap by six inches in order to accommodate the rising sea level. The existing seawall cap is at plus 9.0-foot mean lower low water (MLLW), and does not obstruct views of the Pacific Ocean or Alamitos Bay. The increase of six inches would not be significant enough to create a view obstruction from the surrounding areas. Equipment associated with construction activities may temporarily obstruct scenic vistas. However, these impacts would be short-term as the equipment would not be staged in one location for a significant amount of time. The project improvements would occur over a period of six years. One phase would be constructed per year and each phase would require approximately six months of construction. Therefore, the improvements would only be visible from any given location at the project site for approximately six months per year. Impacts have been concluded to be less than significant for effects on a scenic vista.

Interim Repair Option

Interim seawall repairs do not include raising the seawall cap height. Temporary construction activities may obstruct views to the Pacific Ocean and Alamitos Bay. The interim improvements would occur over a period of nine years. However, construction activities at any particular location in the project area would be short-term in duration and would cease upon completion. Impacts have been concluded to be less than significant for effects on a scenic vista.



Mitigation Measures: No mitigation measures are required.

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

No Impact.

Long Range Repair Option

Although there are no existing designated state scenic highways in the City or within the project area, the California Department of Transportation (Caltrans) has designated Pacific Coast Highway (PCH) as an eligible scenic highway in the southeastern portion of the City. PCH is located approximately 0.70 miles to the northeast of the project site.

Long range repairs would not be visible from PCH, as the most visible project feature (the seawall cap) would only be six inches higher than the existing cap. Also, construction activities would not be visible from PCH due to intervening structures. No impacts would result in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact.

Long Range Repair Option

During construction activities, the existing visual character of the local area may be temporarily altered. Construction-related activities would be visible to nearby residents and recreational users of the canals and Alamitos Bay. Visible construction equipment would include a floating crane and truck traffic. The floating dock system would be temporarily relocated to areas being improved. Equipment utilized for the long range repairs would be staged at the end of the alleys near the seawall.

Although construction activities would be visible, the proposed areas of disturbance would be limited to the location of the existing seawalls, the canals, and minimal areas of homeowner improvements adjacent to the seawalls (i.e., landscaping, benches). Project improvements would occur over a period of six years, with one phase being constructed per year and each phase requiring approximately six months of construction. These improvements would only be visible from any given location at the project site for approximately six months.



Implementation of the required permits from the Regional Water Quality Control Board (RWQCB), such as the National Pollution Discharge Elimination System (NPDES), Storm Water Pollution Prevention Plan (SWPPP), would reduce potential impacts resulting from dust and track out areas. Best Management Practices (BMPs) and techniques required as part of the permitting conditions would assist in reducing visible impacts to a less than significant level.

Also, implementation of the landside option of the long-range repairs may require the removal of ornamental trees. It should be noted that the Naples Seawall Committee considers palm trees a significant resource. As part of the project, the City proposes to preserve existing palm trees in the project area, where feasible. However, some trees may be required to be removed during project construction, as a result of crane operations for long-range repairs. Per existing City's requirements, the residents would be required to be notified for any tree removal prior to construction. Any trees removed during construction would be replaced with similar species, per Chapter 14.28 of the *Municipal Code*. Therefore, with compliance with Chapter 14.28 of the *Municipal Code*, impacts in this regard would be reduced to less than significant levels.

Upon completion of long range repairs, the seawalls would be six inches higher than the existing condition. This change in height would not result in a degradation of the local character and quality. Therefore, long-term impacts to character/quality would be less than significant.

Interim Repair Option

Construction impacts related to the interim repairs would be similar to those discussed above for the long range repairs. Construction equipment staging for bulkhead repairs would be located at the end of the Loreta Walk or Syracuse Walk near the seawall. For tieback repairs on Treasure Island, staging would be at the end of alleys near the seawall. Equipment staging for scour repairs would be located along The Colonnade and at the end of alleys near the seawall on Treasure Island. Public sidewalks would be temporarily disturbed and may be temporarily inaccessible (refer to Section 4.15(e) for a discussion on access during construction). Although project improvements would occur over a period of six years, these improvements would only be visible from any particular location in the project area for a short period of time, and would cease upon completion. Construction-related activities would be short-term and are less than significant.

Interim seawall repairs do not include raising the seawall cap height. Also, no trees would be removed as part of the interim repairs. Upon completion of interim repairs, the seawalls would appear similar to existing conditions. Visual impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measures are 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.

Long Range Repair Option

Currently, light and glare in the project vicinity is produced by vehicle headlights, street lighting, security lighting along public sidewalks, and lighting from the adjacent residential uses. In accordance with Title 8, *Health and Safety*, of the City of Long Beach *Municipal Code (Municipal Code)*, the project's construction activities would be limited to the hours of 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. Construction activities are prohibited on Sundays.

As construction of long range repairs would be required to cease by 7:00 p.m. (6:00 p.m. on Saturdays), construction-related light and glare effects would also cease by 7:00 p.m. (6:00 p.m. on Saturdays). There are existing lights at each end of the alleys, and additional lighting would not be needed. Should the contractor need to remove the existing lighting for crane operations, temporary lighting would be installed. Impacts in this regard would be less than significant with adherence to the City's *Municipal Code* requirements.

Upon completion of construction, long range repairs to the seawalls would not involve features that would create a new source of light or glare which would affect surrounding uses. Lighting along the public sidewalks would be replaced, similar to existing conditions. Therefore, impacts in this regard would be less than significant.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.



4.2 AGRICULTURE RESOURCES

<i>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:</i>	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. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural 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.

Long Range Repair Option

The project site and surrounding area are located in an urbanized area of the City and is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as designated by the California Department of Conservation (DOC). The project site consists of existing seawall segments surrounding residential and marine land uses. The DOC has designated the area as "Urban and Built Up Land". No impacts would occur in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

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

No Impact.

Long Range Repair Option

The project site is not designated for agricultural use or in a Williamson Act contract, and consists of multiple seawall segments located within a residential/marine



community. The project site is zoned R-1-S (Single-family Residential, small lot) and R-4-N (Medium-density Multiple Residential), and is designated as Land Use District Number 1 (Single-Family) in the *General Plan*. No impacts would result in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

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

No Impact.

Long Range Repair Option

Refer to Response 4.2(a) and (b). The project site and surrounding area are not used for agricultural production. Implementation of long range repairs would not result in environmental changes that would convert farmland to non-agricultural use. No impacts would result.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.



4.3 AIR QUALITY

<i>Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:</i>	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. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?		✓		
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?		✓		
d. Expose sensitive receptors to substantial pollutant concentrations?		✓		
e. Create objectionable odors affecting a substantial number of people?			✓	

The project area is located within the City of Long Beach, which is part of the South Coast Air Basin (Basin) and under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD is one of 35 air quality management districts that have prepared an *Air Quality Management Plan (AQMP)* to accomplish a five-percent annual reduction in emissions. The most recent AQMP was adopted in 2007.

Both the State of California and the Federal government have established health-based Ambient Air Quality Standards (AAQS) for criteria air pollutants. These pollutants include carbon monoxide (CO), ozone (O₃), nitrogen oxides (NO_x), sulfur oxides (SO_x), particulate matter up to 10 microns and 2.5 microns in diameter (PM₁₀ and PM_{2.5}, respectively), and lead (Pb). O₃ is formed by a photochemical reaction between NO_x and reactive organic gases (ROGs). Thus, impacts from O₃ are assessed by evaluating impacts from NO_x and ROGs.

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

Less Than Significant Impact.

Long Range Repair Option

Consistency with the *2007 Air Quality Management Plan for the South Coast Air Basin (2007 AQMP)* means that a project is consistent with the goals, objectives, and assumptions designed to achieve the Federal and State AAQS. Per the SCAQMD *CEQA Air Quality Handbook*, there are two main indicators of a project's consistency with the *2007 AQMP*:

- Whether the project would increase the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the *2007 AQMP*; and



- Whether the project would exceed the 2007 AQMP's assumptions for 2030 or yearly increments based on the year of project buildout and phasing.

As indicated in the operational analysis provided in Impact Statement 4.3(b), below, the proposed project would not exceed the SCAQMD's thresholds of significance. Therefore, the proposed project is consistent with the 2007 AQMP in this regard.

The project is also consistent with the *General Plan* and zoning designations for the City of Long Beach. The project proposes long range repairs to existing seawall segments of Naples Island and Treasure Island, and opposing landside segments. Therefore, as no development is proposed that would result in long-term operational emissions, the project is consistent with the 2007 AQMP. No significant impacts are anticipated and no mitigation measures are required. The proposed project would not induce substantial population growth either directly or indirectly as the project proposes seawall improvements and no new housing or infrastructure would be developed. Therefore, the proposed project would be consistent with the 2007 AQMP employment and population forecasts and a less than significant impact would occur.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact With Mitigation Incorporated.

Long Range Repair Option

Short-Term Construction Impacts

Long Range construction activities entail demolition of the existing seawall caps and construction of new seawalls from 2020 to 2026. Demolition activities under both waterside and landside repairs would include approximately 55,110 cubic feet of demolition debris (concrete); resulting in 102 cubic feet of demolished material produced and hauled per day. Landside repairs would involve the installation of approximately 1,100 fiberglass piles with reinforced concrete fill and would require 1,630 cubic yards of soil to be hauled off-site. Waterside repairs would involve the installation of approximately 1,100 steel "H" piles and pre-cast planks. Both repair options would also include the installation of new dock guide piles. No soil hauling would be required for waterside repairs.

Table 4.3-1, Long Range Construction Air Emissions, depicts the emissions from long range repair activities. As shown in Table 4.3-1, PM₁₀ and PM_{2.5} emissions would primarily occur from construction equipment exhaust and not from fugitive dust. Exhaust emissions from construction activities include emissions associated with the transport of machinery and supplies to and from the project site, emissions produced on-site as the equipment is used, and emissions from trucks transporting materials to and from the site. Emitted pollutants would include ROG, CO, NO_x,



SO_x, PM₁₀, and PM_{2.5}. Standard SCAQMD regulations, such as maintaining all construction equipment in proper tune, shutting down equipment when not in use for extended periods of time, and implementing SCAQMD Rule 403 would be adhered to. As depicted in Table 4.3-1, construction-related emissions would not exceed the established SCAQMD thresholds for criteria pollutants. Additionally, compliance with Mitigation Measures AQ-1 through AQ-3 would ensure compliance with SCAQMD standard regulations, resulting in a less than significant construction impact.

**Table 4.3-1
Long Range Construction Air Emissions**

Emissions Source	Pollutant (pounds/day) ^{1,2}					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
2020						
Unmitigated Emissions	5.83	31.68	28.54	0.00	1.34	1.05
SCAQMD Thresholds	75	100	550	150	150	55
Is Threshold Exceeded?	No	No	No	No	No	No
2021						
Unmitigated Emissions	5.82	31.65	28.16	0.00	1.34	1.05
SCAQMD Thresholds	75	100	550	150	150	55
Is Threshold Exceeded?	No	No	No	No	No	No
2022						
Unmitigated Emissions	5.82	31.65	28.16	0.00	1.34	1.05
SCAQMD Thresholds	75	100	550	150	150	55
Is Threshold Exceeded?	No	No	No	No	No	No
2023						
Unmitigated Emissions	5.82	31.65	28.16	0.00	1.34	1.05
SCAQMD Thresholds	75	100	550	150	150	55
Is Threshold Exceeded?	No	No	No	No	No	No
2024						
Unmitigated Emissions	5.82	31.65	28.16	0.00	1.34	1.05
SCAQMD Thresholds	75	100	550	150	150	55
Is Threshold Exceeded?	No	No	No	No	No	No
2025						
Unmitigated Emissions	5.82	31.65	28.16	0.00	1.34	1.05
SCAQMD Thresholds	75	100	550	150	150	55
Is Threshold Exceeded?	No	No	No	No	No	No
2026						
Unmitigated Emissions	5.81	31.63	27.96	0.00	1.34	1.05
SCAQMD Thresholds	75	100	550	150	150	55
Is Threshold Exceeded?	No	No	No	No	No	No
ROG = reactive organic gases; NO _x = nitrogen oxides; CO = carbon monoxide; SO ₂ = sulfur dioxide; PM ₁₀ = particulate matter less than 10 microns; PM _{2.5} = particulate matter less than 2.5 microns.						
Notes:						
1. Emissions were calculated using the URBEMIS 2007 version 9.2.4 Computer Model, as recommended by the SCAQMD.						
2. Refer to Appendix A, <i>Air Quality Data</i> , for assumptions used in this analysis.						



Asbestos

Pursuant to guidance issued by the Governor's Office of Planning and Research, State Clearinghouse, lead agencies are encouraged to analyze potential impacts related to naturally occurring asbestos (NOA). Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by State, Federal, and international agencies, and was identified as a toxic air contaminant by the California Air Resources Board (CARB) in 1986.

Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in the counties of the Sierra Nevada foothills, the Klamath Mountains, and Coast Ranges. According to the Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report* (dated August 2000), the proposed project is not located in an area where NOA is likely to be present. Therefore, no impacts are anticipated in this regard.

Long-Term Operational Impacts

Project operations would not result in any permanent or long-term emissions as the project consists of seawalls and sidewalk areas. Additionally, the proposed improvements would not generate new traffic trips. Therefore, no significant long-term emissions are anticipated and no mitigation measures are required.

Interim Repair Option

Short-Term Construction Impacts

Interim repairs would involve tieback repairs, bulkhead repairs/sinkhole repairs, and rock protection/scour repairs. The interim repairs would occur from 2010 to 2019 and would involve rock import for the bulkhead and scour repairs and hauling of debris from the cored seawall during tieback repairs. Additionally, bulkhead repairs would also involve installation of steel sheet piling. Interim repairs would also include the installation of new dock guide piles. The following discussion presents the emissions associated with each construction phase that constitutes the interim repairs.

Bulkhead Repairs/Sinkhole Repairs

Bulkhead repairs would occur on the northeastern portion of Rivo Alto Canal and would involve rock protection by an underwater steel sheet pile. The bulkhead repairs emissions analysis also includes sinkhole repair activities. In addition to the sheet piles, the bulkhead repairs would also require 1,100 cubic yards of rock import. Table 4.3-2, *Bulkhead Repairs Construction Air Emissions*, provides a summary of construction emissions from bulkhead repairs.



**Table 4.3-2
 Bulkhead Repairs Construction Air Emissions**

Emissions Source	Pollutant (pounds/day) ^{1, 2}					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
2010						
Unmitigated Emissions	4.81	44.78	18.07	0.00	1.97	1.67
SCAQMD Thresholds	75	100	550	150	150	55
Is Threshold Exceeded?	No	No	No	No	No	No
2011						
Unmitigated Emissions	4.46	40.90	17.27	0.00	1.81	1.52
SCAQMD Thresholds	75	100	550	150	150	55
Is Threshold Exceeded?	No	No	No	No	No	No
2012						
Unmitigated Emissions	4.25	37.49	16.61	0.00	1.67	1.39
SCAQMD Thresholds	75	100	550	150	150	55
Is Threshold Exceeded?	No	No	No	No	No	No
ROG = reactive organic gases; NO _x = nitrogen oxides; CO = carbon monoxide; SO ₂ = sulfur dioxide; PM ₁₀ = particulate matter less than 10 microns; PM _{2.5} = particulate matter less than 2.5 microns.						
Notes: 1. Emissions were calculated using the URBEMIS 2007 version 9.2.4 Computer Model, as recommended by the SCAQMD. 2. Refer to <u>Appendix A, Air Quality Data</u> , for assumptions used in this analysis.						

As depicted in Table 4.3-2, construction-related emissions would not exceed the established SCAQMD thresholds for criteria pollutants. Additionally, compliance with Mitigation Measures AQ-1 through AQ-3 would ensure compliance with SCAQMD standard regulations, resulting in a less than significant construction impact.

Rock Protection/Scour Repair

Rock protection and scour repairs would involve underwater armoring of the seawalls at the southwestern corner of Treasure Island and the southern portion of Naples Island. These repair activities would require approximately 1,200 cubic yards of rock import. Table 4.3-3, Rock Protection/Scour Repair Construction Air Emissions, depicts the construction emissions associated with rock protection/scour repair activities.



**Table 4.3-3
Rock Protection/Scour Repair Construction Air Emissions**

Emissions Source	Pollutant (pounds/day) ^{1, 2}					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
2013						
Unmitigated Emissions	4.03	34.42	16.18	0.00	1.55	1.28
SCAQMD Thresholds	75	100	550	150	150	55
Is Threshold Exceeded?	No	No	No	No	No	No
2014						
Unmitigated Emissions	3.81	30.56	15.69	0.00	1.36	1.10
SCAQMD Thresholds	75	100	550	150	150	55
Is Threshold Exceeded?	No	No	No	No	No	No
2015						
Unmitigated Emissions	3.50	26.95	15.38	0.00	1.20	0.96
SCAQMD Thresholds	75	100	550	150	150	55
Is Threshold Exceeded?	No	No	No	No	No	No
ROG = reactive organic gases; NO _x = nitrogen oxides; CO = carbon monoxide; SO ₂ = sulfur dioxide; PM ₁₀ = particulate matter less than 10 microns; PM _{2.5} = particulate matter less than 2.5 microns.						
Notes: 1. Emissions were calculated using the URBEMIS 2007 version 9.2.4 Computer Model, as recommended by the SCAQMD. 2. Refer to <u>Appendix A, Air Quality Data</u> , for assumptions used in this analysis.						

As presented in Table 4.3-3, construction equipment and worker vehicle exhaust emissions would be below the established SCAQMD thresholds. Mitigation Measures AQ-1 through AQ-3 would ensure compliance with SCAQMD standard regulations. Therefore, a less than significant construction impact would result.

Tieback Repairs

Tieback repairs involve the replacement of damaged tiebacks and drilling into the existing seawall to install grouted rods to further relieve stress from the seawall. These activities would generate approximately 218 cubic feet (4.36 cubic feet per day) of debris from the cored seawall. Table 4.3-4, Tieback Repair Construction Air Emissions, depicts the construction emissions associated with tieback repair activities.



**Table 4.3-4
Tieback Repair Construction Air Emissions**

Emissions Source	Pollutant (pounds/day) ^{1,2}					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
2016						
Unmitigated Emissions	3.41	25.08	13.96	0.00	0.89	0.81
SCAQMD Thresholds	75	100	550	150	150	55
Is Threshold Exceeded?	No	No	No	No	No	No
2017						
Unmitigated Emissions	3.21	22.18	13.70	0.00	0.80	0.73
SCAQMD Thresholds	75	100	550	150	150	55
Is Threshold Exceeded?	No	No	No	No	No	No
2018						
Unmitigated Emissions	3.07	19.62	13.34	0.00	0.70	0.64
SCAQMD Thresholds	75	100	550	150	150	55
Is Threshold Exceeded?	No	No	No	No	No	No
2019						
Unmitigated Emissions	2.94	17.33	13.19	0.00	0.62	0.56
SCAQMD Thresholds	75	100	550	150	150	55
Is Threshold Exceeded?	No	No	No	No	No	No
ROG = reactive organic gases; NO _x = nitrogen oxides; CO = carbon monoxide; SO ₂ = sulfur dioxide; PM ₁₀ = particulate matter less than 10 microns; PM _{2.5} = particulate matter less than 2.5 microns.						
Notes:						
1. Emissions were calculated using the URBEMIS 2007 version 9.2.4 Computer Model, as recommended by the SCAQMD.						
2. Refer to <u>Appendix A, Air Quality Data</u> , for assumptions used in this analysis.						

Construction equipment and worker vehicle exhaust emissions would be below the established SCAQMD thresholds, as presented in Table 4.3-4. Additionally, implementation of Mitigation Measures AQ-1 through AQ-3 would ensure compliance with SCAQMD standard regulations, and a less than significant impact would occur.

Asbestos

Similar to long range repairs, the interim repairs would not occur in an area where NOA is likely to be present. No impacts are anticipated in this regard.

Long-Term Operational Impacts

Interim seawall repairs would not result in long-term emissions and no new traffic trips would result. No operational emissions are anticipated.



