



INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION RHINE CHANNEL CONTAMINATED SEDIMENT CLEANUP

Prepared for

City of Newport Beach
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Newport Beach, California 92658

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June 2010



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Mitigated Negative Declaration

To: <input checked="" type="checkbox"/> Office of Planning and Research State Clearinghouse P.O. BOX 3044 Sacramento, CA 95812-3044	From: City of Newport Beach Harbor Resources Division 3300 Newport Boulevard P.O. Box 1768 Newport Beach, CA 92658-8915
<input checked="" type="checkbox"/> County Clerk, County of Orange Public Services Division Santa Ana, CA 92702	Date: June 10, 2010

Public Review Period:	30 days - June 10, 2010 to July 9, 2010
Project Name:	Rhine Channel Contaminated Sediment Cleanup
Project Location:	Portions of Lower Newport Bay, specifically the Rhine Channel and areas bayward of Marina Park, American Legion & 15 th Street
Project Description:	Dredging of approximately 150,000 cubic yards of contaminated sediments from the Rhine Channel area of Lower Newport Harbor, transport of these sediments via ocean barge for disposal and beneficial reuse within the approved Port of Long Beach Middle Harbor Redevelopment Project confined aquatic disposal facility.

Finding: Pursuant to the provisions of City Council K-3 pertaining to procedures and guidelines to implement the California Environmental Quality Act, the City of Newport Beach has evaluated the proposed project and determined that the proposed project would not have a significant effect on the environment.

A copy of the Initial Study containing the analysis supporting this finding is attached on file at the Harbor Resources Division and Planning Department. The Initial Study may include mitigation measures that would eliminate or reduce potential environmental impacts. This document will be considered by the decision-maker(s) prior to final action on the proposed project. If a public hearing will be held to consider this project, a notice of the time and location is attached.

Additional plans, studies and/or exhibits relating to the proposed project may be available for public review. If you would like to examine these materials, you are invited to contact the undersigned.

If you wish to appeal the appropriateness or adequacy of this document, your comments should be submitted in writing prior to the close of the public review period. Your comments should specifically identify what environmental impacts you believe would result from the project, why they are significant, and what changes or mitigation measures you believe should be adopted to eliminate or reduce these impacts. There is no fee for this appeal. If a public hearing will be held, you are also invited to attend and testify as to the appropriateness of this document.

If you have any questions or would like further information, please contact the undersigned.

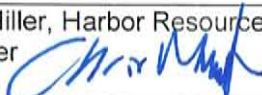
Chris Miller, Harbor Resources Manager 	Phone: (949) 644-3043	Email: cmiller@newportbeachca.gov	Date: June 10, 2010
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TABLE OF CONTENTS

PROJECT INFORMATION	V
PROJECT DESCRIPTION	VII
ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED	1
DETERMINATION (TO BE COMPLETED BY THE LEAD AGENCY)	1
EVALUATION OF ENVIRONMENTAL IMPACTS	1
I. AESTHETICS	1
II. AGRICULTURE AND FOREST RESOURCES	3
III. AIR QUALITY	4
IV. BIOLOGICAL RESOURCES	18
V. CULTURAL RESOURCES	30
VI. GEOLOGY AND SOILS	31
VII. GREENHOUSE GAS EMISSIONS	34
VIII. HAZARDS AND HAZARDOUS WASTES	37
IX. HYDROLOGY AND WATER QUALITY	41
X. LAND USE AND PLANNING	50
XI. MINERAL RESOURCES	70
XII. NOISE	71
XIII. POPULATION AND HOUSING	75
XIV. PUBLIC SERVICES	76
XV. RECREATION	77
XVI. TRANSPORTATION AND TRAFFIC	80
XVII. UTILITIES AND SERVICE SYSTEMS	84
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE	86
XIX. STATUTORY AUTHORITY AND EARLIER ANALYSES	87

XX. INCORPORATION BY REFERENCE	88
REFERENCES	91

List of Tables

Table AQ1	Summary of Peak Daily Construction Emissions, Proposed Project Before Mitigation.....	9
Table AQ2	Summary of On-Site Daily Construction Emissions, Proposed Project Without Mitigation.....	10
Table AQ3	Summary of Peak Daily Construction Emissions, Proposed Project After Mitigation.....	15
Table AQ4	Regional Impacts Significance Determination After Mitigation	16
Table AQ5	Summary of On-Site Daily Construction Emissions, Proposed Project with Mitigation.....	16
Table AQ6	Localized Impacts Significance Determination After Mitigation	17
Table B1	Protected Species Potentially Occurring within the Project Vicinity.....	23
Table GHG1	GHG Emissions	35
Table GHG2	GHG Significance Determination.....	36
Table LU1	Consistency with Land Use Element, General Plan	53
Table LU2	Consistency with Harbor and Bay Element, General Plan	53
Table LU3	Consistency with Natural Resources Element, General Plan	55
Table LU4	Consistency with Noise Element, General Plan	57
Table LU5	Consistency with Coastal Land Use Policy	57

List of Figures

Figure 1	Project Location
Figure 2	Proposed Project Area
Figure 3	USACE and Proposed City Lower Newport Bay Dredging Areas
Figure 4	Middle Harbor Confined Disposal Facility Fill Site and Example Barge Haul Route
Figure 5	Profile of Conceptual Confined Disposal Facility
Figure 6	Areas and Thickness of Conceptual Dredge Plan in the Rhine Channel
Figure 7	Cross Sections of Conceptual Dredge Plan in the Rhine Channel

List of Appendices

Appendix A Air Quality Analysis

Appendix B SCAQMD Sample Forms

PROJECT INFORMATION

1 Project Title

Rhine Channel Contaminated Sediment Cleanup

2 Lead Agency Name and Address

City of Newport Beach
Harbor Resources
3300 Newport Boulevard
Newport Beach, California 92658-8915

3 Contact Person and Phone Number

Chris Miller, Harbor Resources Manager
(949) 644-3043

4 Project Location

Rhine Channel, Lower Newport Bay

5 Project Sponsor's Name and Address

City of Newport Beach
3300 Newport Boulevard
Newport Beach, California 92658-8915

6 General Plan Designation

Tideland and Submerged Lands

7 Zoning

None

8 Surrounding Land Uses and Setting

- Current Development: tidelands and submerged lands – navigation, moorage, and recreation

- To the north: residential, recreation, boat yard, and marine commercial
- To the east: residential
- To the south: parks and recreation, residential, marine commercial, and boat yard
- To the west: residential and commercial

9 Other Public Agencies Whose Approval is Required

- U.S. Army Corps of Engineers (Clean Water Act Section 404 Permit/Rivers and Harbors Act Section 10 Permit)
- Santa Ana Regional Water Quality Control Board (401 Water Quality Certification/Waste Discharge Requirements)
- California Coastal Commission (Coastal Development Permit)
- California State Lands Commission (Dredging Lease)

PROJECT DESCRIPTION

Project Need

The purpose of this project is to remove contaminated sediments from the Rhine Channel in Lower Newport Bay (LNB) as well as from other nearby areas found unsuitable for unconfined ocean disposal under Regional General Permit (RGP) 54 issued by the U.S. Army Corps of Engineers (USACE). Overall, this project will remove contaminated sediments to restore and enhance state-designated impaired beneficial uses¹ of the Rhine Channel, dispose of the impacted material in an environmentally responsible and cost-effective manner, and improve navigation.

The City of Newport Beach (City) proposes to beneficially reuse² dredged material at the Port of Long Beach (POLB) Middle Harbor Redevelopment Project confined disposal facility (Middle Harbor CDF). The USACE is also planning to conduct a maintenance dredging effort in the Federal Channel³ of LNB, which would potentially result in additional sediment that would be beneficially reused at the Middle Harbor CDF. The City's project would be coordinated with the USACE dredging effort to take advantage of potential cost savings through economies of scale, decreased mobilization costs, and contractor availability.