Mitigation Measures:

- AQ-1 During demolition, hauling, or other construction operations, excessive fugitive dust emissions shall be controlled by regular water or other dust preventive measures using the following procedures, as specified in the SCAQMD Rule 403.
- Limit on-site vehicle speed to 15 miles per hour.
 - Water material excavated or graded sufficiently to prevent excessive amounts of dust. Water at least twice daily with complete coverage, preferably in the late morning and after work is done for the day.
 - Water or securely cover material transported on-site or off-site sufficiently to prevent generating excessive amounts of dust.
 - Minimize area disturbed by clearing, grading, earth moving, or excavation operations so as to prevent generating excessive amounts of dust.
 - Indicate these control techniques in project specifications. Compliance with the measure will be subject to periodic site inspections by the City.
 - Prevent visible dust from the project from emanating beyond the property line, to the maximum extent feasible.
 - Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for ten days or more).
 - Trucks transporting soil, sand, cut or fill materials, and/or construction debris to or from the site must be tarped from the point of origin.
- AQ-2 Ozone precursor emissions from construction equipment vehicles shall be controlled by maintaining equipment engines in good condition and in proper tune per manufacturer's specifications, to the satisfaction of the City Engineer. Compliance with this measure shall be subject to periodic inspections of construction equipment vehicles by the City and included in construction bid documents.
- AQ-3 All trucks that are to haul material shall comply with California Vehicle Code Section 23114, with special attention to Sections 23114(b)(F), (e)(2) and (e)(4) as amended, regarding the prevention of such material spilling onto public streets and roads. This provision shall be provided in construction bid documents.



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

Less Than Significant Impact With Mitigation Incorporated.

Long Range Repair Option

Cumulative Construction Impacts

With respect to the proposed project's construction-period air quality emissions and cumulative Basin-wide conditions, the SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the 2007 AQMP pursuant to Federal Clean Air Act mandates. As such, the proposed project would comply with SCAQMD Rule 403 requirements, and implement all feasible mitigation measures. Rule 403 requires that fugitive dust be controlled with the best available control measures in order to reduce dust so that it does not remain visible in the atmosphere beyond the property line of the proposed project. In addition, the proposed project would comply with adopted 2007 AQMP emissions control measures. Per SCAQMD rules and mandates, as well as the CEQA requirement that significant impacts be mitigated to the extent feasible, these same requirements (i.e., Rule 403 compliance, the implementation of all feasible mitigation measures, and compliance with adopted Air Quality Management Plan emissions control measures) would also be imposed on construction projects throughout the Basin, which would include related projects.

Compliance with SCAQMD rules and regulations, as well as implementation of Mitigation Measures AQ-1 through AQ-3, would reduce the project's construction-related impacts to a less than significant level. Thus, it can be reasonably inferred that the project-related construction emissions, in combination with those from other projects in the area, would not substantially deteriorate the local air quality. Thus, a less than significant impact would occur in this regard.

Cumulative Long-Term Impacts

As discussed previously, the proposed seawall repairs would not result in long-term air quality impacts. Additionally, adherence to SCAQMD rules and regulations would alleviate potential impacts related to cumulative conditions on a project-by-project basis. Emission reduction technology, strategies, and plans are constantly being developed. As a result, the proposed project would not contribute a cumulatively considerable net increase of any nonattainment criteria pollutant. Therefore, no impacts to cumulative operational impacts associated with project operations would result.

Global Climate Change Impacts

California is a substantial contributor of global greenhouse gases, emitting over 400 million tons of CO₂ a year.¹ Climate studies indicate that California is likely to see an

¹ California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks:1990 to 2004*, 2006.



increase of three to four degrees Fahrenheit over the next century. Methane is also an important greenhouse gas that potentially contributes to global climate change. Greenhouse gases are global in their effect, which is to increase the earth's ability to absorb heat in the atmosphere. As primary greenhouse gases have a long lifetime in the atmosphere, accumulate over time, and are generally well-mixed, their impact on the atmosphere is mostly independent of the point of emission.

The impact of anthropogenic activities on global climate change is apparent in the observational record. Air trapped by ice has been extracted from core samples taken from polar ice sheets to determine the global atmospheric variation of CO₂, methane, and nitrous oxide from before the start of the industrialization (approximately 1750), to over 650,000 years ago. For that period, it was found that CO₂ concentrations ranged from 180 parts per million (ppm) to 300 ppm. For the period from approximately 1750 to the present, global CO₂ concentrations increased from a pre-industrialization period concentration of 280 ppm to 379 ppm in 2005, with the 2005 value far exceeding the upper end of the pre-industrial period range.

The Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of greenhouse gases needed to stabilize global temperatures and climate change impacts. It concluded that a stabilization of greenhouse gases at 400 to 450 ppm carbon dioxide-equivalent concentration is required to keep mean global warming below 2°C, which in turn is assumed to be necessary to avoid dangerous climate change.

California Governor Arnold Schwarzenegger issued Executive Order S-3-05 in June 2005, which established the following greenhouse gas emission reduction targets:

- 2010: Reduce greenhouse gas emissions to 2000 levels
- 2020: Reduce greenhouse gas emissions to 1990 levels
- 2050: Reduce greenhouse gas emissions to 80 percent below 1990 levels

AB-32 requires that the California Air Resources Board (CARB) determine what the statewide greenhouse gas emissions level was in 1990, and approve a statewide greenhouse gas emissions limit that is equivalent to that level, to be achieved by 2020. CARB has approved a 2020 emissions limit of 427 metric tons of CO₂ equivalents (MTCO₂eq).

A quantitative non-zero project specific threshold has been utilized which uses a methodology recommended by the California Air Pollution Control Officers Association (CAPCOA).² According to CAPCOA's *Threshold 2.3, CARB Reporting Threshold*, 10,000 metric tons of carbon dioxide equivalents³ per year (MTCO₂eq/yr) is recommended as a quantitative non-zero threshold.⁴ This threshold is being

² California Air Pollution Control Officers Association, *CEQA & Climate Change White Paper*, January 2008.

³ Carbon dioxide equivalent is a quantity that describes, for a given mixture and amount of greenhouse gas, the amount of CO₂ that would have the same global warming potential, when measured over a specified timescale (generally 100 years).

⁴ It should be noted that CARB has also recommended 10,000 MTCO₂eq/yr as the "de minimus greenhouse gas emission threshold" in their *Climate Change Proposed Scoping Plan*, which was approved by CARB's Board on January 11, 2009.



considered by the California Market Advisory Committee, whose mandate under the California Environmental Protection Agency is to develop market-based compliance mechanisms for reducing greenhouse gases. This approach is estimated to capture over half of the future residential and commercial development projects, and is designed to ensure the reduction goals of Assembly Bill 32 are not hindered.

Table 4.3-5, Long Range Repairs Estimated Greenhouse Gas Emissions, depicts the greenhouse gas emissions that would result from the proposed construction activities between 2020 and 2026. The greatest emissions during the long range repairs would be 1,289.03 MTCO₂eq/year in 2024. As shown in Table 4.3-5, each year that long range repairs are anticipated to occur, emissions would be well below the annual greenhouse gas threshold of 10,000 MTCO₂eq/year. It should be noted that the total combined emissions from construction of the long range repairs (from years 2020 to 2026) would be 8,385 MTCO₂eq, which is also below the yearly threshold. Therefore, long range greenhouse gas emissions would be less than significant.

**Table 4.3-5
 Long Range Repairs Estimated Greenhouse Gas Emissions**

Source	CO ₂	N ₂ O		CH ₄		Total Emissions (MTCO ₂ eq per year) ³	Annual GHG Threshold (MTCO ₂ eq per year)	Is Threshold Exceeded?
	Metric tons/year	Metric tons/year	Metric tons of CO ₂ eq ²	Metric tons/year	Metric tons of CO ₂ eq ²			
Long Range Repairs – Construction Emissions¹								
• Year 2020	887.14	0.05	15.19	0.01	0.28	902.61	10,000	No
• Year 2021	1,266.77	0.05	15.19	0.01	0.28	1,282.24	10,000	No
• Year 2022	1,262.75	0.05	15.19	0.01	0.28	1,278.22	10,000	No
• Year 2023	1,262.75	0.05	15.19	0.01	0.28	1,278.22	10,000	No
• Year 2024	1,273.56	0.05	15.19	0.01	0.28	1,289.03	10,000	No
• Year 2025	1,268.15	0.05	15.19	0.01	0.28	1,283.62	10,000	No
• Year 2026	1,055.54	0.05	15.19	0.01	0.28	1,071.01	10,000	No

CO₂ = carbon dioxide; N₂O = nitrous oxide; CH₄ = methane; MTCO₂eq = metric tons of CO₂ equivalent; GHG = greenhouse gas

Notes:

1. CO₂ emissions calculated using the URBEMIS 2007 version 9.2.4 Computer Model output.
2. CO₂ Equivalent values calculated using the U.S. Environmental Protection Agency Website, *Greenhouse Gas Equivalencies Calculator*, <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>, accessed July 2009.
3. Totals may be slightly off due to rounding.
4. Refer to Appendix A, *Air Quality Data*, for detailed model input/output data.

Interim Repair Option

Cumulative Construction Impacts

Refer to the discussion above.



Cumulative Long-Term Impacts

Refer to the discussion above.

Global Climate Change Impacts

Table 4.3-6, Interim Repairs Estimated Greenhouse Gas Emissions, depicts the greenhouse gas emissions that would result from the proposed construction activities between 2010 and 2019. The greatest emissions during the interim repairs would be 730.22 MTCO₂eq/year in 2018. As shown in Table 4.3-6, each year that construction is anticipated to occur, emissions would be below the annual greenhouse gas threshold of 10,000 MTCO₂eq/year. It should be noted that the total combined emissions from construction of interim repairs (from years 2010 to 2019) would be 6,471 MTCO₂eq, which is also below the yearly threshold. Therefore, greenhouse gas emissions associated with interim repairs would be less than significant.

**Table 4.3-6
 Interim Repairs Estimated Greenhouse Gas Emissions**

Source	CO ₂	N ₂ O		CH ₄		Total Emissions (MTCO ₂ eq per year) ³	Annual GHG Threshold (MTCO ₂ eq per year)	Is Threshold Exceeded?
	Metric tons/year	Metric tons/year	Metric tons of CO ₂ eq ²	Metric tons/year	Metric tons of CO ₂ eq ²			
Interim Repairs – Construction Emissions¹								
• Year 2010	519.34	0.04	12.98	0.01	0.25	532.57	10,000	No
• Year 2011	685.41	0.04	12.98	0.01	0.25	698.64	10,000	No
• Year 2012	579.02	0.04	12.98	0.01	0.25	592.25	10,000	No
• Year 2013	626.59	0.05	14.92	0.01	0.27	641.78	10,000	No
• Year 2014	688.33	0.05	14.92	0.01	0.27	703.52	10,000	No
• Year 2015	600.76	0.05	14.92	0.01	0.27	615.95	10,000	No
• Year 2016	650.44	0.05	14.92	0.01	0.27	665.63	10,000	No
• Year 2017	712.29	0.05	14.92	0.01	0.27	727.48	10,000	No
• Year 2018	715.03	0.05	14.92	0.01	0.27	730.22	10,000	No
• Year 2019	547.92	0.05	14.92	0.01	0.27	563.11	10,000	No

CO₂ = carbon dioxide; N₂O = nitrous oxide; CH₄ = methane; MTCO₂eq = metric tons of CO₂ equivalent; GHG = greenhouse gas

Notes:

1. CO₂ emissions calculated using the URBEMIS 2007 version 9.2.4 Computer Model output.
2. CO₂ Equivalent values calculated using the U.S. Environmental Protection Agency Website, *Greenhouse Gas Equivalencies Calculator*, <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>, accessed September 2009.
3. Totals may be slightly off due to rounding.
4. Refer to Appendix A, *Air Quality Data*, for detailed model input/output data.

Mitigation Measures: Refer to Mitigation Measures AQ-1 through AQ-3 to reduce the project's cumulative contribution of criteria pollutants. No additional mitigation measures are required.



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

Less Than Significant Impact With Mitigation Incorporated.

Long Range Repair Option

Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

Sensitive receptors near the project site are the existing residences surrounding the project site. In order to identify impacts to sensitive receptors, the SCAQMD recommends addressing localized significance thresholds for construction and operations impacts. A carbon monoxide hot-spot analysis was not performed in this analysis as the proposed project would not create a significant amount of traffic trips.

Localized Significance Thresholds (LST) were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (revised July 2008) for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with project-specific level projects proposed. The SCAQMD provides the LST lookup tables for one, two and five acre projects emitting CO, NO_x, or PM₁₀. The LST methodology and associated mass rates are not designed to evaluate localized impacts from mobile sources. The SCAQMD recommends that any project over five acres should perform air quality dispersion modeling to assess impacts to nearby sensitive receptors.

The proposed area of disturbance would be less than one acre of land for each construction phase of the long range repairs; therefore, a Localized Significance Thresholds analysis was performed. The project is located within Sensitive Receptor Area (SRA) 4, South Coastal Los Angeles County.

The closest sensitive receptors to the project site are residential units located approximately six meters from the nearest improvements. These residential units may be potentially affected by air pollutant emissions generated during on-site construction activities. Since the nearest sensitive receptor is less than 25 meters away, the smallest localized significance threshold value of 25 meters was utilized as a threshold.

Table 4.3-7, *Summary of Localized Significance of Long Range Repair Emissions*, shows the construction-related emissions for NO_x, CO, PM₁₀, and PM_{2.5} compared to the localized significance thresholds for SRA 4, South Coastal Los Angeles County, at a distance of 25 meters for a one-acre site. As the long range repairs would occur over a period of seven years (2020 to 2026), only the year with the greatest emissions was included in Table 4.3-7.



**Table 4.3-7
 Summary of Localized Significance of Long Range Repair Emissions**

Construction Phase	Pollutant (pounds/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Total Long Range 2020 Emissions	31.68	28.54	1.34	1.05
Localized Significance Threshold	46	574	4	3
Thresholds Exceeded?	No	No	No	No
NO _x = nitrogen oxides; CO = carbon monoxide; PM ₁₀ = particulate matter less than 10 microns; PM _{2.5} = particulate matter less than 2.5 microns.				
Note:				
1. The Localized Significance Threshold was determined using Appendix C of the SCAQMD Final Localized Significant Threshold Methodology guidance document for pollutants NO _x , CO, PM ₁₀ , and PM _{2.5} . The Localized Significance Threshold was based on the anticipated daily acreage disturbance (approximately one acre) and the source receptor area (SRA 4).				

Emissions during long range year 2020 represent the greatest emissions of any other construction year. Therefore, analysis of this year represents a conservative LST analysis since emissions during other construction years would be less. As shown in Table 4.3-7, construction emissions associated with long range repairs would not exceed the localized significance thresholds at any given time. Additionally, compliance with Mitigation Measures AQ-1 through AQ-3 would further reduce potential construction emissions. Therefore, localized air quality impacts would be less than significant.

Interim Repair Option

Table 4.3-8, Summary of Localized Significance of Interim Repair Emissions, shows the construction-related emissions compared to the localized significance thresholds for SRA 4, South Coastal Los Angeles County, at a distance of 25 meters for a one-acre site. As the interim repairs would occur over a time period of 10 years (2010 to 2019), only the year with the greatest emissions was included in Table 4.3-8. Emissions during interim year 2010 represent the greatest emissions of any other construction year. Therefore, analysis of year 2010 represents a conservative LST analysis since emissions during other construction years would be less. As shown in Table 4.3-8, construction emissions associated with interim repairs would not exceed the localized significance thresholds. Additionally, compliance with Mitigation Measures AQ-1 through AQ-3 would further reduce potential construction emissions. Therefore, localized air quality impacts would be less than significant during interim repair activities.



**Table 4.3-8
 Summary of Localized Significance of Interim Repair Emissions**

Construction Phase	Pollutant (pounds/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Total Interim 2010 Emissions	44.79	18.07	1.97	1.67
Localized Significance Threshold	46	574	4	3
Thresholds Exceeded?	No	No	No	No
NO _x = nitrogen oxides; CO = carbon monoxide; PM ₁₀ = particulate matter less than 10 microns; PM _{2.5} = particulate matter less than 2.5 microns.				
Note:				
1. The Localized Significance Threshold was determined using Appendix C of the SCAQMD Final Localized Significant Threshold Methodology guidance document for pollutants NO _x , CO, PM ₁₀ , and PM _{2.5} . The Localized Significance Threshold was based on the anticipated daily acreage disturbance (approximately 1 acre) and the source receptor area (SRA 4).				

Mitigation Measures: Refer to Mitigation Measures AQ-1 through AQ-3. No additional mitigation measures are required.

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

Less Than Significant Impact.

Long Range Repair Option

According to the SCAQMD CEQA Air Quality Handbook, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project does not include any uses identified by the SCAQMD as being associated with odors.

Construction activities associated with the project may generate detectable odors from heavy-duty equipment exhaust. Construction-related odors would be short-term in nature and cease upon project completion. Any impacts to existing adjacent land uses would be short-term and are less than significant.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.



**City of Long Beach
Naples Seawall Interim and Long Range Repair Project
Initial Study/Mitigated Negative Declaration**

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4.4 BIOLOGICAL RESOURCES

<i>Would the project:</i>	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 Game 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 Game or U.S. Fish and Wildlife Service?		✓		
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				✓
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?				✓

MBC Applied Environmental Sciences (MBC) prepared a *Marine Habitat Reconnaissance Survey* for the proposed project, dated July 23, 2009 (included in [Appendix B, Marine Habitat Reconnaissance Survey](#)). As part of the *Marine Habitat Reconnaissance Survey*, MBC conducted an underwater reconnaissance survey of the Naples Island, Treasure Island, and landside seawall areas on June 23 and 24, 2009. MBC evaluated the marine habitat in the immediate vicinity of the seawall to a distance of 15 feet from the base of the seawall (the area most likely to be impacted by the proposed seawall repairs). For the purposes of this analysis, surveys were conducted for each construction phase identified for long range repairs. Construction phasing areas are divided into six equal areas that are separated by the existing bridges to Naples Island. Two divers swam parallel to one another (one against the seawall and one at 15 feet from the seawall), surveying the hard-bottom community supported by the seawall and evaluating the intertidal and subtidal communities.

In addition to the *Marine Habitat Reconnaissance Survey*, MBC provided a supplemental *Technical Memorandum* with regard to impacts to natural communities with a special regulatory or management status, dated September 8, 2009 (included in [Appendix B](#)). The list of species was developed from a literature review and survey of databases including the California Natural Diversity Database (CNDDDB). Species were also added to the inventory based on MBC's experience with prior projects in the area and published and unpublished references. A review was then performed to determine the likelihood of a species occurring in the project area based on local conditions or knowledge of its occurrence.



- 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.

Long Range Repair Option

According to MBC's *Technical Memorandum*, multiple special status plant and animal species have the potential to occur in the project area. The following analysis discusses the potential impacts as a result of the long range repairs on listed terrestrial and marine candidate, sensitive, or special status species.

Terrestrial-Related Candidate, Sensitive, and Special Status Species

Plant Species

Based upon literature reviews and a database search, a total of 17 terrestrial-related special status plants could occur within the geographic vicinity. These special status plant species are listed in Table 4.4-1, Potential Sensitive Plant Species That May Occur in the Geographic Vicinity.