From the 1930s through the 1950s, shipyard and cannery operations, boat-building activities, and metal-plating facilities were located in the Rhine Channel and other portions of LNB, resulting in a legacy of sediment contamination. Stormwater runoff from the watershed has also contributed contaminants to LNB. Due to a lack of cost-effective sediment management options for material with elevated chemical concentrations, many areas of LNB have not

1 A beneficial use is one of various ways that water can be used for the benefit of people and/or wildlife. Beneficial uses are to be established for all waters of the state (California Water Code, Division 7, Chapter 2). The beneficial uses designated by the Santa Ana Regional Water Quality Control Board for the Project Area include, among others, navigation, recreation, commercial and sport fishing, and wildlife and marine habitat (SWRCB 1994).

2 Beneficial reuse refers to sediment management alternatives that use dredged material in a beneficial manner, such as beach nourishment to widen receiving beach areas, creating shallow water habitat, and disposing of material at a port CDF to support economic growth (CSTF 2005).

3 The Federal Channel is the area of the LNB described by the USACE, Chief of Engineer to Congress on November 11, 1936, as recorded in the 1st Session of the 75th Congress in 1937 (Harbor Code, Title 17, Newport Beach Municipal Code).

been dredged in decades. As a result, dredging in the most contaminated areas like the Rhine Channel is needed to restore beneficial uses.

Rhine Channel sediment investigations have revealed elevated concentrations of metals, pesticides, polycyclic aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs) as well as significant toxicity to representative benthic organisms (SCCWRP 2003; Anchor 2006). An ecological risk assessment substantiated the potential for wildlife risks associated with Rhine Channel sediments (Anchor 1996). The potential for ecological risks resulting from direct contact with contaminated sediments would be greatly reduced by removing these sediments from the Rhine Channel. The Rhine Channel is currently included as an impaired waterbody on the state of California's 303(d) List and has been targeted as a priority for cleanup by the California State Water Resources Control Board. Without immediate action by the City, the Santa Ana Regional Water Quality Control Board (RWQCB) would issue a Cleanup and Abatement Order to force the City and/or adjacent landowners to restore the beneficial uses of the Rhine Channel by removing contaminated sediments.

Other less contaminated but chemically impacted sediments are located throughout LNB, in both federal and non-federal areas of responsibility. The sediment in some of these areas may be unsuitable for open-ocean disposal or for use as beach nourishment, while sediments in other areas would be suitable for unconfined aquatic placement. The City and the USACE are separately evaluating options for dredging these areas of responsibility. As part of the proposed project, three of these areas—Marina Park, the American Legion, and the 15th Street Pier—would be dredged to remove contaminated sediments for beneficial use in the Middle Harbor CDF. The City is responsible for constructing the Marina Park project and maintaining the area around the municipal pier at 15th Street. The American Legion holds a long-term lease from the City.

Environmental Setting

Newport Beach is located in Orange County approximately 35 miles southeast of Los Angeles and 70 miles northwest of San Diego (Figure 1). Newport Bay is a combination of two distinct waterbodies divided by the Pacific Coast Highway Bridge: LNB and Upper Newport Bay. Upper Newport Bay contains both a diverse mix of development in its lower reach and an undeveloped ecological reserve in its upper reach, which is undergoing a multi-year

dredging project conducted by the USACE to restore the ecosystem. LNB, where the majority of commerce and recreational boating exists, is highly developed with urban and recreational uses, and the USACE currently considers it a high priority for maintenance dredging.

For approximately 30 years, the City has maintained an RGP that provides a relatively streamlined process for permitting dredging and dock maintenance projects between the bulkhead⁴ and project lines⁵ in LNB and Upper Newport Bay (Weston 2005). RGP 54 (USACE Permit No. 200501233-DPS) was reauthorized by the USACE, Santa Ana RWQCB, and California Coastal Commission (CCC) in 2005. This permit covers—among other things—minor maintenance dredging and discharge of material previously deemed suitable for unconfined placement at adjacent beach sites, offshore disposal sites, or an approved inland disposal site for dredged material. RGP 54, however, excluded some areas due to exceedences of chemical and biological thresholds. Portions of these excluded areas (i.e., not authorized for open-ocean or beach disposal) are included in the geographic area that is the subject of this Initial Study.