**Table 4.4-1
Potential Sensitive Plant Species That May Occur in the Geographic Vicinity**

Common Name	Species Name	Potential to Occur in Project Area	Common Name	Species Name	Potential to Occur in Project Area
Ventura Marsh milk-vetch	<i>Astragalus pycnostachyus var lanosissimus</i>	Low	Coulter's saltbush	<i>Atriplex coulteri</i>	Low
Parish's brittlescale	<i>Atriplex parishii</i>	Low	Davidson's saltscale	<i>Atriplex serenana var davidsonii</i>	Low
Santa Barbara morning-glory	<i>Calystegia sepium ssp binghamiae</i>	Low	southern tarplant	<i>Centromadia parryi ssp australis</i>	Low
salt marsh bird's beak	<i>Cordylanthus maritimus ssp maritimus</i>	Low	Coulter's goldfields	<i>Lasthenia glabrata ssp. coulteri</i>	Low
mud nama	<i>Nama stenocarpum</i>	Low	Gambel's water cress	<i>Nasturtium gambellii prostrate</i>	Low
vernal pool navarretia	<i>Navarretia prostrate</i>	Low	coast woolly-heads	<i>Nemacaulis denudata var denudate</i>	Low



Table 4.4-1 (Continued)
Potential Sensitive Plant Species That May Occur in the Geographic Vicinity

Common Name	Species Name	Potential to Occur in Project Area	Common Name	Species Name	Potential to Occur in Project Area
California orcutt grass	<i>Orcuttia californica</i>	Low	Lyon's pentachaeta	<i>Pentachaeta lyonii</i>	Low
Sanford's arrowhead	<i>Sagittaria sanfordii</i>	Low	salt spring checkerbloom	<i>Sidalcea neomexicana</i>	Low
estuary seablite	<i>Suaeda esteroa</i>	Low			

Source: MBC Applied Environmental Sciences, *Technical Memorandum*, September 8, 2009.

The likelihood of occurrence of these species was based on a combination of factors, including the species' habitat requirements, local development and landscaping, and observed resources within the proposed project area. While several of these species, especially salt marsh and beach dune associated species, have the potential to occur within the Alamitos Bay complex, these habitats were not encountered during the reconnaissance survey; therefore, none of the listed plant species were determined to have the potential to occur within the project area. Consequently, the proposed long range repairs would not result in impacts to terrestrial-related special status plant species.

Animal Species

Based upon literature reviews and a database search, 15 terrestrial-related animal species could occur within the geographic vicinity. However, due to habitat type and low salinity requirements for aquatic species, all identified terrestrial animal species are unlikely to occur in the project area. Table 4.4-2, *Potential Sensitive Terrestrial Animal Species That May Occur in the Geographic Vicinity*, depicts those listed terrestrial animal species that have the potential to occur in the geographic vicinity.

Table 4.4-2
Potential Sensitive Terrestrial Animal Species That May Occur in the Geographic Vicinity

Common Name	Species Name	Potential to Occur in Project Area	Common Name	Species Name	Potential to Occur in Project Area
southwestern pond turtle	<i>Actinemys marmorata pallida</i>	Low	tricolored blackbird	<i>Agelaius tricolor</i>	Low
burrowing owl	<i>Athene cunicularia</i>	Low	ferruginous hawk	<i>Buteo regalis</i>	Low
western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	Low	monarch butterfly	<i>Danaus plexippus</i>	Low
western mastiff bat	<i>Eumops perotis californicus</i>	Low	silver-haired bat	<i>Lasionycteris noctivagans</i>	Low



Table 4.4-2 (Continued)
Potential Sensitive Terrestrial Animal Species That May Occur in the Geographic Vicinity

Common Name	Species Name	Potential to Occur in Project Area	Common Name	Species Name	Potential to Occur in Project Area
western yellow bat	<i>Lasiurus xanthinus</i>	Low	big free-tailed bat	<i>Nyctinomops macrotis</i>	Low
Pacific pocket mouse	<i>Perognathus longimembris pacificus</i>	Low	coast horned lizard	<i>Phrynosoma blainvillii</i>	Low
coastal California gnatcatcher	<i>Polioptila californica californica</i>	Low	Dorothy's El Segundo Dune weevil	<i>Trigonoscuta dorothea dorothea</i>	Low
mimic tryonia	<i>Tryonia imitator</i>	Low			

Source: MBC Applied Environmental Sciences, *Technical Memorandum*, September 8, 2009.

The project site consists of exiting seawalls and public sidewalk areas, and does not include suitable habitat for these listed terrestrial animal species. Therefore, implementation of the proposed long range repairs would not result in impacts to terrestrial-related special status animal species.

Marine-Related Candidate, Sensitive, or Special Status Species

Plant Species

No marine-related special status plant species have the potential to occur in the project area. Implementation of the proposed long range repairs would not impact marine special status species. No impact would result in this regard.

Animal Species

Based upon literature reviews and a database search, 34 marine-related special status animal species could occur within the geographic vicinity. Of these 34 special status species, 10 species are not anticipated to be located within the project area based on habitat requirements and 24 listed species have the potential to occur within the project area; refer to Table 4.4-3, Potential Sensitive Marine Animal Species That May Occur in the Geographic Vicinity But Not in the Project Area.

The south coast marsh vole, southern California saltmarsh shrew, Belding's savannah sparrow, wandering skipper, and light-footed clapper rail are associated with salt marsh habitat, which does not occur in the project area. Five other species, the western snowy plover, western tidal-flat tiger beetle, sandy beach tiger beetle, western beach tiger beetle, and senile tiger beetle were determined to not occur in the project area based on habitat requirements for tidal sand or mud flats. While these species may be found elsewhere in the Alamitos Bay complex, all of the project area consists of vertical seawalls. Therefore, no impacts are anticipated to occur with regard to these 10 listed special status marine animal species.



**Table 4.4-3
 Potential Sensitive Marine Animal Species That May Occur in the Geographic Vicinity But
 Not in the Project Area**

Common Name	Species Name	Potential to Occur in Project Area	Common Name	Species Name	Potential to Occur in Project Area
south coast marsh vole	<i>Microtus californicus stephensi</i>	Low	southern California saltmarsh shrew	<i>Sorex ornatus salicornicus</i>	Low
Belding's savannah sparrow	<i>Passerculus sandwichensis beldingi</i>	Low	wandering skipper	<i>Panoquina errans</i>	Low
light-footed clapper rail	<i>Rallus longirostris levipes</i>	Low	western snowy plover	<i>Charadrius alexandrinus nivosus</i>	Low
western tidal-flat tiger beetle	<i>Cicindela gabbii</i>	Low	sandy beach tiger beetle	<i>Cicindela hirticollis gravida</i>	Low
western beach tiger beetle	<i>Cicindela latesignata latesignata</i>	Low	senile tiger beetle	<i>Cicindela senilis frosti</i>	Low

Source: MBC Applied Environmental Sciences, *Technical Memorandum*, September 8, 2009.

Based upon literature reviews and a database search, 24 special status marine-related animal species could occur within the project area. Table 4.4-4, Sensitive Animal Species Likely to Occur in the Project Area, depicts species with a potential to occur in the project area based on range, habitat, and conditions or knowledge of occurrence within project area.

**Table 4.4-4
 Sensitive Animal Species Likely to Occur in the Project Area**

Common Name	Species Name	Status	Local Habitat Use	Potential for Disturbance
Marine Mammals				
California sea lion	<i>Zalophus californianus</i>	MMPA	Open water, hauls out on undisturbed floats or buoys	Low
harbor seal	<i>Phoca vitulina</i>	MMPA	Open water	Low
Marine Associated Birds				
California brown pelican	<i>Pelecanus occidentalis californicus</i>	FE SE	Open water plunge forager, roosts on breakwaters and piers	Low
California least tern	<i>Sternula antillarum browni</i>	FE SE	Shallow open water plunge forager	Low
American white pelican	<i>Pelecanus erythrorhynchos</i>	CSC	Open water forager, roosts on breakwaters and piers	Low
black tern	<i>Chlidonias niger</i>	CSC	Open water plunge forager	Low



Table 4.4-4 (Continued)
Sensitive Animal Species Likely to Occur in the Project Area

Common Name	Species Name	Status	Local Habitat Use	Potential for Disturbance
black skimmer	<i>Rynchops niger</i>	CSC	Open water forager skims water surface in flight	Low
brant	<i>Branta bernicla</i>	CSC	Open water dabbler	Low
common loon	<i>Gavia immer</i>	CSC	Open water dabbler	Low
gull-billed tern	<i>Gelochelidon nilotica</i>	CSC	Open water	Low
black-crowned night heron	<i>Nycticorax nycticorax</i>	CNDDDB	Night forager from low rocks and piers	Low to Moderate
California gull	<i>Larus californicus</i>	CNDDDB	Open water	Low
Caspian tern	<i>Hydroprogne caspia</i>	CNDDDB	Open water plunge forager	Low
double-crested cormorant	<i>Phalacrocorax auritus</i>	CNDDDB	Open water forager, rests on open water and breakwaters	Low
Elegant tern	<i>Thalasseus elegans</i>	CNDDDB	Open water plunge forager	Low
Forster's tern	<i>Sterna forsteri</i>	CNDDDB	Open water plunge forager	Low
great blue heron	<i>Ardea herodias</i>	CNDDDB	Forager from shore, and low rocks and piers	Low to Moderate
great egret	<i>Ardea alba</i>	CNDDDB	Forager from shore and low rocks	Low
osprey	<i>Pandion haliaetus</i>	CNDDDB	Open water fisher	Low
snowy egret	<i>Egretta thula</i>	CNDDDB	Forager from shore and low rocks	Low
Sea Turtles				
green sea turtle	<i>Chelonia mydas</i>	FT	Open water	Low
loggerhead sea turtle	<i>Caretta caretta</i>	FT	Open water	Low
olive Ridley sea turtle	<i>Lepidochelys olivacea</i>	FT	Open water	Low
leatherback turtle	<i>Dermochelys coriacea</i>	FE	Open water	Low
Notes: MMPA = Protected under the Marine Mammal Species Act FE = federally endangered FT = federally threatened SE = state endangered CSC = California species of special concern CNDDDB = California Natural Diversity Database listed as sensitive				
Source: MBC Applied Environmental Sciences, <i>Technical Memorandum</i> , September 8, 2009.				

The likelihood of disturbance to most of these species during construction of the proposed long range repairs is considered to be low. Most of these species are associated with open water areas such as those found in Alamitos Bay offshore of the project area, though several species may also roost on undisturbed manmade structures in Alamitos Bay. Due to the developed nature of the project area and the frequent human use of these areas, the project area has severely limited opportunities for most of these species to utilize habitat in the project area.

The proposed long range repairs would occur within a narrow area along the existing seawalls. For the most part, the project site is bounded by floating docks



(particularly along the Alamitos Bay portions of the project site). Very little open water is available for these special status species. Additionally, frequent human use along the seawalls and docks also limits the potential for occurrence of these special status species within the project area. For these reasons it is considered unlikely that these species would be found in the project site and the potential for impacts to individuals of these species are considered to be less than significant.

However, two bird species (the black-crowned night heron and great blue heron) may occasionally forage from undisturbed docks in the project area. Implementation of the proposed long range repairs may require individuals of this species to avoid dock areas in the vicinity of construction activities. However, it is unlikely that construction activities would impact the feeding habits of these species, as foraging activities would take place at night and crepuscular (dawn and dusk). In addition, the phased timing of the project construction would limit the amount of area lost to potential at any time during the project's construction. During each project phase, similar opportunities for foraging habitat will be available elsewhere in the project area as well as throughout the bay. Therefore, potential impacts to these two bird species are less than significant.

It should be noted that marine mammals (i.e., California seal lion and harbor seal) and various bird species are likely to occur in the project area, but are not anticipated in the proposed area of disturbance. Such species could be sensitive to construction-related noise, including pile driving. Refer to Section 4.11, Noise, for a detailed analysis on potential noise impacts to sensitive species. Mitigation Measures N-2 and N-3 would reduce these impacts to a less than significant level.

Upon completion of project construction, the project area would remain consistent with existing conditions. No impacts would result in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: Refer to Mitigation Measures N-2 and N-3.

- 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 With Mitigation Incorporated.

Long Range Repair Option

Short-Term Construction Impacts

Eelgrass (*Zostera marina*)

Of particular concern in the project area is eelgrass (*Zostera marina*), which is a marine vascular plant that is common in healthy, shallow bays and estuaries, and

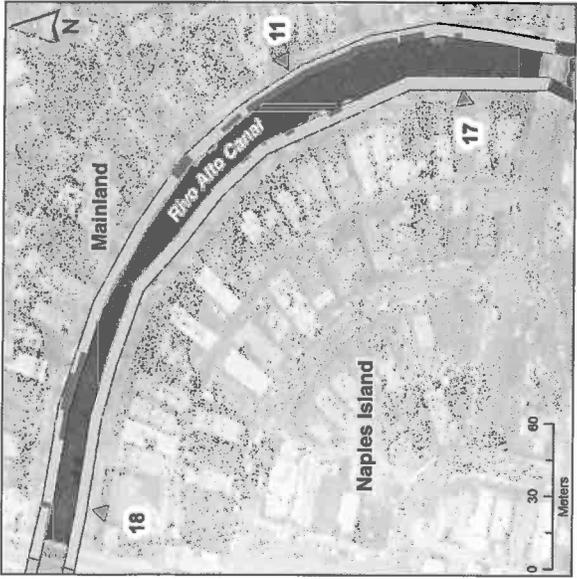


provides important marine habitat. Eelgrass is a dominant, community structuring species which can form extensive beds, and generally occurs within a fairly narrow depth range. Additionally, eelgrass supports some migratory bird species during critical life stages. The loss of eelgrass as a result of coastal development is considered to be a significant environmental impact.

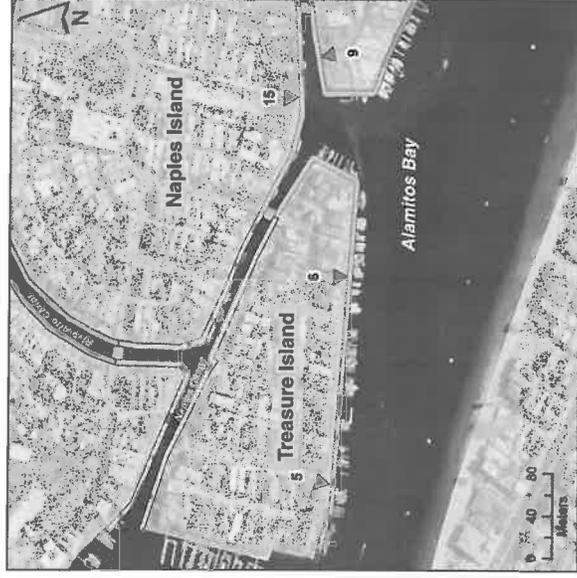
Construction of the long range repairs would be divided into six work areas, separated by the existing bridges to Naples Island. One phase would be constructed per year and each phase would require approximately six months of construction. Long range project phasing has been recommended based on repair priority, and is as follows:

- Phase 1: Northeast portion of the Naples Seawall (from the Ravenna Drive bridge to the East The Toledo bridge) and the opposing landside seawall.
- Phase 2: Southern portion of the Naples Seawall, between the West Neapolitan Lane bridge and the East Neapolitan Lane bridge. Phase 2 also includes the portions of the seawall along the eastern and southern edges of Treasure Island as well as the western edge of the landside seawall (west of the East Neapolitan Lane bridge).
- Phase 3: Northwestern portion of the Naples Seawall (between the East The Toledo bridge and the Ravenna Drive bridge) and the opposing landside seawall.
- Phase 4: Southwestern portion of the Naples Seawall (between the East The Toledo bridge and the West Neapolitan Lane bridge) and the portion of the seawall along the northern edge of Treasure Island.
- Phase 5: Southeastern portion of the Naples Seawall (between the East Neapolitan Lane bridge and the East The Toledo Bridge) and the opposing portion of the seawall along the northern edge of the landside seawall.
- Phase 6: Southern portion of the landside seawall, southeast of Naples Island along Corso di Napoli to Naples Plaza.

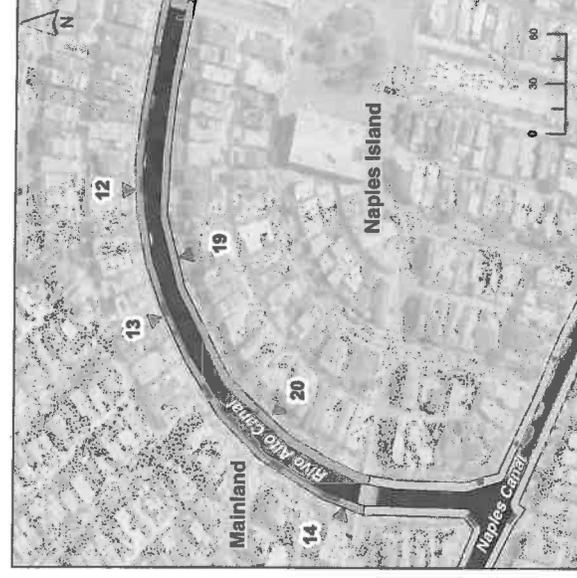
For the purposes of this analysis, surveys were conducted for each phase identified for the long range repairs. The survey was conducted within 15 feet of the existing seawalls. The site reconnaissance survey results, prepared by MBC, are illustrated on Exhibit 4.4-1a and Exhibit 4.4-1b, Site Reconnaissance Survey Results. As noted on Exhibit 4.4-1a and Exhibit 4.4-1b, eelgrass coverage was sporadic in the project area, generally covering approximately nine percent of the survey corridor. The majority of the eelgrass (approximately 95 percent) observed was not growing in shaded areas (such as docks), but rather in areas exposed to substantial sunlight (usually six to 15 feet from the seawalls) where the mudline is not routinely disturbed by boat traffic. Highly disturbed mudline areas are mostly located between the private dock areas. Boat traffic within these areas cause high turbidity that limits the amount of light received. Table 4.4-5, Areas of Eelgrass Observed in the Project Area, describes the eelgrass noted within each construction phasing area.



Phase 1 • Northeast Rivo Alto Canal



Phase 2 • Canal Entrance and Treasure Island Bayside



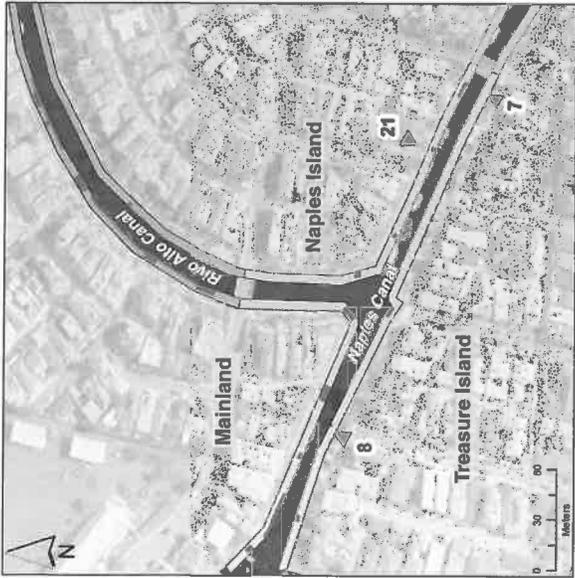
Phase 3 • Northwest Rivo Alto Canal



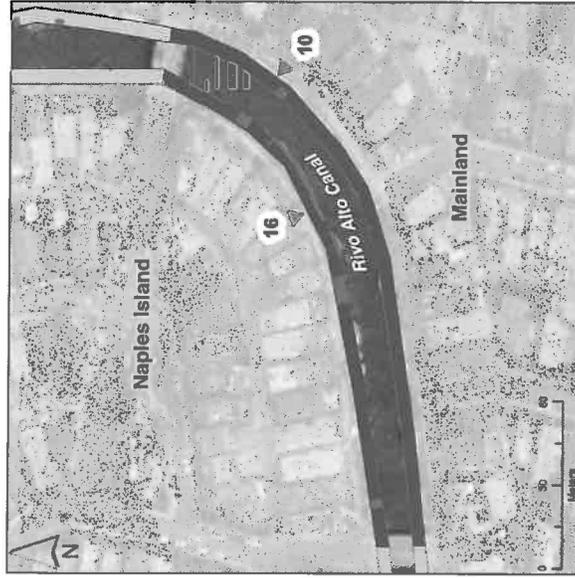
Index Map

- LEGEND**
- ▲ Hard-Bottom Community Survey Location
 - Eelgrass Observed

Source: MBC Applied Environmental Sciences, *Marine Habitat Reconnaissance Survey*, July 23, 2009.



Phase 4 • Naples Canal and Southwest Rivo Alto Canal



Phase 5 • Southeast Rivo Alto Canal



Phase 6 • Mainland Alamitos Bay



Index Map

- LEGEND**
-  Hard-Bottom Community Survey Location
 -  Eelgrass Observed

Source: MBC Applied Environmental Sciences, Marine Habitat Reconnaissance Survey, July 23, 2009.



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**Table 4.4-5
 Areas of Eelgrass Observed in the Project Area**

Construction Phase	Location	Percentage of Eelgrass Coverage	Taxa Observed
Phase 1	Mainland Corridor	27 percent	The file limpet (<i>Lottia limatula</i>) was the most numerous taxa, followed by the white acorn barnacle (<i>Balanus glandula</i>). The remaining taxa were relatively sparse, with less than one percent coverage. The remaining taxa, an annelid worm, two mollusks, two bryozoans (Ectoprocta) and sea lettuce (<i>Ulva</i> spp) were relatively sparse, with less than one percent coverage reported.
	Naples Island Corridor	2 percent	
Phase 2	Mainland Corridor	0 percent	The intertidal was dominated by an unidentified calcareous tube worm (Serpulidae), followed by blue bay mussels (<i>Mytilus galloprovincialis</i>), white acorn barnacle and ribbed limpet (<i>Lottia digitalis</i>), banded turban snail (<i>Tegula eiseni</i>), unidentified tunicates, and the mossy chiton (<i>Mopalia mucosa</i>). Also reported was the bryozoan <i>Watersipora arcuata</i> , with a mean of nearly 20 percent coverage. Ten taxa were reported at the near-bottom of the Phase 2 area. The most abundant include unidentified tunicates and the tunicate <i>Pyura haustor</i> .
	Naples Island Corridor	2 percent	
	Treasure Island Corridor	9 percent	
Phase 3	Mainland Corridor	25 percent	At the intertidal level, invertebrate taxa included the file limpet, two barnacles, a limpet, a chiton, and sea lettuce. In subtidal areas, unidentified tunicates, unidentified sponges, and two mollusks were found.
	Naples Island Corridor	3 percent	
Phase 4	Mainland Corridor	13 percent	Fourteen taxa were found at the intertidal level, including the blue bay mussel, brown acorn barnacle (<i>Chthamalus fissus</i>), unidentified spiraled calcareous tube worm (Spirorbidae), white acorn barnacle, and a serpulid worm. The near-bottom areas of Phase 4 reported unidentified tunicate and tunicate <i>Pyura haustor</i> .
	Naples Island Corridor	6 percent	
	Treasure Island Corridor	3 percent	
Phase 5	Mainland Corridor	1 percent	The intertidal level included the white acorn barnacle, serpulid worms, file limpet, ribbed limpet, scaled worm shell (<i>Serpulorbis squamigerus</i>), and the mossy chiton. Subtidal areas reported unidentified sponges, unidentified tunicates, the tunicate <i>Styela montereyensis</i> , and sea lettuce.
	Naples Island Corridor	17 percent	
Phase 6	Mainland Corridor (Alamitos Bay seawall)	3 percent	Taxa observed included the white acorn barnacle, unidentified serpulid worm, scaled worm shell, mossy chiton, ribbed limpet, two bryozoans, <i>Watersipora</i> and <i>Bugula neritina</i> , and sea lettuce. Near-bottom areas included unidentified tunicates, purple sea urchin (<i>Strongylocentrotus purpuratus</i>), and the Pacific half-slippermail (<i>Crepipatella lingulata</i>).

Source: MBC Applied Environmental Sciences, *Marine Habitat Reconnaissance Survey*, July 23, 2009.

Southern California Eelgrass Mitigation Policy

The Southern California Eelgrass Mitigation Policy was developed by the National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS), and the California Department of Fish and Game (CDFG) in 1991. It establishes provisions for boat docks and related structures, mitigation need, mapping, sites, size,



technique, timing, delay, monitoring, success, bank, and exclusions. Eelgrass was found at each of the project phasing locations. As required per the Southern California Eelgrass Mitigation Policy, the project is required to mitigate the net loss of eelgrass that would occur in the project area during construction.

The long-range repairs would disturb an approximate area of up to 1.5 feet from the existing seawalls. Therefore, little to no eelgrass in the project area is anticipated to be directly impacted (i.e., removed or lost) by long range seawall repairs. Also, eelgrass can be further protected from secondary impacts such as turbidity shading or sedimentation by the use of water quality performance standard Best Management Practices (BMPs) to reduce the impact of unintentional spills and contamination from landside and waterside construction activities. The project is required to comply with the Southern California Eelgrass Mitigation Policy. With implementation of Mitigation Measure BIO-1, the project site would be required to be resurveyed prior to each construction phase. Survey results would be required to be reported to the City as well as the CDFG and NMFS. If eelgrass is found in the project area prior to construction, a post-construction survey would be required within 30 days of completion of the work (BIO-1). The post-construction survey would only be required to investigate those locations where eelgrass was identified in the initial survey (conducted prior to construction). If loss of eelgrass is noted, a mitigation plan consistent with the requirements of the Southern California Eelgrass Mitigation Policy would be required to be developed and implemented.

Also, with implementation of Mitigation Measure BIO-2, BMPs (i.e., the use of silt curtains adjacent to the construction activities) would be required that would reduce turbidity and sedimentation related to the cleaning of the existing seawall, excavation of the base of the existing seawall, pile driving activities, and the final installation of the new seawall. It should be noted that proposed dewatering activities would only be implemented during the landside option of the long-range repairs (for implementation of the proposed caissons). The excess water would be discharged into the storm drain system, or possibly Alamitos Bay. However, with adherence to standard construction measures, the project would be required to obtain applicable permits from the RWQCB pertaining to waste discharge requirements and dewatering activities. Potential impacts to the local eelgrass would be minimized to less than significant levels through compliance with standard water quality performance BMPs, compliance with applicable permits, as well as implementation of Mitigation Measures BIO-1 and BIO-2.

Hard Substrate/Soft Subtidal Communities

The fish species reported during the *Marine Habitat Reconnaissance Survey* were typical of those found in southern California bays. The most common in the survey, surfperches and kelp bass, are species attracted to vertical structures and are typically found in areas with docks and seawalls. Common reported species tend to avoid construction areas and are not likely to be negatively impacted by the project. Although not identified, individual burrowing gobies living within the project footprint may be lost during project construction. However, no sensitive species were found, or are expected to be found in the project area, and the number of individuals lost would be very small in comparison to the population found throughout Alamitos Bay.



The intertidal and subtidal hard-substrate communities found at the project site are very similar to the communities reported historically in Alamitos Bay. The existing intertidal community is characterized by barnacles, mussels, limpets and chitons, tube worms, and bryozoans, as it was in those found historically. The same trend was noted in the subtidal hard-bottom and community, which is characterized by several species of tunicates and bryozoans, with sponges and several mollusk species. All of the individuals living on the seawall at the time of construction would be lost. However, hard-substrate communities rapidly reestablish following disturbance events.

Similar to the hard substrate community, the soft subtidal community assemblage encountered during the *Marine Habitat Reconnaissance Survey* is similar to that described in previous literature during the 1960's. However, the mussel masses that are currently abundant near the base of the seawall were not reported in the earlier literature. Still, the common mussel noted during both studies was the same species. Most of the soft-bottom invertebrate species in the survey corridors are unlikely to be directly impacted by the seawall stabilization project and can be protected from secondary impacts such as turbidity or sedimentation by Mitigation Measures BIO-2. However, up to 16 inches of shallow, soft-bottom benthic habitat and the individuals living within the project footprint at the base of the seawall would be lost as a result of the new seawall construction. No sensitive species were found or are expected to be found in the project area, and the number of individuals lost would be very small in comparison to the population found throughout the bay. Still, between 0.3 and 0.4 acres of soft-bottom habitat and open water habitat would be permanently lost as a direct result of long range seawall repairs. While this is not large in comparison to the habitat otherwise available in the bay, the loss may require mitigation to compensate for the loss of habitat. With implementation of required mitigation measures enforced by the ACOE, USFWS, NMFS, CDFG, and California Coastal Commission as well as Mitigation Measure BIO-2, impacts pertaining to the loss in soft-bottom habitat and open water habitat would be reduced to less than significant levels.

Caulerpa taxifolia

The potential presence of *Caulerpa taxifolia*, a highly invasive alga species known to occur in some southern California embayments, may be located in the project area. *Caulerpa* is an exotic green alga discovered in San Diego County in 2000. This highly invasive species expanded over thousands of acres of the Mediterranean Sea, killing native vegetation and altering the ecosystems. As a result of the damage to native vegetation and ecosystems from *Caulerpa*, any activity conducted in coastal areas that could fragment or disseminate *Caulerpa* requires a pre-project survey and report to certify that *Caulerpa* was not found in the project area. *Caulerpa* was not found within the 15-foot survey corridor during the survey reconnaissance.

Caulerpa Control Protocol

Caulerpa alga poses a substantial threat to marine ecosystems in California, particularly to eelgrass meadows and other benthic environments. In September 2001, Assembly Bill 1334 was enacted by the State of California banning the transport, sale, and possession of nine potentially invasive species of *Caulerpa*.



Provisions have been established in order to detect existing infestations and to avoid the spread of these invasive species within other ecosystems.

The reconnaissance survey found no evidence of the invasive species *Caulerpa taxifolia* within the 15-foot survey corridor of the project area. However, *Caulerpa* would be required to be resurveyed by certified investigators for each project phase, as required under the *Caulerpa* Control Protocol (Mitigation Measure BIO-3). If *Caulerpa* is found during any survey, the City would be required to be notified immediately and the NMFS and CDFG would be notified within 24 hours of identification of the species. Discovery of the species would require the verified eradication of the invasive alga in the project area before construction is allowed to begin. With implementation of Mitigation Measure BIO-3, impacts in this regard would be reduced to less than significant levels.

Interim Repair Option

Refer to the discussion above. Also, it should be noted that the proposed bulkhead repairs in the interim-repair option would require an approximate area of disturbance of up to 5.0 feet from the existing seawalls, as compared to the proposed 1.5 feet of disturbance as a result of the long-term repair option. Similar to the long-term repair option, little to no eelgrass in the project area is anticipated to be directly impacted (i.e., removed or lost) by long range seawall repairs, as the majority of eelgrass observed was situated approximately six to 15 feet from the existing seawalls. Similar to the long-range repair option, with implementation of BIO-1, impacts in this regard would be reduced to less than significant levels.

Mitigation Measures:

BIO-1 No later than 30 days prior to commencement of construction, an eelgrass survey shall be conducted for each phase. All mapping efforts shall be completed during the active growth phase for the vegetation (typically March through October) and shall be valid for a period of 60 days with the exception of surveys completed in August through October. A survey completed August through October shall be valid until the resumption of active growth (i.e., in most instances, March 1). Work planned for November through February shall conduct a pre-construction survey during the previous August through October period.

Survey results shall be mapped and reported to the City in an appropriate data format. The pre-construction survey results shall also be provided to California Department of Fish and Game (CDFG) and National Marine Fisheries Services (NMFS). If eelgrass is found in the project area prior to construction, a post-construction survey shall be provided within 30 days of completion of the work. The post-construction survey shall only be required to investigate those locations where eelgrass was identified in the initial survey (conducted prior to construction). If loss of eelgrass is noted, a mitigation plan consistent with the requirements of the Southern California Eelgrass Mitigation Policy shall be developed and implemented.



BIO-2 Water quality performance standard Best Management Practices (BMPs) shall include, but not be limited to, the use of silt curtains adjacent to construction activities in order to reduce turbidity and sedimentation related to the cleaning of the existing seawall, excavation of the base of the existing seawall, pile driving activities, and the final installation of the new seawall. Attempts shall be made to recover and dispose of organic material that is washed off of the existing seawall in a manner other than through dumping or washing directly into the canal or bay.

BIO-3 During the high growth period from March 1 to October 31, *Caulerpa* surveys shall be conducted no more than 90 days prior to the start of construction and the results shall be submitted to National Marine Fisheries Services (NMFS) and the California Department of Fish and Game (CDFG) no later than 30 days before the start date of construction. For construction outside of the high growth period, approval for surveys shall be made on a case-by-case basis with the NMFS and CDFG. The surveys shall be consistent with Surveillance Level investigation as defined in the *Caulerpa* Control Protocol. A survey report using the standard *Caulerpa* reporting format shall be sent to the City and to the resource agencies within 10 days of the survey.

If *Caulerpa* is found during any survey, the City shall be notified immediately and the NMFS and CDFG shall be notified within 24 hours of identification of the species. Discovery of the species shall require the verified eradication of the invasive alga in the project area before construction is allowed to begin.

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

No Impact.

Long Range Repair Option

No wetlands are located within the boundaries of the proposed improvements. However, the project site is located within Waters of the United States, and is subject to the jurisdiction of the Army Corps of Engineers (ACOE), Regional Water Quality Control Board (RWQCB), California Department of Fish and Game (CDFG), and California Coastal Commission.

Construction of long range repairs would take place adjacent to, and within, canals and the Alamitos Bay. Construction of the new seawall would result in disturbance to the existing sediment in the marine environment. However, these long range improvements would be required to adhere to applicable regulatory requirements, and include mitigation measures, as necessary, in consultation with regulatory agencies. As the project would not impact designated wetland areas and would adhere to applicable regulatory requirements by the ACOE, RWQCB, CDFG, and California Coastal Commission, no impacts would occur in this regard.



Interim Repair Option

Refer to the discussion above.

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 With Mitigation Incorporated.

Long Range Repair Option

The bay and canals in the project area contain habitat to support resident and migratory fish and wildlife species. As previously stated, eelgrass supports some migratory bird species during critical life stages. However, eelgrass located within the project area is not anticipated to support a significant amount of migratory species (as compared to eelgrass sited within the Alamitos Bay) due to the human occupation of the project area. Project implementation may result in minimal temporary disturbance of eelgrass and some habitat loss. Construction activities may result in short-term impacts to eelgrass; however, the movement of species is not anticipated to be significantly impacted (as at least 95 percent of the eelgrass observed is not anticipated to be directly impacted by the project¹). The project may indirectly affect migratory species using the adjacent eelgrass. These impacts would be temporary, as no one location would experience significant construction-related disturbance at one time. Eelgrass would be required to be resurveyed by project phase to comply with regulatory agency timing requirements (Mitigation Measure BIO-1). Potential mitigation for habitat loss would be determined in consultation with the ACOE, USFWS, NMFS, CDFG, and the California Coastal Commission, if deemed necessary. With implementation of Mitigation Measure BIO-1, impacts in this regard would be reduced to less than significant levels.

Long-range repairs (for the landside repair option only) may require the removal of ornamental trees located in the project area. It should be noted that the Naples Seawall Committee considers palm trees a significant resource. As part of the project, the City proposes to preserve existing palm trees in the project area, where feasible. However, some trees may be required to be removed during project construction, as a result of crane operations for long-range repairs. Proposed tree removal would be required to be consistent with the Migratory Bird Treaty Act (MBTA). Mitigation Measure BIO-4 would limit vegetation removal and/or trimming activities during construction between August 1 and February 14 (outside of the nesting season), if feasible to ensure that no active nests would be disturbed. If vegetation removal and/or trimming activities take place during the nesting season (February 15 through August 1), a qualified biologist would need to inspect the trees in the vicinity of the improvement areas prior to construction to ensure that no nesting birds are present. If a nest is present, appropriate measures would be

¹ RBF Consulting, email correspondence with Michael Curtis, Senior Scientist, MBC Applied Environmental Sciences, conducted on December 7, 2009.



developed by the biologist to minimize any impacts to the nest. Therefore, with implementation of Mitigation Measure BIO-4, potential impacts to nesting birds would be reduced to less than significant levels.

Interim Repair Option

Interim repairs would be less intrusive to the marine environment in the project area. Impacts would be less than significant.

Mitigation Measures:

BIO-4 Should tree trimming and/or removal be required, one of the following shall be implemented under the direction of the City Public Works Department in order to avoid nesting birds:

- All vegetation removal and/or thinning activities shall be scheduled from August 1 to February 14, if feasible to ensure that no active nests would be disturbed; or
- Conduct pre-construction surveys for nesting birds if construction is to take place during the nesting season (February 15 through July 31). A qualified wildlife biologist shall conduct a pre-construction raptor survey no more than 30 days prior to initiation of grading to provide confirmation on presence or absence of active nests in the vicinity (at least 300 feet around the project site). If active nests are encountered, species-specific measures shall be prepared by a qualified biologist in consultation with the California Department of Fish and Game (CDFG) and implemented to prevent abandonment of the active nest. At a minimum, grading in the vicinity of the nest shall be deferred until the young birds have fledged. A minimum exclusion buffer of 25 feet is required by CDFG for songbird nests. The perimeter of the nest-setback zone shall be fenced or adequately demarcated with staked flagging at 20-foot intervals, and construction personnel restricted from the area. A survey report by the qualified wildlife biologist verifying that the young have fledged shall be submitted to the City prior to initiation of disturbance activities in the nest-setback zone.

Also refer to Mitigation Measure BIO-1.

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

Less Than Significant Impact.

Long Range Repair Option

Proposed long range repairs would comply with Chapter 14.28, *Trees and Shrubs*, of the City's *Municipal Code*, which contains regulations on tree and shrub planting,



removal, and maintenance, including the protection of all trees located along the street, alley, court, or other public place during construction activities. As part of the project, the City proposes to preserve existing palm trees in the project area, where feasible. However, some trees may be required to be removed during project construction, as a result of crane operations for long-range repairs. Per existing City's requirements, the residents would be required to be notified for any tree removal prior to construction. Any trees removed during construction would be replaced with similar species, per Chapter 14.28 of the *Municipal Code*. No other local policies, ordinances, or plans protecting biological resources exist for the project site. With compliance with Chapter 14.28 of the *Municipal Code*, a less than significant impact would occur in this regard.

Interim Repair Option

Interim repairs would not require the removal of existing trees. The interim repairs would also be required to comply with Chapter 14.28, *Trees and Shrubs*, of the City's *Municipal Code*. No impacts are anticipated in this regard.

Mitigation Measures: No mitigation measures are 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.

Long Range Repair Option

Refer to Response 4.4(e), above. Implementation of the proposed project would not conflict with any adopted Habitat Conservation Plans, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plans. No impacts would result in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.



4.5 CULTURAL RESOURCES

<i>Would the project:</i>	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 as defined in CEQA Guidelines §15064.5?			✓	
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5?				✓
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				✓
d. Disturb any human remains, including those interred outside of formal cemeteries?				✓

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

Less Than Significant Impact.

Long Range Repair Option

The City of Long Beach has recognized certain buildings and neighborhoods as having special architectural and historical value. The City Council designates historic landmarks, historic districts, historic places and historic objects by city ordinance. The project site consists of existing seawall segments along Naples Island and Treasure Island, as well as other landside segments. No historical resources identified in the *General Plan* are known to be present within three miles of the project area. However, one (1) structure (located at 5725 East Corso di Napoli) is designated by the City as a historic landmark, and is located along a proposed seawall on the landside segment of the project site. Project implementation would not impact this designated historic landmark. Additionally, project implementation would further protect this historic landmark from erosion and sliding.

Therefore, the project would not cause a substantial adverse change to historical resources or properties. No impacts would result in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

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

No Impact.



Long Range Repair Option

The project site is highly disturbed. The proposed areas of improvement are located within existing dredge, fill, and foundations associated with the existing seawall and public sidewalks. No native soils are located within the proposed improvement areas. The project site has been previously highly disturbed as a result of the installation of the existing seawalls and construction of the canals.

Implementation of the proposed long range repairs would result in some ground disturbance associated with trenching activities and pile driving along the existing seawalls. However, due to the level of past disturbance resulting from the installation of existing seawalls, construction activities are not anticipated to impact any undocumented buried archaeological resources. No impacts are anticipated in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

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

No Impact.

Long Range Repair Option

The project site is located within an area of the City that has not been identified as containing unique geologic features. No paleontological sites are expected to exist on the project site or in the immediate vicinity. The man-made canals surrounding the island were dredged during canal construction, exposing a few inches of black mud and beach sand below.¹ The project site was also highly disturbed during construction of Naples Island, the existing seawalls, and associated infrastructure.