The Rhine Channel and some areas excluded under RGP 54 proposed for dredging during this project are collectively referred to as the “Project Area” and are depicted on Figures 2 and 3. The proposed dredging areas are comprised of the Rhine Channel and the area located between the bulkhead and the project lines along a stretch of waterfront encompassing Marina Park, the American Legion, and the 15th Street Pier.

The USACE is responsible for maintaining authorized navigation depths in the Federal Channel, while the City, along with the County of Orange, is responsible for sediment removal in areas outside of the Federal Channel. For some non-federal areas located

4 Bulkhead lines are the harbor land/water perimeter lines (established in Newport Harbor by the federal government) that define the permitted limit of filling or solid structures that may be constructed in the harbor. Due to potential environmental considerations established by the state of California and/or the federal government, the establishment of bulkhead lines does not necessarily allow the property owner to build to the limits of the bulkhead line (Harbor Code, Title 17, Newport Beach Municipal Code).

5 Project lines are the harbor water area channel lines of improvements constructed by the federal government in 1935 and 1936, as shown on navigation charts of Newport Harbor. Also referred to as the “Federal Channel” (see City of Newport Beach Waterfront Project Guidelines and Standards, Harbor Design Criteria – Commercial and Residential Facilities; Harbor Code, Title 17, Newport Beach Municipal Code).

between the bulkhead and project lines, the City has transferred responsibility to the adjacent landowner in the form of a pier permit. In general, dredging has been delayed because collectively these entities have been unable to identify cost-effective means to manage the presence of contaminated sediments in LNB. Combined, approximately 1.5 million cubic yards (cy) of LNB sediments need to be dredged by the City and USACE as part of their respective maintenance and contaminated sediment cleanup programs. Figure 3 shows the location of the proposed USACE and City dredging areas. A final determination of the total volume of sediments potentially unsuitable for beach nourishment or unconfined offshore disposal has not been made; however, approximately 150,000 cy of contaminated sediments are located within the Project Area.⁶

Development of the Proposed Action

As part of its exploration of the feasibility of dredging contaminated sediments, the City evaluated management options available to address contaminated sediments in the Project Area. The City considered dredging and landfill disposal of the sediment as well as dredging of the sediment followed by physical and chemical treatment prior to landfill disposal. The City's evaluation of sediment management options concluded that the best option for managing the sediment originating from the Project Area would be to beneficially reuse it as part of the Middle Harbor CDF, if the POLB agrees to accept the material.⁷ The Middle Harbor CDF is an approved facility, authorized by the POLB, the USACE, the CCC, and the Los Angeles RWQCB. The POLB was issued an Individual Permit (No. 2004-01053-AOA) by the USACE and Waste Discharge Requirements (No. 09-204) to construct the Middle Harbor CDF. Details of the CDF construction methods and monitoring requirements are described in these and other permits. The CDF entails filling the open-water area between two

⁶ Approximately 110,000 cy of material is expected to be dredged from the Rhine Channel and approximately 10,000 cy dredged from the remaining segments of the Project Area. For estimation purposes, a contingency of 15 to 20 percent is added to the total volume; thus, the total dredged volume analyzed in this Initial Study is 150,000 cy.

⁷ A CDF involves placing dredged material at a site constructed partially or completely in water adjacent to the shore. CDFs constructed in port terminal slips use the terminal as part of the containment structure, with a dike structure constructed from rock, gravel, and/or sand fill at the mouth of the slip to complete the enclosure. Once the dredged material placed in the diked area reaches a specified elevation, it is capped with clean material. The clean cap raises the elevation to just below or at dike level. The newly created upland can be graded to support port development after completion.

existing terminals to create a longer wharf and additional space for upland infrastructure (Figure 4). Figure 5 shows the profile of a conceptual CDF for illustration purposes. The POLB announced that it intends to solicit suitable material, with an emphasis on contaminated sediments, from the local region to construct the CDF. Contaminated sediments may be placed within the CDF, as it will be constructed to ensure the sediments are isolated from the environment. The Middle Harbor CDF is approved and permitted to accept contaminated dredged material, making it a unique opportunity for the City to participate in a regional sediment management solution and to use the CDF as a cost-effective disposal site for contaminated sediments from City-managed areas.