Long range seawall repairs would occur in the same location of the existing seawalls. No unique geologic features are anticipated to be encountered as a result of proposed improvements. Therefore, no impacts are anticipated in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

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

No Impact.

¹ Stan Poe, *Naples-A Pictorial History*, undated.



Long Range Repair Option

As stated in Response 4.5(c), long range repairs would take place within highly disturbed areas. Therefore, it is not anticipated that any human remains would be uncovered during project construction. No impacts are anticipated in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.



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4.6 GEOLOGY AND SOILS

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Expose people or structures to 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 California Building Code (2004), creating substantial 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?				✓

a) *Expose people or structures to 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.***

No Impact.

Long Range Repair Option

For the purposes of the Alquist-Priolo Earthquake Fault Zoning Act, the State of California defines active faults as those that have historically produced earthquakes or shown evidence of movement within the past 11,000 years (during the Holocene Epoch).¹ Based on the *Geotechnical Report* prepared for the proposed project by AESCO Technologies, Inc., on November 24, 2008 (revised February 5, 2009) (refer to Appendix C, *Geotechnical Report*), the site is not included in the Earthquake Fault Zones established under the Alquist-Priolo Earthquake Fault Zoning Act. The

¹ California Department of Conservation and California Geologic Survey. Potentially active faults have demonstrated displacement within the last 1.6 million years (during the Pleistocene Epoch), but do not displace Holocene Strata. Inactive faults do not exhibit displacement younger than 1.6 million years before the present.



closest mapped fault to the project site is the Newport-Inglewood Fault, located approximately 2.2 miles to the north. Also, the Palos Verdes Fault is located approximately seven miles to the south.

Despite the project's proximity to the Newport-Inglewood Fault, no known active faults traverse the project site. Also, numerous controls would be imposed on the proposed project through the engineering review and permitting process. In general, the City regulates projects under the requirements of the California Building Code, the Alquist-Priolo Special Studies Zone Act, local land use policies, zoning, and the City's *Municipal Code*. Therefore, long range repairs would not expose people or structures to adverse effects as a result of rupture of a known earthquake fault. No impacts would occur in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

2) Strong seismic ground shaking?

Less Than Significant Impact.

Long Range Repair Option

The potential exists for the project site to experience strong seismic ground shaking from the Newport-Inglewood Fault, as well as from other faults in the region. The intensity of ground shaking at the project site would depend upon the magnitude of the earthquake, distance to the epicenter, and geology of the area between the epicenter and the project site. Strong seismic ground shaking could result in damage to the seawalls.

Long range repairs would improve the seismic capacity of the seawall, as compared to existing conditions. The project is subject to compliance with the California Department of Conservation, California Geologic Survey Special Publications 117, *Guidelines for Evaluating and Mitigating Seismic Hazards in California* (1997), which provides guidance for evaluation and mitigation of earthquake-related hazards. In addition, the project is subject to compliance with Code Section 18.24, *Building Codes*, which specifies seismic design requirements. Adherence to standard engineering practices and Code requirements would minimize potential impacts. Also, the long range repairs do not include the construction or modification of habitable structures. The implementation of the long range repairs would result in a less than significant impact associated with the exposure of people or structures to strong seismic ground shaking.

Interim Repair Option

Similar to the long range repair option, the interim repairs would not involve the construction or modification of habitable structures. Adherence to standard engineering practices and Code requirements relative to seismic and geologic



hazards would minimize potential impacts pertaining to potential damage to the seawalls. A less than significant impact would result with regard to the exposure of people or structures to potential substantial adverse effects involving strong seismic ground shaking.

Mitigation Measures: No mitigation measures are required.

3) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact With Mitigation Incorporated.

Long Range Repair Option

Liquefaction is a mode of ground failure that results from the generation of high pore water pressures during earthquake ground shaking, causing loss of shear strength. Liquefaction is typically a hazard where loose sandy soils exist below groundwater. The California Geological Survey has designated certain areas within southern California as potential liquefaction hazard zones. These are areas considered at a risk of liquefaction-related ground failure during a seismic event, based upon mapped surficial deposits and the presence of a relatively shallow water table.

According to the *Geotechnical Report*, the potential for liquefaction at the project site is high. Materials encountered at the project site generally consist of loose to dense granular material and stiff to medium stiff cohesive soil. Groundwater was encountered within the borings at a depth of approximately three feet beneath the existing ground surface. Historically, high groundwater in the project vicinity is less than 10 feet below the ground surface. With implementation of the proposed long range repairs, the structural integrity of the seawalls would be improved, reducing the potential structural damage from liquefaction. Long range repairs would include the installation of cantilever H piles with concrete panel lagging or fiber reinforced polymer (RFP) sheetpile with tiebacks. Implementation of either of these project features would restore the structural integrity of the existing seawall and improve the seawalls stability for both the static and seismic loading conditions. Also, both repair options would also include the installation of new dock guide piles.

In order to ensure that the project's structural components adequately minimize structural damage from liquefaction, as well as lateral spreading and subsidence, Mitigation Measure GEO-1 would be required, which requires a qualified registered geologist to be present during pier drilling, dock guide pile driving, driving of the cast-in-drilled holes (CIDH), placement of grout and backfill, installation of tiebacks, and concrete placement and reinforcement activities. Long range repairs would not expose people or structures to potential substantial adverse effects involving liquefaction. Also, mudjacking as a repair option is not recommended, as it would exert considerable active pressure on the seawalls during the injection process, through the additional weight of the grout, and could lead to failure of the existing seawall. Therefore, the project would not be allowed to use mudjacking as a repair option (GEO-2). With implementation of Mitigation Measures GEO-1 and GEO-2, a less than significant impact would occur in this regard.



Interim Repair Option

The interim repairs would provide additional temporary protection during a seismic event. The sinkholes that are currently located behind the seawalls would be repaired by removing the existing sidewalk in the affected areas. Sidewalks would be replaced following the sinkhole repair. The underlying materials would be excavated to a depth of one foot beneath the existing ground surface and a geofabric would be placed at the bottom of the excavation. The excavation would then be backfilled with gravel. The gravel would be completely wrapped with the geofabric (bottom, sides, and top) prior to the placement of concrete. Also, the installation of new tie rods below the existing cap (with a wale to engage the sheet piles) would reduce the existing tie rod and sheet pile stresses. Tiebacks would be installed in order to increase the longevity of the existing wall prior to the construction of the long range repair option. New dock guide pile driving would also occur during interim repairs. Interim seawall repairs would alleviate potential structural damage as a result of liquefaction. Thus, impacts would be less than significant.

Mitigation Measures:

GEO-1 A qualified registered geologist, approved by the City Public Works Department, shall be present at the project site during long range repairs to observe and provide testing during the following activities:

- Pile driving;
- Dock guide pile driving;
- Boring of the cast-in-place holes (CIPH);
- Placement of all grout and backfill;
- Installation of tiebacks; and
- Concrete placement and reinforcement.

GEO-2 The City shall require all contractors to preclude mudjacking activities. Such prohibition shall be stated within the project's plans and specifications. The project plans and specifications shall be reviewed and approved by the City Public Works Department.

4) Landslides?

No Impact.

Long Range Repair Option

According to the *General Plan*, slope instability is not a major concern as slopes generally are neither high nor steep. Since the project site is relatively flat, the risk of landslides at the site is considered very low. The project site consists of relatively flat topography, and long range repairs do not propose any design slopes. Also, Chapter 70 of the Uniform Building Code addresses grading on sites where safety hazards may be created, has been adopted and is enforced in the City. Therefore, implementation of long range seawall repairs would not expose people or structures to potential adverse effects involving landslides. No impact would occur in this regard.



Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact.

Long Range Repair Option

Soils throughout the project area are sensitive to disturbance during construction of long range repairs. The construction of long range repairs would expose minimal areas of bare soil to potential short-term erosion by wind and water. The project would be subject to compliance with the requirements set forth in the National Pollutant Discharge Elimination System (NPDES) Storm Water General Construction Permit for construction activities. Following compliance with the NPDES permit, project construction would result in a less than significant impact regarding soil erosion. Also, upon completion of the long range repair option, existing soil erosion conditions at the project site would be reduced.

Interim Repair Option

Refer to the discussion above regarding short-term construction impacts. Also, completion of the interim repair option would temporarily alleviate the existing soil erosion conditions until such time that the long range repair option can be implemented. Impacts in this regard would be less than significant.

Mitigation Measures: No mitigation measures are 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 With Mitigation Incorporated.

Long Range Repair Option

Refer to Response 4.6(a)(3) and 4.6(a)(4). In addition to liquefaction and lateral spreading, the project site is susceptible to subsidence. The *Geotechnical Report* estimates that multiple portions of the paving and planting areas within the Naples community show evidence of subsidence as a result of oil pumping at the Seal Beach and Wilmington Oil Fields. With implementation of the proposed long range repairs, the structural integrity of the seawalls would be improved, reducing the potential structural damage resulting from subsidence.

In order to ensure that the project's structural components adequately minimize structural damage from liquefaction, as well as lateral spreading and subsidence, Mitigation Measure GEO-1 would be required. The project would not be allowed to



use mudjacking as a repair option (GEO-2). With implementation of Mitigation Measures GEO-1 and GEO-2, a less than significant impact would occur in this regard.

Interim Repair Option

The interim repairs would provide additional temporary protection from subsidence. The sinkholes that are currently located behind the seawalls would be repaired by removing the existing sidewalk in the affected areas. The underlying materials would be excavated and then backfilled with gravel. The gravel would be completely wrapped with the geofabric prior to the placement of concrete. Tiebacks would also be installed to increase the longevity of the existing seawalls prior to the construction of the long range repair option. Completion of the interim repair option would temporarily alleviate unstable soil conditions until such time that the long range repair option can be implemented. Thus, impacts would be less than significant.

Mitigation Measures: Refer to Mitigation Measures GEO-1 and GEO-2.

- d) ***Be located on expansive soil, as defined in Table 18-1-B of the California Building Code (2004), creating substantial risks to life or property?***

No Impact.

Long Range Repair Option

Clayey loams are often classified as expansive soils, meaning they can have a moderate to high shrink-swell potential. According to the City's *General Plan*, the project site has a soil profile of "A", which consists of dredged and hydraulic fills, assorted man-made fills, and may contain soils of questionable origin. These materials are generally composed of fine sand and silt. Also, based on the *Geotechnical Report*, on-site soils generally consist of dredged fill material overlying alluvium. Borings taken along the project site include varying types of silt and sand.

Therefore, as the types of soils encountered at the project site do not include clayey loams, expansive soils are not anticipated. The proposed long range repairs are not anticipated to pose substantial risk to people or property as a result of expansive soils. No impacts are anticipated in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are 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.

Long Range Repair Option

Long range repairs to the seawalls would not involve the use of septic tanks or alternative wastewater disposal systems. Therefore, no impact would occur in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.



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4.7 HAZARDS AND HAZARDOUS MATERIALS

<i>Would the project:</i>	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 for people residing or working in the project area?				✓
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				✓
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?		✓		
h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				✓

- 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.

Long Range Repair Option

Long range seawall repairs would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. With the exception of utilizing gasoline and diesel fuels for construction equipment, no other hazardous materials would be transported to or from the project site, or used in the construction process. Fuels and solvents would be stored and utilized pursuant to Best Management Practices. Also, long-term improvements to seawalls and would not involve the use of hazardous materials. Therefore, impacts would be less than significant in this regard.



Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are 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.

Long Range Repair Option

The proposed long range repairs are unlikely to result in a release of hazardous materials into the environment. However, during construction there is a possibility of accidental release of hazardous substances such as petroleum-based fuels or hydraulic fluid used for construction equipment. 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 such materials. The construction contractor would be required to use standard construction controls and safety procedures that would avoid and minimize the potential for accidental release of such substances into the environment. Standard construction practices would be observed such that any materials that are released are appropriately contained and remediated as required by local, State, and Federal laws. Impacts are less than significant in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are 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?***

Less Than Significant Impact.

Long Range Repair Option

Naples Elementary School is located approximately 0.10-miles west of the project site. Long range repairs would not result in hazardous emissions or acutely hazardous materials that would pose a potential health hazard. The only emissions that would occur are those resulting from the use of heavy equipment required for construction. However, these emissions would consist primarily of particulates and criteria air pollutants that do not pose a significant health risk (refer to Section 4.7, Air Quality). No toxic or hazardous materials would be utilized within the vicinity of the school. Therefore, a less than significant impact would occur as a result of project implementation.



Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are 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.

Long Range Repair Option

There are no habitable structures located within the areas of improvements. Therefore, as the site consists of existing seawalls and public sidewalk areas, the project site is not listed in a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. No impact would result in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are 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 for people residing or working in the project area?***

No Impact.

Long Range Repair Option

The nearest public airport (Long Beach Municipal Airport) is located greater than two miles north of the project site. No airport-related safety hazard would result from implementation of long range seawall repairs.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

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

No Impact.



Long Range Repair Option

The project site is not located within the vicinity of a private airstrip or related facilities. Therefore, no impacts would occur in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact With Mitigation Incorporated.

Long Range Repair Option

The City's Natural Hazards Mitigation Plan (October, 2004) includes resources and information to assist residents and others interested in participating in planning for natural hazards. The plan provides a list of activities that may assist the City in reducing risk and preventing loss from future natural hazard events. The plan addresses multi-hazard issues, earthquakes, flooding, earth movement, windstorms, and tsunamis. The Long Beach Department of Emergency Preparedness is located approximately 4.1 miles north of the project site, at 4040 East Spring Street near the airport (location of the Emergency Operations Center [EOC]). This underground facility would serve as the command post for coordinating manpower, equipment, resources, and facilities. The nearest emergency shelter is located at the corner of East 6th Street and Park Avenue, approximately 1.3-miles northwest of the project site.

Evacuation procedures, in the event of a disaster, would be coordinated through the Police Department. The City has not established official evacuation routes in the City, as the areas affected by disaster would vary. However, critical access points would be identified (including major arterials and traffic interchanges) and teams of police personnel would be assigned to patrol major evacuation points. The nearest major intersection in the area is the East 2nd Street/PCH intersection, located approximately 0.65-miles northeast of the project site.

It is anticipated that traffic flow along local roadways on Naples Island, Treasure Island, and landside segments would be temporarily impacted during construction of the proposed long range repairs. However, construction of the proposed repairs would not obstruct emergency operations. Upon completion of construction activities, traffic flow or emergency operations would not be obstructed. Potential street impediments from construction would also be minimized with implementation of the Traffic Management Plan (Mitigation Measure TRA-1) discussed in Section 4.15, *Transportation/Traffic*. Additionally, the project would be required to comply with all City and State Safety Codes, and project plans would be reviewed by the City's Public Works Department. Therefore, impacts associated with the Natural



Hazards Mitigation Plan and emergency operations would be considered less than significant.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: Refer to Mitigation Measure TRA-1.

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

No Impact.

Long Range Repair Option

According to the Public Safety Element of the *General Plan*, the project site is located in an area of the City categorized as a “critical” fire hazard area, as the project area is considered wharf property and contains two- to three-story wood frame buildings. The nearest “most critical” fire hazard area to the project site, as referenced in the *General Plan*, is located approximately 0.55 miles northeast of the project site. Long range seawall repairs would not take place in an area near wildlands, and would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. Therefore, no impacts would occur in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.



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4.8 HYDROLOGY AND WATER QUALITY

<i>Would the project:</i>	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?			✓	
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			✓	
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?				✓
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			✓	
e. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?			✓	
f. Otherwise substantially degrade water quality?			✓	
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				✓
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				✓
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				✓
j. Inundation by seiche, tsunami, or mudflow?				✓

As authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. The NPDES permit program is administered by the California Regional Water Quality Control Board (RWQCB). There are nine RWQCBs, which are responsible for development and enforcement of water quality objectives and implementation plans. The project site is located in the jurisdiction of the Los Angeles RWQCB.



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

Less Than Significant Impact.

Long Range Repair Option

Short-Term Construction

Best Management Practices (BMPs) may be required for construction activities and may include measures to control pollutants at particular sources, such as fueling areas, trash storage areas, outdoor materials storage areas, and outdoor work areas. BMPs are also used during treatment of the pollutants at these particular source areas.

Construction activities associated with the proposed long range repairs have the potential to produce typical pollutants such as nutrients, heavy metals, toxic chemicals, and waste materials. Impacts to storm water quality may occur from construction and minor earth moving, and increased pollutant loadings would occur immediately off-site. Also, the project would require dewatering of the caisson for landside repairs. The proposed project would require the disturbance of 0.05-acres of land. However, should the proposed area of disturbance to be constructed at one time exceed one acre of land, coverage under the Construction General Permit would be required.

Minimal dewatering activities would occur under the landside repair option. With adherence to standard construction measures, the project would be required to obtain applicable permits from the RWQCB pertaining to waste discharge requirements and dewatering activities. At this time, the City would be required to submit a Notice of Intent (NOI) prior to construction activities. Following compliance with the applicable permits from the RWQCB, project implementation would not violate any water quality standards or waste discharge requirements associated with construction activities. Impacts are less than significant.

Long-Term Operations

The primary objectives of the municipal storm water program requirements are to effectively prohibit non-storm water discharges and to reduce the discharge of pollutants from the storm water conveyance system to the "Maximum Extent Practicable." The RWQCB has adopted a Water Quality Control Plan, which contains prohibitions, water quality standards, and policies for implementation of standards.

Major drainage channels in Long Beach drain into the Los Angeles River, San Gabriel River, and Long Beach Harbor. Currently, storm drains infiltrate the seawall at every street and alley on Naples Island. A visual inventory conducted by TranSystems revealed that less than half of the storm drains have operable dampers to prevent backflow during extreme tides.



Long range repairs of the seawall would not result in a violation of water quality standards, as they include improvements to the existing storm drain facilities to provide adequate backflow accommodations during extreme tides. Under the waterside repair option, storm drains could reasonably be extended through precast concrete; however, the storm drain extensions would avoid "H" pile locations. The project would not result in an increase in impervious areas or additional runoff as compared to existing conditions. Operation of the project would be required to adhere to RWQCB requirements and would not result in long-term water quality impacts. Therefore, no impacts would result in this regard.

Interim Repair Option

Short-Term Construction

Refer to the discussion above for long range repairs. Also, it should be noted that no dewatering would occur during the proposed interim repairs. Impacts in this regard are less than significant.

Long-Term Operations

Refer to the discussion above for long range repairs. Also, it should be noted that interim repairs do not include improvements to the existing storm drain facilities at the project site. No impacts would result in this regard.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact.

Long Range Repair Option

Implementation of long range repairs would not create a demand for water in excess of available supplies. The project would not result in an increase of impervious surfaces from existing site conditions or require any sources of water. The project would include dewatering activities during construction. However, per applicable RWQCB permit(s), all water that would be pumped during construction would be treated prior to discharge. The project is subject to compliance with the applicable permit(s) from the RWQCB including, but not limited to, dewatering activities. Project implementation would not substantially deplete groundwater supplies or interfere with groundwater recharge. A less than significant impact would result in this regard.

Interim Repair Option

Interim repairs would not require dewatering activities. No impact would occur in this regard.



Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact.

Long Range Repair Option

The proposed long range repairs would not alter the existing drainage pattern. As previously stated, long range repairs would include improvements to the existing storm drain facilities to provide adequate backflow accommodations during extreme tides. These improvements would not alter the existing drainage channel in a way that would result in the erosion or alteration of a stream or river. The nearest water courses to the project site are the canals surrounding Naples Island. Long range repairs would result in slightly narrower canal passages; however, the seawall height would be elevated and would not result in substantial erosion or siltation. Due to the nature of the project site, erosion or siltation on- or off-site would not occur. Also, with implementation of the proposed seawall repairs, existing erosion hazards that are currently present at the project site would be reduced. Therefore, a less than significant impact would result in this regard.

Interim Repair Option

Interim repairs do not involve improvements to the existing storm drain system. However, the interim repairs would improve the existing seawall and reduce erosion at the project site, until such time that funding for long range improvements can be provided. No impacts would result in this regard.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact.

Long Range Repair Option

Refer to Response 4.8(c). The project site is located within a 100-year flood plain, as delineated by the Federal Emergency Management Agency (FEMA). The proposed long range repairs would improve storm drains along the seawall that currently do not function properly, and elevate the seawall cap which would alleviate potential flooding to surrounding uses. Therefore, impacts would be less than significant in this regard.



Interim Repair Option

Refer to Response 4.8(c). Interim repairs would not alter the existing drainage pattern at the project site in a manner that would result in flooding. No impacts would result in this regard.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact.

Long Range Repair Option

Refer to Response 4.8(d).

Interim Repair Option

Refer to Response 4.8(d).

Mitigation Measures: No mitigation measures are required.

- f) ***Otherwise substantially degrade water quality?***

Less Than Significant Impact.

Long Range Repair Option

Implementation of the proposed long range repairs would not affect the water quality in the area, as the project would not result in any new sources of runoff. The project would include dewatering activities during construction for the caissons. Per applicable RWQCB permit(s), all of the water that would be pumped during construction would be treated prior to discharge. The project would not otherwise substantially degrade water quality. With implementation of standard construction measures, impacts in this regard are considered to be less than significant. Refer to Response 4.8(a) and 4.8(b) above.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.



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

No Impact.

Long Range Repair Option

According to the Public Safety Element of the *General Plan*, the project site is located within one of the 19 flood hazard areas within the City, based on a 10-year recurrence probability. Project implementation would not place housing or habitable structures within a 100-year flood hazard area. No impacts would result in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

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

No Impact.

Long Range Repair Option

As stated in Response 4.8(g), no structures are proposed within any designated 100-year flood hazard area as identified by FEMA or the by the City. Long range repairs would provide additional protection from flooding hazards to surrounding residents. Therefore, no impacts would result in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

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

No Impact.

Long Range Repair Option

Refer to Response 4.8(g) and 4.8(h). The proposed project does not involve permanent habitable structures. Long range seawall repairs would provide additional flooding protection to surrounding residents. Project implementation would not



expose people or structures to significant risk of loss, injury, or death involving flooding. Therefore, no impacts would result in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

j) *Inundation by seiche, tsunami, or mudflow?*

Less Than Significant Impact.

Long Range Repair Option

The Los Alamitos Bay is located to the south of the project site. According to the Seismic Hazards Element of the *General Plan*, tsunami and seiche influence areas are concentrated along the coastline, and include the project site. The project site is not located downslope of any area of potential mudflow. Based on the *General Plan*, the chance of inundation by tsunami or seiche affecting the project site appears to be high. However, the project would not expose the project site to risk of inundation by tsunami or seiche beyond existing conditions. Also, no habitable structures would be constructed as part of the proposed project and the project would not further expose persons or property to additional risk of inundation. Therefore, a less than significant impact would result in this regard.

Interim Repair Option

As interim seawall repairs would not provide additional long-term protection from potential seiches or tsunamis, the project site would be subject to inundation by seiche or tsunami. As previously stated, the project site is located within one of the 19 flood hazard areas within the City, based on a 10-year recurrence probability. Interim repairs would serve as temporary improvements that would increase the integrity of the seawall until funding for replacement becomes available which, as stated above, would provide additional long-term protection against seiches and tsunamis. Interim repairs would not worsen the current condition of the seawall, and would not increase hazards in the project area. Also, no habitable structures would be constructed and no increase in population would occur as part of the proposed project. Therefore, a less than significant impact is concluded.

Mitigation Measures: No mitigation measures are required.



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4.9 LAND USE AND PLANNING

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Physically divide an established community?				✓
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?		✓		
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?				✓

a) Physically divide an established community?

No Impact.

Long Range Repair Option

The proposed long range repairs involve improvements to the existing seawalls and public sidewalk areas, and do not involve any new development or new uses. As the project would not physically divide an established community, no impacts would occur in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact With Mitigation Incorporated.

Long Range Repair Option

City of Long Beach General Plan

Land Use District Designation. The project site is designated as Land Use District Number 1 (Single-Family) in the *General Plan*. The project proposes long range improvements to the existing seawalls surrounding the residential properties in Naples. Implementation of the long range repairs would not conflict with the *General Plan* land use designation for the project area. Long range repairs would not require



a *General Plan* amendment. As the proposed project is consistent with the land use designation for the project area, impacts are less than significant in this regard.

Residential Neighborhood Designation. The project site is located within the Naples Neighborhood, as designated by the *General Plan*. The Naples Neighborhood is primarily single-family homes. However, some multi-family structures are located along Naples Plaza and Second Street. According to the *General Plan*, mounting pressure to increase building densities has recently been curtailed with the passage of zoning code amendments restricting height and bulk throughout all the Alamitos Bay communities. Land use policies for the Naples Neighborhood, as outlined in the *General Plan*, include maintaining high quality, single-family residential land use, preserving the unique character of the island, and limiting land use intensities to maintain "livability".

The proposed improvements would be consistent with the Naples Neighborhood designation. Long range repairs would improve the integrity and stability of the seawalls, thereby contributing to the preservation of the Naples Neighborhood. Upon completion of the proposed improvements, the existing character of the single-family residential uses would remain. The proposed improvements would not increase the intensities in the area, as the project does not proposed new structures. As the project is consistent with the Naples Neighborhood designation for the project area, impacts in this regard are less than significant.

Zoning Regulations of the City of Long Beach

Zoning District. The project site is located within zoning district R-1-S (Single-family Residential, small lot). The R-1-S District is a single-family residential district with small lots. The *Zoning Regulation* states that this Zone is only appropriate in high open space amenity areas such as the Coastal Zone. This implements Land Use District No. 1 of the *General Plan*.

Implementation of the proposed long range improvement activities would not conflict with the zoning designation of the project area. The project would be consistent with the existing permitted land use, as seawalls currently exist at the project site and no change in land use would occur. Therefore, a less than significant impact would result in this regard.

Flood Damage Prevention. Chapter 21.62, *Flood Damage Prevention*, of the *Zoning Regulation* promotes the public health, safety and general welfare, and minimizes potential public and private losses resulting from flood conditions in specific areas by the following provisions:

- A. To protect human life and health;
- B. To minimize expenditure of public money for costly flood control projects;
- C. To minimize the need for rescue and relief efforts associated with flooding, generally undertaken at the expense of the general public;
- D. To minimize prolonged business interruptions;



- E. To minimize damage to public facilities and utilities such as water and gas mains; electric, telephone and sewer lines; and streets and bridges located in areas of special flood hazard;
- F. To help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future blighted areas caused by flood damage;
- G. To ensure that potential buyers are notified that property is in an area of special flood hazard; and
- H. To ensure that those who occupy special flood hazard areas assume responsibility for their actions.

Long range repairs would result in a benefit in regards to potential special flood hazard zones, as the project would improve the integrity of the existing seawalls. The project would be required to be consistent with Section 21.62.180, Standards of construction, which requires specific construction standards for anchoring, construction materials/methods, elevation, and flood-proofing. Therefore, with implementation of the standards required as part of Section 21.62.180 of the *Zoning Regulations*, a less than significant impact would occur.

Local Coastal Program

The City adopted a Local Coastal Program (LCP) in 1980. The LCP is intended to plan and protect the City's coastline and coastal zone. The coastal zone in the City encompasses over 3,100 acres and is intensely developed. The LCP addresses shoreline access, recreation and visitor serving facilities, new development, and coastal resources. The following is an analysis of the project's consistency with the policies outlined in the LCP:

Transportation and Access. The Long Beach LCP transportation and access policies that are applicable to the proposed project include the increase in pedestrian and bicycle access opportunities. There are no bikeways located within the project site. The nearest bikeway to the project site is a Class III bikeway along East 2nd Street, approximately 0.10 miles to the north. However, a publicly accessible pedestrian walkway surrounds Naples Island, within the boundaries of the project site. This pedestrian walkway is used by local residents within the project area.

Implementation of the proposed long range improvement activities may result in temporary impacts to public access during construction. However, these impacts would be short-term as the construction equipment would not be staged in one location for a significant amount of time. The project improvements would occur over a period of six years; however, the improvements would only impede access from any given location at the project site for a period of approximately six months within each year. Should pedestrian access be restricted during construction, implementation of Mitigation Measure TRA-1 would require plans to clearly denote any closures, traffic rerouting, and signage to ensure adequate pedestrian access. With implementation of TRA-1, impacts would be reduced to less than significant levels.



The proposed long range improvements would not impact pedestrian access during long term operations of the project, as the existing pedestrian access would remain. No impacts would result in this regard.

Park Dedication Policy. As part of the LCP, no parkland (which as been dedicated or designated within the coastal zone) can be changed to another use unless the City replaces such parkland on an acre-for-acre basis within or adjacent to the coastal zone with the approval of the California Coastal Commission. Two parks are located within the project vicinity, The Colonnade and Overlook Park. The proposed project would not change or alter these park uses. Therefore, no impact would result in this regard.

Community Plans. The LCP covers ten sub-areas of the coastal zone, between the Los Angeles River and the Alamitos Peninsula. The project site is located within Area E (The Naples and Alamitos Peninsula Communities) of the LCP. Area E is defined as single-family in character (with the exception of multi-family residential and business commercial uses located along Second Street). Naples Island is characterized by very narrow streets, dense development, and multiple boat slips.

Implementation of the proposed project would be consistent with the policies outlined in Area E of the LCP; refer to Table 4.9-1, Consistency with Area E.

**Table 4.9-1
 Consistency with Area E**

Section	Policy	Short-Term Construction Activities
		Operation of the Long Range Repairs
Shoreline Access	Access to the public waterways shall be accomplished by keeping the public area between the seawall and sidewalk clean, and by not permitting obstructions in that area which discourage public use.	<p>Consistent. During construction activities for the landside repair option, a portion of the public areas between the seawall and sidewalk would be temporarily closed. Temporary closures would occur at any given location within the project site for a period of up to six months. In the event that pedestrian access is restricted during construction, implementation of Mitigation Measure TRA-1 would require plans to clearly denote any closures, rerouting, and signage to ensure adequate pedestrian access. Also, implementation of the required permits from the Regional Water Quality Control Board (RWQCB), such as the National Pollution Discharge Elimination System (NPDES), would reduce potential impacts from visible dust and track out areas. Best Management Practices (BMPs) required as part of the permitting conditions would maintain clean sidewalk areas during construction. The project would not impede the public use of adjoining parks located in the project vicinity and although portions of the public sidewalk areas may be temporarily impeded, alternative public access routes would be provided (TRA-1). Also, construction of the waterside repair option is not anticipated to impact public access in the project area, as proposed improvements would occur within the canal-side of the project. Therefore, with implementation of the recommended Mitigation Measure TRA-1 and the required permitting conditions for the project site, the project would be consistent with this policy during project construction.</p>



**Table 4.9-1 (Continued)
Consistency with Area E**

Section	Policy	Short-Term Construction Activities
		Operation of the Long Range Repairs
		Consistent. The proposed long range improvements would not impact pedestrian access during long term operations of the project, as the existing pedestrian access would remain similar to existing conditions.
Locating and Planning New Development	The single family character of Naples is to be preserved without exception.	Consistent. Although construction activities would be visible, the proposed areas of disturbance (for either the landside or waterside option) would be limited to the location of the existing seawalls, the canals, and/or minimal areas of homeowner improvements adjacent to the seawalls (i.e., landscaping, benches). Although the project improvements would occur over a period of six years, these improvements would only be visible from any given location at the project site for a period of up to six months. Also, with implementation of Mitigation Measure TRA-1 and the required permitting conditions for the project site, the project would not degrade the single family character of Naples.
		Consistent. The proposed repairs would repair degrading conditions both along the seawalls and adjoining sidewalk areas. Although the improvements would add six inches in height to the existing seawalls, this increase in height would not alter the character of the project area. Therefore, implementation of the proposed long-range improvements would not result in the degradation of the single family character of Naples.
Diking, Dredging, Filling and Shoreline Structures	No further filling of the Bay for enlargement of Naples or Treasure Islands shall be permitted. Maintenance dredging of the channel and canals shall be permitted as required for safety and proper water circulations	Consistent. Refer to Long-Term Consistency analysis below.
		Consistent. The proposed project would include improvements within Alamitos Bay and adjacent channels. The "H" piles would reduce the channel width an estimated 16 inches on each side; however, the project would not result in the enlargement of the developable area for Naples or Treasure Islands. The intent of the project is to stabilize the seawall in its present deteriorating state and extend the life of the seawalls. Implementation of the project would result in increased safety and protection of Naples Island, Treasure Island, and landside areas against flooding occurrences.
Hazard Areas	Efforts to alleviate flood hazard conditions on Naples shall continue.	Consistent. Refer to Long-Term Consistency analysis below.
		Consistent. According to the Public Safety Element of the <i>General Plan</i> , the project site is located within one of the 19 flood hazard areas within the City, based on a 10-year recurrence probability. Long range repairs would provide additional protection from flooding hazards to surrounding residents. Long range repairs involve the elevation of the seawall cap and storm drain improvements to drains that currently do not function properly. Therefore, project implementation would contribute to the City's efforts to alleviate flood hazard conditions at Naples.

Source: City of Long Beach, *Local Coastal Program*, February 1980.



Overall, the proposed long range improvements would not conflict with the LCP. Implementation of the long range repairs would restore the structural integrity of the existing seawalls and improve the seawalls' stability. As the project is consistent with the policies of the LCP, less than significant impacts would result in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: Refer to Mitigation Measure TRA-1.

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

No Impact.

Long Range Repair Option

The project site is not located within the jurisdiction of a habitat conservation plan or natural community conservation plan; refer also to Response 4.4(f). Therefore, project implementation would not conflict with any applicable habitat conservation plan or natural community conservation plan.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.



4.10 MINERAL RESOURCES

<i>Would the project:</i>	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.

Long Range Repair Option

The project site currently consists of seawall segments at Naples Island and Treasure Island, and opposing landside segments. These seawalls do not contain any known mineral resources. The land uses surrounding the project site consist of residential and marine uses. Long range repairs would be limited to the seawall segments and public walkway areas. Repairs would not require substantial subsurface disturbance that could result in the loss of availability of a known mineral resource of value in the project vicinity. Therefore, no impact would occur in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are 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.

Long Range Repair Option

Refer to Response 4.10(a).

Interim Repair Option

Refer to Response 4.10(a).

Mitigation Measures: No mitigation measures are required.



**City of Long Beach
Naples Seawall Interim and Long Range Repair Project
Initial Study/Mitigated Negative Declaration**

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4.11 NOISE

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		✓		
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?		✓		
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			✓	
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?		✓		
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				✓
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				✓

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.

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.

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. As an example, the standards for quiet suburban and rural communities may be reduced by 5 dBA CNEL to 10 dBA CNEL to reflect their lower existing outdoor noise levels in comparison with urban environments.



City of Long Beach

Chapter 8.80, *Noise*, of the City's *Municipal Code* 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 *Municipal Code* and as indicated in Table 4.11-1, Exterior Noise Limits, maximum exterior noise levels are based on land use districts. The *Municipal Code*, Chapter 8.80, states the following:

- A. *The noise standards for the various land use districts identified by the noise control office as presented in Table A in Section 8.80.160 (Table 4.11-1) shall, unless otherwise specifically indicated, apply to all such property within a designated district.*

- B. *No person shall operate or cause to be operated any source of sound at any location within the incorporated limits of the city or allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, which causes the noise level when measured from any other property, either incorporated or unincorporated, to exceed:*
 - 1. *The noise standard for that land use district as specified in Table A in Section 8.80.160 (Table 4.11-1) for a cumulative period of more than thirty minutes in any hour; or*
 - 2. *The noise standard plus five decibels for a cumulative period of more than fifteen minutes in any hour; or*
 - 3. *The noise standard plus ten decibels for a cumulative period of more than five minutes in any hour; or*
 - 4. *The noise standard plus fifteen decibels for a cumulative period of more than one minute in any hour; or*
 - 5. *The noise standard plus twenty decibels or the maximum measured ambient, for any period of time.*

- C. *If the measured ambient level exceeds that permissible within any of the first four noise limit categories in subsection B of this section, the allowable noise exposure standard shall be increased in five decibels increments in each category as appropriate to encompass or reflect the ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category in subsection B of this section, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.*

**Table 4.11-1
 Exterior Noise Standards**

Receiving Land Use District	Noise Level	Time Period
1 - Residential	50 db(A)	7:00 a.m. – 10:00 p.m.
	45 db(A)	10:00 p.m. – 7:00 a.m.
2 – Commercial Properties	60 db(A)	7:00 a.m. – 10:00 p.m.
	55 db(A)	10:00 p.m. – 7:00 a.m.



**Table 4.11-1 (Continued)
 Exterior Noise Standards**

Receiving Land Use District	Noise Level	Time Period
3 – Industrial Properties	65 db(A)	Any time
4 – Industrial Properties	70 db(A)	Any time
Source: City of Long Beach, <i>City of Long Beach Municipal Code</i> , April 2009.		

Additionally, the *Municipal Code*, Chapter 8.80.170, states the following regarding interior noise standards:

- A. *The interior noise standards for various land use districts as presented in table C (Table 4.11-2) shall apply, unless otherwise specifically indicated, within structures located in designated zones with windows in their normal seasonal configuration.*
- B. *No person shall operate, or cause to be operated, any source of sound indoors at any location within the incorporated limits of the city or allow the creation of any indoor noise which causes the noise level when measured inside the receiving dwelling unit to exceed:*
 - 1. *The noise standard for that land use district as specified in table C (Table 4.11-2) for a cumulative period of more than five (5) minutes in any hour; or*
 - 2. *The noise standard plus five decibels (5 dB) for a cumulative period of more than one minute in any hour; or*
 - 3. *The noise standard plus ten decibels (10 dB) or the maximum measured ambient, for any period of time.*
- C. *If the measured indoor ambient level exceeds that permissible within any of the first two (2) noise limit categories in this section, the allowable noise exposure standard shall be increased in five decibel (5 dB) increments in each category as appropriate to reflect the indoor ambient noise level. In the event the indoor ambient noise level exceeds the third noise limit category, the maximum allowable indoor noise level under said category shall be increased to reflect the maximum indoor ambient noise level.*

**Table 4.11-2
 Interior Noise Standards**

Land Use District	Noise Level	Time Period
All – residential	45 db(A)	7:00 a.m. – 10:00 p.m.
	35 db(A)	10:00 p.m. – 7:00 a.m.
All – school	45 db(A)	7:00 a.m. – 10:00 p.m. (while school is in session)
Hospital, designated quiet zones, and noise sensitive areas	40 db(A)	Any time
Source: City of Long Beach, <i>City of Long Beach Municipal Code</i> , April 2009.		



The City includes an exemption in Section 8.80.330 of the *Municipal Code* for public health, safety, and welfare activities as follows:

The provisions of this chapter shall not apply to construction maintenance and repair operations conducted by public agencies and/or utility companies or their contractors which are deemed necessary to serve the best interests of the public and to protect the public health, welfare and safety, including, but not limited to, street sweeping, debris and limb removal, removal of downed wires, restoring electrical service, repairing traffic signals, unplugging sewers, vacuuming catchbasins, repairing of damaged poles, removal of abandoned vehicles, repairing of water hydrants and mains, gas lines, oil lines, sewers, storm drains, roads, sidewalks, etc.

Noise Measurements

In order to quantify existing ambient noise levels in the project area, RBF Consulting conducted one ten-minute (11:22 a.m. to 11:32 a.m.) noise measurement within the residential uses within residential uses at the end of Cordova Walk near the seawall. The measured noise level was 50.9 dBA. The complete results of the field measurement is included in Appendix D, Noise Data.

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

Less Than Significant Impact With Mitigation Incorporated.

Long Range Repairs

As stated above, Chapter 8.80, *Noise*, of the City's *Municipal Code* 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 *Municipal Code*, maximum exterior and interior noise levels are based on land use.

Construction activities generally are temporary and have a short duration. Groundborne noise and other types of construction-related noise impacts would typically occur during the initial site preparation, which can create the highest levels of noise. Generally, site preparation has the shortest duration of all construction phases. Activities that occur during this phase include earth moving and soils compaction. High groundborne noise levels and other miscellaneous noise levels can be created during this phase by the operation of heavy-duty equipment.