The proposed project represents an opportunity to beneficially reuse approximately 150,000 cy of contaminated sediment as fill material at the Middle Harbor CDF. This sediment management alternative is the preferred approach for the City because it: 1) permanently removes contaminated sediments from the aquatic environment so that beneficial uses can be restored to the Rhine Channel; 2) does not require upland sediment rehandling, thus eliminating potentially significant traffic impacts; 3) is the most cost-effective sediment management method; and 4) uses proven technology to contain contaminants.

Project Timing, Sequence of Activities, and Methods of Construction

Construction activities within the Project Area (i.e., dredging and transport of dredged material) are anticipated to occur over a 4- to 5-month period, potentially starting as early as October of 2010 and extending into early 2011. Dredging can occur weekdays between the hours of 7 AM and 6:30 PM and Saturdays between the hours of 8 AM and 6 PM. Transport of sediments via tugboat and barge to the POLB may occur outside of these times, because work would occur away from residents and would not be disruptive to harbor operations. While negotiations with the contractor will ultimately determine the sequence of activities, it is likely that dredging will begin at the north end of the Rhine Channel. Once sediments in the Rhine Channel have been removed, the remaining segments of the Project Area (Marina Park, American Legion, and 15th Street Pier) will be dredged. Dredging would involve the following sequence of events:

- Coordinate with the U.S. Coast Guard (USCG), Harbor Patrol, Harbor Resources, and POLB pilots to identify barge routes and communications protocols

- Complete pre-construction activities, such as preparing the offloading area for disposal of debris and mobilizing the dredging equipment
- Remove end piles from floats in the immediate dredging area, replacing them with new end piles as dredging progresses
- Mechanically dredge the contaminated sediments and place dredged material into bottom-dump barges
- Transport the bottom-dump barges to the Middle Harbor CDF using tugboats
- Dispose of sediments into the Middle Harbor CDF fill site
- Repeat process for remaining segments of the Project Area until project is completed
- Demobilize construction equipment and replace any structures removed to facilitate dredging

This sequence of activities was developed based on current design knowledge, professional judgment, and experience from similar projects, and it may be modified if conditions change.

Contractor Coordination

Prior to mobilization, the contractor will coordinate with all appropriate local entities such as the USCG, Harbor Patrol, Harbor Resources, and POLB pilots. In addition, a Notice to All Mariners (NOTAMs) and other public notices required for the safety of the boating public will be issued. The barge route will be identified and, along with construction schedules, provided to the public.

Mobilization, Staging, Temporary Relocation of Vessels, and Pile Replacement

The contractor will mobilize the dredging and barge equipment over a 2- to 3-week period. At this time, parking and construction trailers are expected to be located on the City-owned property known as Lower Castaways (Figures 2 and 3), although the contractor and the City may agree on a substitute location that has equal access and does not disrupt established traffic patterns. Final determination of the location for the construction trailer and employee parking lot will be made in coordination with the contractor and the USACE. The proposed upland offloading area for debris removal will be located at the Rhine Wharf in the public right-of-way east of the Cannery Restaurant, positioned at the north end of the Rhine Channel. This area will be used to temporarily offload and store debris that may be

encountered during dredging (Figure 2) and will be cordoned off in accordance with the City traffic engineer's approval to ensure safe traffic circulation. Any debris encountered during dredging (e.g., metal, timber, trash, etc.) will be dewatered, if necessary, on a barge prior to loading it into a container or truck for transport to a landfill.

Prior to the start of construction, the City will coordinate with the property owners to relocate vessels currently berthed in the first dredging area. The City owns and operates adequate mooring spaces within LNB where vessels can be temporarily stored. One area identified as a temporary mooring location is shown on Figure 2; this temporary mooring location and others locations throughout the harbor are generally made available to visiting vessels by the Harbor Patrol. However, for the relatively short period of this project, the relocated vessels will take priority over visiting vessels for these spaces. Alternative locations for visitors include anchorage in the Turning Basin off the eastern tip of Lido Isle, yacht clubs, and other rental opportunities. The Harbor Patrol will assist visitors in locating alternative mooring. Should additional, temporary moorings be necessary to accommodate the relocated vessels during dredging, the contractor will be allowed to install temporary moorings in approved locations.

To ensure the continued stability of the existing floats in the Project Area, the end piles of dock floats will be replaced with new, potentially longer piles if the existing pile lengths are not sufficient to provide structural stability after dredging. The removed piles will be properly disposed of in an upland facility or recycled; they will not be reused. For purposes of this California Environmental Quality Act (CEQA) analysis, it is assumed that all end piles will need to be removed and replaced. It is anticipated that approximately 150 piles will be replaced depending on their location with respect to the dredge footprint and their physical condition.

Contaminated Sediment Dredging Mechanics and Sequencing

Dredging Mechanics. Contaminated sediments will be excavated using a mechanical dredging process (i.e., clamshell bucket). Operating from a crane or derrick on a barge, the bucket is lowered, filled with sediment, raised through the water column, and positioned above the barge; the sediment is then placed in the barge for transport to the fill site.

Mechanical dredges are the most commonly used method to remove contaminated sediments

along the shoreline or in close proximity to in-water structures, areas where use of a hydraulic dredge and pipelines would be difficult. Mechanical dredges are commonly used, because they can accurately excavate to specific depths below the sediment surface, which is often required during contaminated sediments removal. Perhaps most importantly, mechanical dredging (as opposed to hydraulic dredging) does not produce a high volume of excess water with the sediment, which would require disposal or management. It should be noted that hydraulic dredging of contaminated sediments is generally not permitted by regulatory and resource agencies because of concerns about managing the high volume of waste water produced during hydraulic dredging.

Depending on the condition of existing structures in the Project Area, an excavator or similar long-reach device may be used to dredge under docks and around or near piles. Using this piece of equipment rather than the clamshell bucket may enable the contractor to dredge closer to piles and under floats without damaging them.

The volume of contaminated sediments in the Rhine Channel located between the bulkhead and pierhead line is relatively small compared to the main channel (equaling approximately 20 percent of the total sediment volume), and to avoid destabilizing any portion of the bulkhead or piles, the City may necessarily leave a small portion of the material near these structures. Allowing a small portion of material to remain would be accomplished by requiring dredging to be offset a prescribed distance from the potentially affected structures.⁸ Figure 6 depicts the anticipated thickness of dredge cuts throughout the Rhine Channel. The thickest dredge cuts will occur near the edges of the channel and along the pierhead lines, where a greater volume of sediments has shoaled over time and where greater accumulations of unsuitable sediments are found. The thickness of dredge cuts decreases substantially from the channel to the seawalls running along the perimeter of the channel. Dredging will be offset from the seawalls by a distance sufficient to avoid reducing the overall stability of the wall structures.

⁸ The dredge offset refers to the distance between a structure, such as a bulkhead or pile, and the actual edge of the dredging prism. Offsets are determined for each type of structure to protect it from damage during dredging.

Figure 7 shows typical dredge offset areas in the upper Rhine Channel, the 2-foot allowable overdepth⁹ of dredging, and the payable and nonpayable allowable overdepths.

The dredging plan will also recognize the tendency of submerged sediments to assume their natural “angle of repose” after dredging. This angle of repose is typically an inclination of between 3 feet horizontal to 1 foot vertical (3H:1V) and 5H:1V. A similar range of likely slope angles will be expressly accounted for and required by the design, so that the dredging work will not leave any unstable areas on the seabed.

Mechanical dredging in the Rhine Channel will occur to a depth where clean, uncontaminated material is found. Sediment samples will be collected and analyzed to confirm that dredging has successfully removed the contaminated material. If the results of the analysis show that clean sediments are not encountered in a particular area, then additional dredging would be necessary in that area; confirmatory sediment sampling will be repeated until clean sediments have been reached. The proposed cleanup plan, including partial dredging around piles and close to the bulkheads, has been developed through discussions with the regulatory agencies.