In addition to construction noise from the project site, increased noise would occur along access routes to the sites due to movement of equipment and workers. The project anticipates the construction of proposed improvements to take place over six years. Project construction activities entail demolition of seawall materials and construction of the new seawalls. Temporary construction noise impacts vary because the acoustical intensity of the construction equipment ranges widely as a function of the equipment used and its activity level. The demolition sources are the noisiest with equipment noise typically ranging from 75 to 90 dB at 50 feet from the



source. The loudest activities would occur for only a few days near any individual receiver because of the progressive nature of the project.

A reasonable worst-case assumption is that the three loudest pieces of equipment would operate simultaneously within a focused area and continuously over at least one hour. Table 4.11-3, Maximum Noise Levels Generated By Construction Equipment, identifies noise levels for each piece of equipment. In order to estimate the “worst case” construction noise levels that may occur at an existing noise-sensitive receptor, the combined construction equipment noise levels have been calculated for the demolition phase. Construction equipment utilized during this phase would include cranes, loaders, concrete saw, and trucks.

**Table 4.11-3
 Maximum Noise Levels Generated by Construction Equipment**

Type of Equipment	Acoustical Use Factor ¹	L _{max} at 50 Feet (dBA)
Concrete Saw	20	90
Concrete Mixer Truck	40	79
Concrete Saw	20	90
Crane	16	81
Drill Rig	20	79
Excavator	40	81
Truck	40	88
General Industrial Equipment	50	85
Note:		
1. Acoustical Use Factor (percent): Estimates the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.		
Source: Federal Highway Administration, <i>Roadway Construction Noise Model (FHWA-HEP-05-054)</i> , January 2006.		

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. The primary sources of acoustical disturbance would be random incidents, which would last less than one minute, such as dropping large pieces of equipment or the hydraulic movement of machinery lifts. These estimations of noise levels take into account the distance to the receptor, attenuation from molecular absorption and anomalous excess attenuation.

Actual construction-related noise activities would be lower than these conservative rates and would cease upon completion of construction. The City’s Noise Ordinance, of the *Municipal Code*, stipulates that noise generated from construction activities is exempt from the Noise Ordinance requirements. Per the City’s *Municipal Code*, construction would occur between the hours of 7:00 a.m. and 7:00 p.m. on weekdays and between 9:00 a.m. and 6:00 p.m. on Saturdays. Construction is not permitted on Sundays. Additionally, Section 8.80.330 of the *Municipal Code* contains an exemption from the Noise Ordinance for public health, safety, and welfare activities. The project proposes improvements that would alleviate flooding and seismic hazards to surrounding residents within Naples Island, Treasure Island, and the mainland. Although construction activities for the proposed project are



exempt from the City's Noise Ordinance, sensitive receptors in the area may experience construction from related noise and ground vibrations.

Pile driving would be required for both the landside and waterside repair options. For landside repairs, fiberglass piles would be used with reinforced concrete fill. For waterside repairs, steel "H" piles and precast planks would be used. New dock guide piles would also be required for both repair options. According to the *Naples Seawall Stability Investigation and Repair Recommendations*, prepared by TranSystems (dated February 25, 2009), steel "H" pile driving is anticipated to progress quickly, with an estimate of 10 minutes of hammer time per pile. The hammer would generate noise levels of approximately 60 to 80 dB for approximately 10 to 45 minutes. Residents within two blocks of the pile driving activities may also feel ground-borne vibrations as the pile reaches bedrock.

Based on Section 4.4, Biological Resources, marine mammals (California seal lion and harbor seal) and various birds species are likely to occur in the project area. Additionally, such species would be sensitive to construction-related noise, including pile driving. Although these species are likely to occur in the project area, they are not likely to occur at the project site. The majority of construction and pile driving activities would occur within the canals around Naples Island (Naples Canal and Rivo Alto Canal), which are removed from the harbor area where the majority of the species are likely to occur. Moreover, it is expected that any marine mammals and bird species that are in the construction area would voluntarily move away at the commencement of construction and pile driving activities. Mitigation Measures N-2 and N-3 would reduce construction and pile driving noise impacts to a less than significant level.

Pile driving may be used on-site for periods of time that are much shorter than the overall project construction. When it occurs, it would be intermittent and not continuous throughout the entire day. Nevertheless, noise levels higher than the ambient noise typically experienced in the project vicinity would occur if pile-driving equipment is used. Mitigation Measure N-1 would require that any residence located within 200 feet of a construction activity be notified prior to such activities taking place. The mitigation also requires a noise disturbance coordinator to monitor construction noise activities, and to take appropriate action to rectify the complaint. Additionally, because construction activities occur in close proximity to sensitive receptors, Mitigation Measures N-2 and N-3 are required to reduce noise associated with construction equipment. As such, with implementation of Mitigation Measures N-1 through N-3 and compliance with the City's *Municipal Code*, Title 8, Health and Safety, construction noise impacts would be reduced to less than significant levels.

Interim Repairs

Interim repairs would involve bulkhead repairs, tieback repairs, sinkhole repairs, and rock protection/scour repairs. These repairs would occur at various locations throughout Naples Island and Treasure Island as well as the landside segment. Bulkhead repairs would involve the installation of steel sheet piles to reinforce portions of the existing seawall. Also, new dock guide pile driving would be implemented. As stated above, the loudest activities would occur for only a few days near any individual receiver because of the progressive nature of the project. Pile



driving activities are anticipated to generate noise levels of approximately 60 to 80 dB for a short period of time. These activities would not be continuous, and repair activities would move to various locations throughout the project site. As with the long range repairs, the construction activities associated with the interim repairs would occur within the vicinity of biological species sensitive to noise (marine mammals and bird species). Interim repairs would include sheet piling on the northeast side of Naples Island during bulkhead repairs and dock guide piling. Although noise-sensitive biological species are not likely to occur in the area, it is expected that any marine mammals and bird species that are in the construction area would voluntarily move away at the commencement of construction and pile driving activities. Additionally, Mitigation Measures N-1 through N-3 have been recommended to ensure compliance with the City's *Municipal Code* and to reduce construction noise impacts to less than significant levels.

Mitigation Measures:

- N-1 Prior to site mobilization, a construction management plan shall be prepared which includes the following:
- All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers;
 - Construction noise reduction methods such as shutting off idling equipment, installing temporary acoustic barriers around stationary construction noise sources, maximizing the distance between construction equipment staging areas and occupied residential areas, and use of electric air compressors and similar power tools, rather than diesel equipment, shall be used where feasible;
 - During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers;
 - During construction, stockpiling and vehicle staging areas shall be located as far as practical from noise sensitive receptors;
 - Operate earthmoving equipment on the construction site, as far away from vibration sensitive sites as possible; and
 - Property owners and occupants located on Naples Island and Treasure Island, and other residents within 200 feet of the project boundary shall be sent a notice, at least 15 days prior to commencement of construction of each phase, regarding the construction schedule of the proposed project. A sign, legible at a distance of 50 feet shall also be posted at the project construction site. All notices and signs shall indicate the dates and duration of construction activities and road closures, as well as provide a contact name and a telephone number where residents can inquire about the construction process and register complaints.
- N-2 A person qualified in construction noise and vibration assessment shall prepare construction vibration mitigation plans, which shall be reviewed for adequacy by the City Public Works Department. The plans shall describe



measures to reduce construction vibrations to the maximum extent possible. Vibration monitoring shall be performed during construction activities occurring in proximity to surrounding residents to establish the maximum level of vibration. If vibrations reach levels that disrupt surrounding residents, alternative work methods and/or equipment shall be employed to reduce vibration levels to non-harmful levels.

N-3 Impact equipment (e.g., jack hammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrical powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatically powered tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used.

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

Less Than Significant Impacts With Mitigation Incorporated.

Long Range Repair Option

Project construction can generate varying degrees of ground-borne 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. Ground-borne 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. Typical vibration produced by construction equipment is illustrated in Table 4.11-4, Typical Vibration Levels for Construction Equipment.

**Table 4.11-4
 Typical Vibration Levels for Construction Equipment**

Equipment		Approximate peak particle velocity at 25 feet (inches/second)	Approximate peak particle velocity at 75 feet (inches/second)
Pile Driver (impact)	upper range	1.1518	0.221
	typical	0.644	0.124



**Table 4.11-4 (Continued)
 Typical Vibration Levels for Construction Equipment**

Equipment		Approximate peak particle velocity at 25 feet (inches/second)	Approximate peak particle velocity at 75 feet (inches/second)
Pile Driver (sonic)	upper range	0.734	0.141
	typical	0.170	0.033
Loaded trucks		0.076	0.015
Jackhammer		0.035	0.007
Vibratory hammer		0.035	0.007
Notes:			
1. Peak particle ground velocity measured at 25 feet unless noted otherwise.			
2. Root mean square amplitude ground velocity in decibels (VdB) referenced to 1 micro-inch/second.			
Source: Federal Transit Administration, <i>Transit Noise and Vibration Impact Assessment Guidelines</i> , May 2006.			

Ground-borne vibration decreases rapidly with distance. As indicated in Table 4.11-4, based on the FTA data, vibration velocities from typical heavy construction equipment operations that would be used during project construction range from 0.035 to 1.1518 inch-per-second peak particle velocity (PPV) at 25 feet from the source of activity. At 75 feet from the source of activity, vibration velocities range from 0.007 to 0.221 inch-per-second PPV. With regard to the proposed project, ground-borne vibration would be generated primarily during pile driving and demolition activities on-site and by off-site haul-truck travel.

Sensitive receptors in the project area range from approximately 12 to 100 feet from an active construction zone. The majority of construction activities would not involve equipment that would generate excessive vibration impacts to the nearby sensitive receptors. However, the project does propose pile driving activities as part of the long range repairs. As shown in Table 4.11-4, vibrations from impact pile driving equipment would most likely exceed the 0.20 inch-per-second PPV significance threshold. Therefore, Mitigation Measure N-2 and N-3 would be required to reduce project related vibration impacts to less than significant levels.

Pile driving activities are anticipated to occur for a duration of 10 minutes of hammer time per pile. In addition to the limited time required per pile, vibrations would generally be felt once the pile reaches bedrock. As a result, with implementation of Mitigation Measures N-1 through N-3, vibration from construction activities experienced at the nearest sensitive residential uses is expected to be below the 0.20 inch-per-second PPV significance threshold. Mitigation Measures N-2 and N-3 are directly related to vibration control, as they require a qualified professional to prepare construction vibration mitigation plans and the preferred use of pneumatic impact equipment. Additional controls include the preferred use of mufflers on the exhausts of the equipment. Therefore, after implementation of Mitigation Measures N-1 through N-3, a less than significant impact would occur in this regard.



Interim Repair Option

Vibration impacts during interim repairs would potentially be associated with the installation of steel sheet piles required during bulkhead repairs and the installation of dock guide piles; refer to Exhibit 4a, Interim Repairs Cross-Section. As with the Long Range Option, pile driving activities are anticipated to occur for a short duration (10 minutes) for each pile. However, due to the proximity of sensitive receptors, Mitigation Measure N-1 would be required to notify surrounding residents at least 15 days prior to commencement of construction of each phase, regarding the construction schedule of the proposed project. Implementation of Mitigation Measure N-1 would reduce project related vibration impacts to less than significant levels.

Mitigation Measures: Refer to Mitigation Measure N-1 through N-3. No additional mitigation measures are required.

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

Less Than Significant Impact.

Long Range Repair Option

Upon completion of long range seawall repairs, noise in the project area would remain similar to existing noise levels. The proposed facilities would not involve any sources of stationary noise (i.e., pumps, generators, etc.) that would cause a permanently substantial increase the existing noise levels. Additionally, long range seawall repairs would involve the replacement of the seawalls, which would not generate any new vehicular trips. Therefore, a less than significant impact would result in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact With Mitigation Incorporated.

Long Range Repair Option

Refer to Responses 4.8(a) and 4.8(b).

Interim Repair Option

Refer to Responses 4.8(a) and 4.8(b).



Mitigation Measures: Refer to Mitigation Measures N-1 through N-3. No additional mitigation measures are required.

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

No Impact.

Long Range Repair Option

The project site is not located within an airport land use plan and not within two miles of a public airport or public-use airstrip. Therefore, no impact would occur in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

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

No Impact.

Long Range Repair Option

Refer to Response 4.11(e).

Interim Repair Option

Refer to Response 4.11(e).

Mitigation Measures: No mitigation measures are required.



**City of Long Beach
Naples Seawall Interim and Long Range Repair Project
Initial Study/Mitigated Negative Declaration**

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4.12 POPULATION AND HOUSING

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				✓
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				✓
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				✓

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

No Impact.

Long Range Repair Option

The proposed long range seawall repairs would not involve new residential use or occupied structures. A long range repair program (seawall replacement) has been recommended in order to lengthen the life of the seawalls. No population growth would result within the City either directly or indirectly as a result of the project. Therefore, no impacts would result in this regard.

Interim Repair Option

Interim seawall repairs have been recommended for application prior to funding of a program to replace the seawalls. These repairs would not increase population, and no impacts would result.

Mitigation Measures: No mitigation measures are required.

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

No Impact.

Long Range Repair Option

The proposed long range repairs would not impact the existing structures in the project area or displace any existing housing. Repairs would be limited to the seawalls and sidewalk areas, and would only impact existing areas of ornamental landscaping and private dock areas at the nearby residents. Temporary relocation of the floating dock systems owned by the nearby residents may be required; however,



this would not cause housing displacement. Therefore, no impacts would occur in this regard.

Interim Repair Option

Interim seawall repairs would not impact existing residential structures in the project area, as the project improvements would not result in the displacement of housing. No impacts would occur in this regard.

Mitigation Measures: No mitigation measures are required.

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

No Impact.

Long Range Repair Option

Refer to Response 4.12(a) and 4.12(b).

Interim Repair Option

Refer to Response 4.12(a) and 4.12(b).

Mitigation Measures: No mitigation measures are required.



4.13 PUBLIC SERVICES

<i>Would the project:</i>	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.

Long Range Repair Option

The Long Beach Fire Department (LBFD) provides fire protection and emergency response to the City. Twenty-five fire stations serve the City. LBFD headquarters is located at 3205 Lakewood Boulevard, approximately 4.25-miles north of the project site. The nearest is Fire Station 8 located at 5365 East 2nd Street, approximately 0.40-miles northwest of the project site.

Proposed long range repairs would not result in adverse impacts to fire services. During construction, access throughout the project area may be limited, including temporary disruption of public sidewalks and bridges. However, LBFD would require standard conditions of approval, which would ensure that access to fire trucks is not impeded in the project vicinity. Impacts would be less than significant in this regard.

Interim Repair Option

Refer to the discussion above.



Mitigation Measures: No mitigation measures are required.

2) Police protection?

No Impact.

Long Range Repair Option

The City of Long Beach Police Department (LBPD) provides police protection to the City. The police station headquarters is located at 400 West Broadway, approximately 4.15-miles northwest of the project site.

As the project involves long range repairs to seawalls and sidewalk areas, the proposed improvements would not result in a need for additional police services or facilities. Therefore, no impacts would occur in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

3) Schools?

No Impact.

Long Range Repair Option

The proposed long range repairs would not generate an increase in population or student generation, and would not result in impacts to school services.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

4) Parks?

Less Than Significant Impact.

Long Range Repair Option

There are 92 parks located within the City, encompassing 1,413 acres. One neighborhood park is located in the center of Naples Island and mini parks are located on the southern side of Naples Island and towards the eastern side of Treasure Island.

Parks within the City would not be physically modified as a result of long range repairs. Also, long range repairs would not generate an increase in population, and



no additional parks or recreational facilities would be necessary. Project implementation would not result in substantial adverse physical impacts associated with parks or recreational facilities.

During construction, access to Naples Plaza would be maintained, and all fire bridges to Naples Island and Treasure Island would remain accessible. Long range repairs would take place over a period of six years, and would not disturb one area for more than one year at a time. Therefore, impacts in this regard are less than significant.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

5) Other public facilities?

No Impact.

Long Range Repair Option

The proposed long range seawall repairs would not increase the number of persons at the project site and would not result in an increase in the demand for other governmental agencies or facilities. Therefore, no impacts would result in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.



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4.14 RECREATION

<i>Would the project:</i>	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.

Long Range Repair Option

The proposed long range repairs would not generate new residents within the City. Therefore, the long range repairs would not cause an increase in the use of existing neighborhood and regional parks or require the construction or expansion of recreational facilities. No impact would occur in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are 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.

Long Range Repair Option

Refer to Response 4.14(a).

Interim Repair Option

Refer to Response 4.14(a).

Mitigation Measures: No mitigation measures are required.



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4.15 TRANSPORTATION/TRAFFIC

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?			✓	
b. Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?			✓	
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				✓
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				✓
e. Result in inadequate emergency access?		✓		
f. Result in inadequate parking capacity?		✓		
g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				✓

- a) ***Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?***

Less Than Significant Impact.

Long Range Repair Option

The proposed long range repairs would only generate traffic trips during short-term construction activities. Approximately 2,756 truck trips would be required for the hauling of demolished materials (total of approximately 55,110 cubic feet over six phases/six years) over the life of the project to the disposal site, conservatively estimated to be approximately 50 miles from the project site. This would result in an average of approximately 459 trips per phase/year. The amount of demolished material and number of trips would be the same for the waterside and landside repair options. The landside repair option would require an additional 82 total trips over six phases/years (average of approximately 14 trips per phase/year) for soil hauling. The remainder of construction trips would be construction worker trips to and from the project site each day of construction. Roadways (including bridges) would be partially blocked during construction activities; however, they would remain accessible with standard traffic control devices.



Long-term operation of the proposed project would not generate traffic trips, other than those for general maintenance activities. Therefore, impacts in this regard would be less than significant.

Interim Repair Option

The proposed interim repairs would only generate traffic trips during short-term construction activities. Approximately 11 truck trips would be required for hauling an estimated 218 cubic feet of demolished material during the tieback repairs. The remainder of construction trips would be construction worker trips to and from the project site each day of construction. Roadways (including bridges) would be partially blocked off during construction activities, but would remain accessible with standard traffic control devices. Impacts in this regard would be less than significant.

Similar to long range repairs, operation of the interim repairs would not generate traffic trips, other than those for general maintenance activities. A less than significant impact would result in this regard.

Mitigation Measures: No mitigation measures are required.

- b) ***Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?***

Less Than Significant Impact.

Long Range Repair Option

The Transportation Element of the *General Plan* establishes Level of Service (LOS) D as being the acceptable LOS standard. The *General Plan* identifies several roadways that are congested. However, none of these roadways traverse through the project limits.

The proposed long range seawall repairs would not create any new traffic trips other than the minimal number associated with short-term construction. Long range repairs would not result in additional traffic trips upon completion of construction and would not exceed an established LOS. Therefore, impacts in this regard are less than significant.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.



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

No Impact.

Long Range Repair Option

The Long Beach Municipal Airport is located approximately 3.5 miles north of the project site. Construction and operation of the long range repairs would not increase the frequency of air traffic or alter air traffic patterns. No impacts would occur.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

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

No Impact.

Long Range Repair Option

The project would not alter the existing lane configurations or curb lines along any streets within Naples Island, Treasure Island, or the landside segments. All proposed improvements would be within the locations of the existing seawalls and public sidewalks. Therefore, no impact would occur in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

- e) ***Result in inadequate emergency access?***

Less Than Significant Impact With Mitigation Incorporated.

Long Range Repair Option

Traffic flow in the project area would be temporarily impacted during construction. However, construction of the proposed long range repairs would not obstruct emergency operations or access. Upon completion of construction, operation of the project would not obstruct traffic flow or emergency operations. Mitigation Measure TRA-1 would require plans that clearly denote any lane closures, traffic rerouting plans, and signage to ensure adequate traffic and emergency response service levels during the construction process. Additionally, the project would be required to comply with all City and State Safety Codes, and project plans would be reviewed by the City's Public Works Department. Also, refer to Response 4.7(g). Upon



implementation of TRA-1, impacts in this regard would be reduced to less than significant levels.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures:

TRA-1 Prior to construction, the City of Long Beach shall prepare a Traffic Management Plan (TMP) to address safety and traffic concerns within the project vicinity. At a minimum, the TMP shall include plans to accomplish the following:

- Clearly denote lane closures and traffic rerouting (if required);
- Traffic signage plan to ensure adequate traffic access, emergency response service levels, and pedestrian access during the short-term construction process;
- Ensure access in the project area is maintained during construction;
- Ensure access is maintained to Treasure Island by maintaining at least one open lane along the West Neapolitan Lane Bridge, controlled by flagmen;
- Designate parking areas for construction workers and equipment that shall not interfere with resident parking;
- Construction equipment traffic shall be controlled by flagmen; and
- Designate a Monitor that shall inform the public of the ongoing project progress and alterations to the expected plans.

The TMP shall be subject to review and approval by the City of Long Beach Public Works Department.

f) *Result in inadequate parking capacity?*

Less Than Significant Impact With Mitigation Incorporated.

Long Range Repair Option

Long range seawall repairs would not result in a decrease in parking capacity. No additional parking would be necessary with implementation of the proposed project. The long range repairs are proposed in six phases over six years, with approximately six months of construction per phase. Therefore, no one location would be affected by limited street parking for an extended period of time. Mitigation Measure TRA-1 would ensure construction parking does not interfere with resident parking.



Additionally, Mitigation Measure N-1 would require the City to send residents in the project vicinity a notice regarding the construction schedule, including the dates and duration of construction activities and road closures. Impacts in this regard are less than significant.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures:

Refer to Mitigation Measures TRA-1 and N-1.

- g) ***Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?***

No Impact.

Long Range Repair Option

Transit services within the City are provided by Long Beach Transit (fixed-route bus service), Los Angeles County Metropolitan Transportation Authority (bus transit and the Metro Blue Line), Orange County Transportation Authority, Torrance Transit, and the Commuter Express operated by the City of Los Angeles Department of Transportation. The nearest transit stop to the project site is the Long Beach Transit Bus Routes 191 and 193 stop located at the intersection of East 2nd Street and PCH (approximately 0.65 miles northeast of the project site).

The City adopted the Bicycle Master Plan in December 2001. Bikeways within the City include Class I, Class II, and Class III bikeways. There are no bikeways located within the project site. The nearest bikeway to the project site is a Class III bikeway along East 2nd Street, approximately 0.10 miles to the north.

Long-term operation of the proposed project would not conflict with any policies, plans, or programs supporting alternative transportation. Construction activities would be short-term and would not affect transit routes or bikeways. The transit stop nearest the project site is not located within an improvement area and would not be affected by short-term construction of long range repairs or long-term operations. Therefore, no impacts would result in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.



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4.16 UTILITIES AND SERVICE SYSTEMS

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			✓	
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				✓
c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			✓	
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			✓	
e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				✓
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			✓	
g. Comply with federal, state, and local statutes and regulations related to solid waste?			✓	

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

Less Than Significant Impact.

Long Range Repair Option

The Los Angeles Regional Water Quality Control Board (RWQCB) protects ground and surface water quality within the project area. The RWQCB has adopted National Pollutant Discharge Elimination System (NPDES) Permits and Waste Discharge Requirements (WDRs), which regulate discharges into the City's water supply.

The proposed long range repairs would be required to comply with the conditions of the NPDES permit, both during construction activities and during operations. Dewatering activities would be required for the placement of caissons and would be subject to RWQCB requirements. The project would not include any development that would generate an increase in population or would cause an exceedance in wastewater treatment requirements. Therefore, no impact would occur in this regard.



Interim Repair Option

Interim repairs would be subject to the same conditions as the long range repairs (with the exception of dewatering activities); refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

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

No Impact.

Long Range Repair Option

The proposed long range repairs would not require the construction of new water or wastewater treatment facilities. Therefore, no impact would result in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact.

Long Range Repair Option

A visual inventory conducted by TranSystems revealed that less than half of the storm drains on the project site have operable dampers to prevent backflow during extreme tides, which would be repaired as part of the proposed project. These storm drain improvements would not alter the existing drainage at the site, but rather would allow the project site to drain similar to existing conditions. Refer to Response 4.8(a).

Interim Repair Option

The interim repairs would not increase sources of storm water and would not require new storm water drainage facilities. Interim repairs do not include improvements to the existing storm drain facilities at the project site. Storm drain conditions would remain similar to existing conditions and no impacts would result.

Mitigation Measures: No mitigation measures are required.



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

Less Than Significant Impact.

Long Range Repair Option

Project operations would not require water supplies beyond those typically required during standard construction practices. Impacts in this regard are less than significant.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

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

No Impact.

Long Range Repair Option

Refer to Response 4.16(d). Long-term operation of the project would not require the use of water. No impacts would result.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact.

Long Range Repair Option

Solid waste from the project that cannot be recycled or reduced would be disposed of in two ways. Most trash in the City is taken to the Southeast Resource Recovery Center (SERRF) to be incinerated and converted to electricity. The residue from this process is taken to landfills to be used as road base. The remainder of the City's trash is taken to the Puente Hills Landfill in the City of Whittier. The Puente Hills Landfill has a total permitted capacity of 106.4 million cubic yards, of which 49.4 million cubic yards is the remaining capacity. Additionally, the City has implemented a Construction and Demolition Recycling program (Section 18.97 of the *Municipal Code*) that requires demolition and/or construction projects to divert at least 60



percent of waste from landfills through recycling, salvage, or deconstruction, unless exempt by Section 18.97.080 of the *Municipal Code*.

Both methods of long range repairs (the waterside and landside repair options) would result in approximately 55,110 cubic feet of demolished material. Long range repairs are anticipated to generate solid waste only during construction. Construction and demolition materials associated with concrete pile cap removal would either be recycled or disposed of in the Puente Hills Landfill. Long range repairs would not significantly increase the amount of solid waste generated by the City. Therefore, a less than significant impact would occur in this regard.

Interim Repair Option

Interim tieback repairs would result in approximately 218 cubic feet of demolition debris during construction. Demolished materials would be recycled or disposed of in the Puente Hills Landfill. Interim repairs would not significantly increase the amount of solid waste generated by the City, and a less than significant impact would occur.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact.

Long Range Repair Option

Proposed long range repairs would be in full compliance with Federal, State, and local regulations in regards to solid waste. As stated in Response 4.16(f), solid waste generated from construction of the proposed project would either be recycled, or disposed of in the Puente Hills Landfill (which is fully permitted to receive such solid waste). A less than significant impact would occur in this regard.

Interim Repair Option

Refer to the discussion above.

Mitigation Measures: No mitigation measures are required.



4.17 MANDATORY FINDINGS OF SIGNIFICANCE

<i>Would the project:</i>	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 With Mitigation Incorporated. The project site is located within an area that has the potential to support multiple special status plant and animal species. The likelihood of disturbance to most of the identified species is considered to be low due to the developed nature of the project area and the frequent human use of the area. Compliance with the Southern California Eelgrass Mitigation Policy and implementation of Mitigation Measures BIO-1 through BIO-4 and N-2 and N-3 would reduce impacts to special status species to less than significant levels. Therefore, the proposed project would not 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)?***



Less Than Significant Impact. Due to the nature of the proposed project (i.e., seawall improvements), implementation would not involve significant cumulative impacts. Project implementation would result in stabilized seawalls that would provide additional seismic and flooding hazard protection to Naples community residents. The proposed project would not result in substantial population growth within the City, 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. Refer to Section 4.0, Environmental Analysis, for a detailed discussion of cumulative impacts per each respective issue area analyzed.

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

Less Than Significant With Mitigation Incorporated. Previous sections of this Initial Study/Mitigated Negative Declaration reviewed the proposed project's potential impacts related to air pollution, noise, biological resources, geology and soils, 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.



4.18 REFERENCES

The following references were utilized during preparation of this Initial Study. These documents are available for review at the City of Long Beach, 333 West Ocean Boulevard, Long Beach, California 90802 or accessed at the indicated web page.

1. AESCO Technologies, Inc., *Geotechnical Report-Naples Island Seawall Repair Communications Facility*, November 24, 2008 (revised February 5, 2009).
2. California Air Resources Board, *Climate Change Proposed Scoping Plan*, October 2008, <http://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm>.
3. California Air Pollution Control Officers Association, *CEQA and Climate Change*, January 2008, <http://www.capcoa.org/ceqa/CAPCOA%20White%20Paper%20-%20CEQA%20and%20Climate%20Change.pdf>.
4. California Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report*, August 2000, <http://minerals.usgs.gov/minerals/pubs/state/980601mp.pdf>, accessed November 2008.
5. California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2006*, 2006, http://www.energy.ca.gov/2006publications/CEC_600_2006_013/CEC_600_2006_013_SF.PDF.
6. California Environmental Quality Act, 1970, as amended, Public Resources Code Sections 21000-21178, <http://ceres.ca.gov/ceqa/>.
7. California State Office of Planning and Research, *Noise Element Guidelines*, October 2003, http://www.opr.ca.gov/planning/publications/General_Plan_Guidelines_2003.pdf.
8. City of Long Beach, *Air Quality Element*, dated December 1996.
9. City of Long Beach, *Bicycle Master Plan*, dated December 2001.
10. City of Long Beach, *Conservation Element*, dated April 1973.
11. City of Long Beach, *Housing Element*, dated May 2009.
12. City of Long Beach, *Land Use Element*, dated July 1989.
13. City of Long Beach, *Local Coastal Program*, dated February 1980.
14. City of Long Beach, *Noise Element*, dated March 1975.
15. City of Long Beach, *Open Space Element*, dated October 2002.
16. City of Long Beach, *Public Safety Element*, dated May 1975.



17. City of Long Beach, *Seismic Safety Element*, dated October 1988.
18. City of Long Beach, *Transportation Element*, dated December 1991.
19. City of Long Beach, *Natural Hazards Mitigation Plan*, dated October 19, 2004.
20. City of Long Beach, *Municipal Code*, enacted April 21, 2009.
21. Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Guidelines*, May 2006, http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf.
22. Google Earth Maps, <http://maps.google.com>, accessed August 2009.
23. MBC Applied Environmental Sciences, *Naples Island Seawall Stabilization Marine Habitat Reconnaissance Survey*, dated July 23, 2009.
24. Official Website of the City of Long Beach, <http://www.longbeach.gov/>, accessed August and September 2009.
25. South California Air Quality Management District, *Air Quality Management Plan for the South Coast Air Basin*, 2007, <http://www.aqmd.gov/aqmp/07aqmp/07AQMP.html>.
26. South Coast Air Quality Management District, *CEQA Air Quality Handbook*, November 1993, <http://www.aqmd.gov/ceqa/hdbk.html>.
27. South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology, Appendix C*, revised July 2008, <http://www.aqmd.gov/CEQA/handbook/LST/LST.html>.
28. TranSystems Corporation, *Naples Seawall Stability Investigation and Repair Recommendations*, February 25, 2009.
29. United States Environmental Protection Agency, *Noise Effects Handbook – A Desk Reference to Health and Welfare Effects of Noise*, October 1979, revised July 1981, <http://www.nonoise.org/library/handbook/handbook.htm>.



4.19 REPORT PREPARATION PERSONNEL

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5.0 INVENTORY OF MITIGATION MEASURES

Air Quality

AQ-1 During demolition, hauling, or other construction operations, excessive fugitive dust emissions shall be controlled by regular water or other dust preventive measures using the following procedures, as specified in the SCAQMD Rule 403.

- Limit on-site vehicle speed to 15 miles per hour.
- Water material excavated or graded sufficiently to prevent excessive amounts of dust. Water at least twice daily with complete coverage, preferably in the late morning and after work is done for the day.
- Water or securely cover material transported on-site or off-site sufficiently to prevent generating excessive amounts of dust.
- Minimize area disturbed by clearing, grading, earth moving, or excavation operations so as to prevent generating excessive amounts of dust.
- Indicate these control techniques in project specifications. Compliance with the measure will be subject to periodic site inspections by the City.
- Prevent visible dust from the project from emanating beyond the property line, to the maximum extent feasible.
- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for ten days or more).
- Trucks transporting soil, sand, cut or fill materials, and/or construction debris to or from the site must be tarped from the point of origin.

AQ-2 Ozone precursor emissions from construction equipment vehicles shall be controlled by maintaining equipment engines in good condition and in proper tune per manufacturer's specifications, to the satisfaction of the City Engineer. Compliance with this measure shall be subject to periodic inspections of construction equipment vehicles by the City and included in construction bid documents.

AQ-3 All trucks that are to haul material shall comply with California Vehicle Code Section 23114, with special attention to Sections 23114(b)(F), (e)(2) and (e)(4) as amended, regarding the prevention of such material spilling



onto public streets and roads. This provision shall be provided in construction bid documents.

Biological Resources

BIO-1 No later than 30 days prior to commencement of construction, an eelgrass survey shall be conducted for each phase. All mapping efforts shall be completed during the active growth phase for the vegetation (typically March through October) and shall be valid for a period of 60 days with the exception of surveys completed in August through October. A survey completed August through October shall be valid until the resumption of active growth (i.e., in most instances, March 1). Work planned for November through February shall conduct a pre-construction survey during the previous August through October period.

Survey results shall be mapped and reported to the City in an appropriate data format. The pre-construction survey results shall also be provided to California Department of Fish and Game (CDFG) and National Marine Fisheries Services (NMFS). If eelgrass is found in the project area prior to construction, a post-construction survey shall be provided within 30 days of completion of the work. The post-construction survey shall only be required to investigate those locations where eelgrass was identified in the initial survey (conducted prior to construction). If loss of eelgrass is noted, a mitigation plan consistent with the requirements of the Southern California Eelgrass Mitigation Policy shall be developed and implemented.

BIO-2 Water quality performance standard Best Management Practices (BMPs) shall include, but not be limited to, the use of silt curtains adjacent to construction activities in order to reduce turbidity and sedimentation related to the cleaning of the existing seawall, excavation of the base of the existing seawall, pile driving activities, and the final installation of the new seawall. Attempts shall be made to recover and dispose of organic material that is washed off of the existing seawall in a manner other than through dumping or washing directly into the canal or bay.

BIO-3 During the high growth period from March 1 to October 31, *Caulerpa* surveys shall be conducted no more than 90 days prior to the start of construction and the results shall be submitted to National Marine Fisheries Services (NMFS) and the California Department of Fish and Game (CDFG) no later than 30 days before the start date of construction. For construction outside of the high growth period, approval for surveys shall be made on a case-by-case basis with the NMFS and CDFG. The surveys shall be consistent with Surveillance Level investigation as defined in the *Caulerpa* Control Protocol. A survey report using the standard *Caulerpa* reporting format shall be sent to the City and to the resource agencies within 10 days of the survey.

If *Caulerpa* is found during any survey, the City shall be notified immediately and the NMFS and CDFG shall be notified within 24 hours of



identification of the species. Discovery of the species shall require the verified eradication of the invasive alga in the project area before construction is allowed to begin.

BIO-4 To avoid nesting birds, one of the following must be implemented under the direction of the City Public Works Department:

- All vegetation removal and/or thinning activities shall be scheduled from August 1 to February 14, if feasible to ensure that no active nests would be disturbed; or
- Conduct pre-construction surveys for nesting birds if construction is to take place during the nesting season (February 15 through July 31). A qualified wildlife biologist shall conduct a pre-construction raptor survey no more than 30 days prior to initiation of grading to provide confirmation on presence or absence of active nests in the vicinity (at least 300 feet around the project site). If active nests are encountered, species-specific measures shall be prepared by a qualified biologist in consultation with the California Department of Fish and Game (CDFG) and implemented to prevent abandonment of the active nest. At a minimum, grading in the vicinity of the nest shall be deferred until the young birds have fledged. A minimum exclusion buffer of 25 feet is required by CDFG for songbird nests, and 200 to 500 feet for raptor nests, depending on the species and location. The perimeter of the nest-setback zone shall be fenced or adequately demarcated with staked flagging at 20-foot intervals, and construction personnel restricted from the area. A survey report by the qualified wildlife biologist verifying that the young have fledged shall be submitted to the City prior to initiation of grading in the nest-setback zone.

Geology and Soils

GEO-1 A qualified registered geologist, approved by the City Public Works Department, shall be present at the project site during long range repairs to observe and provide testing during the following activities:

- Pile driving;
- Dock guide pile driving;
- Boring of the cast-in-drilled holes (CIDH);
- Placement of all grout and backfill;
- Installation of tiebacks; and
- Concrete placement and reinforcement.

GEO-2 The City shall require all contractors to preclude mudjacking activities. Such prohibition shall be stated within the project's plans and specifications. The project plans and specifications shall be reviewed and approved by the City Public Works Department.



Hazards and Hazardous Materials

Refer to Mitigation Measure TRA-1.

Noise

N-1 Prior to site mobilization, a construction management plan shall be prepared which includes the following:

- All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers;
- Construction noise reduction methods such as shutting off idling equipment, installing temporary acoustic barriers around stationary construction noise sources, maximizing the distance between construction equipment staging areas and occupied residential areas, and use of electric air compressors and similar power tools, rather than diesel equipment, shall be used where feasible;
- During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers;
- During construction, stockpiling and vehicle staging areas shall be located as far as practical from noise sensitive receptors;
- Operate earthmoving equipment on the construction site, as far away from vibration sensitive sites as possible; and
- Property owners and occupants located on Naples Island and Treasure Island, and other residents within 200 feet of the project boundary shall be sent a notice, at least 15 days prior to commencement of construction of each phase, regarding the construction schedule of the proposed project. A sign, legible at a distance of 50 feet shall also be posted at the project construction site. All notices and signs shall indicate the dates and duration of construction activities and road closures, as well as provide a contact name and a telephone number where residents can inquire about the construction process and register complaints.

N-2 A person qualified in construction noise and vibration assessment shall prepare construction vibration mitigation plans, which shall be reviewed for adequacy by the City Public Works Department. The plans shall describe measures to reduce construction vibrations to the maximum extent possible. Vibration monitoring shall be performed during construction activities occurring in proximity to surrounding residents to establish the maximum level of vibration. If vibrations reach levels that disrupt surrounding residents, alternative work methods and/or equipment shall be employed to reduce vibration levels to non-harmful levels.



- N-3 Impact equipment (e.g., jack hammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrical powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatically powered tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used.

Transportation/Traffic

- TRA-1 Prior to construction, the City of Long Beach shall prepare a Traffic Management Plan (TMP) to address safety and traffic concerns within the project vicinity. At a minimum, the TMP shall include plans to accomplish the following:

- Clearly denote lane closures and traffic rerouting (if required);
- Traffic signage plan to ensure adequate traffic access, emergency response service levels, and pedestrian access during the short-term construction process;
- Ensure access in the project area is maintained during construction;
- Ensure access is maintained to Treasure Island by maintaining at least one open lane along the West Neapolitan Lane Bridge, controlled by flagmen;
- Designate parking areas for construction workers and equipment that shall not interfere with resident parking;
- Construction equipment traffic shall be controlled by flagmen; and
- Designate a Monitor that shall inform the public of the ongoing project progress and alterations to the expected plans;

The TMP shall be subject to review and approval by the City of Long Beach Public Works Department.



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6.0 CONSULTANT RECOMMENDATION

Based on the information and environmental analysis contained in the Initial Study and Environmental Checklist, we recommend that the City of Long Beach prepare a Mitigated Negative Declaration for the Naples Seawall Interim and Long Range Repair Project. We find that the proposed project could have a significant effect on a number of environmental issues, but that mitigation measures have been specified that would reduce such impacts to a less than significant level. We recommend that the second category be selected for the City of Long Beach's determination; refer to Section 3.3, Lead Agency Determination.

January 21, 2010
Date

A handwritten signature in black ink, appearing to read "Eddie Torres", written over a horizontal line.

Eddie Torres
Project Manager
Planning/Environmental Services
RBF Consulting



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APPENDICES

- A. Air Quality Data
- B. Marine Habitat Reconnaissance Survey
- C. Geotechnical Report
- D. Noise Data