Accurate horizontal positioning of the dredge will be aided using an electronic positioning system, differential GPS (DGPS), or other approved positioning system that provides the required accuracy in real-time. Horizontal position accuracy of plus or minus 1 foot will be required. Depth of completed dredging will be monitored by routine bathymetric progress surveys conducted by, or under the supervision of, an experienced hydrographic surveyor. The contractor will be required to correct any dredge cuts that are not deep enough, per the dredge plan. After additional dredging is completed, another bathymetric survey will be performed to verify that the corrective action was successful.

9 The allowable overdepth is the depth to which the contractor is allowed to dredge beyond the required elevation or grade. Overdepth is allowed due to the inaccuracy (plus or minus 2 feet) inherent with the dredging equipment working underwater. Payable overdepth for the proposed project is 1 foot beyond the required elevation; the contractor is paid for the volume dredged to the payable overdepth. Nonpayable overdepth for the proposed project is 1 foot beyond the payable overdepth. Dredging is allowed to this depth; however, the contractor is not paid for the volume dredged between the payable overdepth and the allowable overdepth.

In the Project Area outside the Rhine Channel, maintenance dredging to improve navigability will reach no deeper than -10 feet mean lower low water (MLLW), which is within the original design depth of this portion of the harbor. In support of the renewal of RGP 54 in 2005 and 2006, sediment sampling occurred throughout LNB; approximately 16 sediment samples were collected in the vicinity of Marina Park, the American Legion, and the 15th Street Pier. Sediments in these areas have been tested and the results show that mercury and 4,4-DDE were considered to be contaminants of potential ecological concern (COPEC).

Dredging Sequencing and Duration. While the specific sequencing of the project will be determined after the contractor has been selected, it is likely that dredging will begin at the northern end of the Rhine Channel. By dredging from the back of the channel outward, the contractor will be able to advance the dredge without traveling back across previously dredged areas. This approach would reduce the potential recontamination of previously dredged areas. It will take an estimated 10 to 12 weeks to complete dredging in the open-water channel area of the Rhine Channel using a clamshell dredge, and another 12 to 15 weeks to complete the more detailed work around the marina floats using an excavator dredge or similarly precise slow-production type of equipment. In actuality, these two types of equipment may work concurrently, saving overall time on the project, and if this scenario is chosen, a total duration of dredging on the order of 15 to 20 weeks is a reasonable expectation. Additional activities will include conducting confirmatory sediment sampling as dredging is completed and removing and replacing end piles.

The barge holding the mechanical dredge will be approximately 50 to 60 feet wide and the accompanying scow (used to transport dredged material to the CDF) will be approximately 40 to 50 feet wide. It is common practice for the barge to be placed alongside the scow to reduce the time for dredging and to minimize the possibility of accidental spills; therefore, dredging equipment will have a width of approximately 90 to 110 feet. Additional space is needed for safety and to ensure the mechanical arm of the dredge can swing without obstruction. The width of open channel in the narrow “throat” of the Rhine Channel typically varies between approximately 110 feet and 130 feet. Consequently, there will be temporary restrictions on navigability within the channel depending on where the dredge is

at any given time. The contractor will be required to allow and accommodate access for emergency vessels throughout the period of work.

After Rhine Channel dredging has been completed, the contractor will move to the remaining segments of the Project Area (Figure 2) to conduct dredging of Marina Park, the American Legion, and the 15th Street Pier. It is anticipated to take approximately 3 weeks to complete dredging in these areas. As with the Rhine Channel, private vessels will be temporarily relocated until dredging is completed. To allow the contractor sufficient area for maneuvering dredge equipment, it may be necessary to temporarily relocate some vessels located in the mooring area immediately off 15th Street Pier.

The contractor may install temporary moorings in Newport Channel to provide a storage area for dredging vessels during after-work hours and on Sundays. The exact location of the temporary moorings will be selected to allow safe, unrestricted vessel traffic.

Barge Transportation of Contaminated Sediment

USCG-certified bottom-dump barges will be used to transport the material approximately 27 miles to the Middle Harbor CDF. These barges typically have a maximum capacity of between 1,000 and 2,000 cy per load. A reasonable assumption is that each barge will hold on average approximately 1,250 cy per load and that two barges can be filled per work day. Approximately 15 to 20 weeks will be required to complete dredging activities. This estimate is dependent on the size of the barge, clamshell bucket, and dredge derrick that the contractor uses as well as the length of the work day. In addition, the use of additional dredging equipment, such as a barge-mounted excavator to dredge around the existing structures, has the potential to affect project duration. Approximately 100 to 120 round trips are anticipated for dredged material disposal. The actual size of the bottom-dump barges used for this project will not be known until a contractor is retained.

Contaminated Sediment Disposal

The sediment will be placed within the Middle Harbor CDF by positioning the split-hull barge into the Middle Harbor CDF and releasing the material towards the back of the fill area. Specific disposal locations within the CDF will be determined by the POLB during actual fill operations. To utilize the Middle Harbor CDF, the City's contractor will be

required to comply with the POLB's Sediment Management Plan and the conditions contained in the applicable permits, including permits obtained from the USACE and RWQCB. In accordance with the permits that govern the disposal site, the POLB will be responsible for monitoring disposal operations that confirm water quality standards are met at the fill site.

Equipment Demobilization and Disposal of Debris

A side-scan sonar survey was conducted in the fall of 2004 by Gahagan and Bryant Associates, Inc., to characterize the existing debris field in the Rhine Channel. The survey detected 87 pieces of apparent debris. The exact size or nature of the debris was not characterized, but debris could include objects that may have come from past loading and offloading of vessels and equipment. Other debris may be encountered during dredging throughout the Project Area, but to a much lesser extent, based on past uses in the area.

A final bathymetric survey will be performed to confirm dredging has been completed as required. Over an approximately 2-week period, the contractor will disperse the dredging equipment and return the upland staging area to pre-project conditions. Any remaining construction debris will be transported via truck and disposed of at a suitable upland landfill. Demobilization will take approximately 3 weeks.

Potential Project Impacts and Best Management Practices

Potential impacts from the proposed dredging project are discussed in this Initial Study and summarized herein. Potential impacts from the proposed project include:

- Temporary water quality impacts related to turbidity and elevated levels of chemical contaminants generated during dredging and spillage of dredged material from barges during transport to the Middle Harbor CDF
- Temporary air quality impacts from construction equipment
- Temporary noise impacts from operation of equipment and pile installation
- Temporary obstruction of navigation and access to portions of LNB

To avoid and minimize potential project impacts, several design features have been incorporated into the project. These operational requirements, typically referred to the dredging industry as best management practices (BMPs), are detailed in individual sections of the Initial Study and are summarized in the following lists.

General BMPs:

- No dredging work will be conducted from land-based equipment.
- Floating debris will be removed from the water and disposed of properly.

Water Quality BMPs:

- Silt curtains will be placed around the perimeter of the active dredging area.
- A Water Quality Monitoring Plan (WQMP) will be submitted by the contractor for approval by the City prior to construction. The WQMP will be designed to monitor conditions in accordance with permit requirements.
- Multiple horizontal dredge cuts will be taken where a thick horizontal volume needs to be dredged, as to avoid overfilling the bucket and causing spillage.
- A Spill Prevention, Control, and Countermeasures (SPCC) Plan will be submitted by the contractor for approval by the City prior to construction. The contractor will be required to follow the SPCC, which will require, among other things, following established refueling, spill containment and countermeasures, and good housekeeping procedures.
- All dredged material will be handled and transported such that it does not re-enter surface waters of the state outside of the protected immediate work area.
- The load line on disposal barges will be predetermined, and the barge will not be filled above this predetermined level. Before each disposal barge is transported to the Middle Harbor CDF, the dredging contractor and a site inspector must certify that it is filled correctly.

Air Quality BMPs:

- Dredge equipment will be required to meet current South Coast Air Quality Management District (SCAQMD) requirements.

Noise BMPs:

- Work will be conducted during times allowable by City code (weekdays between the hours of 7 AM and 6:30 PM and Saturdays between the hours of 8 AM and 6 PM).

Navigation BMPs:

- A communication protocol will be implemented to minimize disruption to recreational and commercial operations within the Project Area.
- Dredging activities will be required to accommodate access for emergency vessels at any time.

Long-Term Benefits of the Project

Long-term benefits of the project include:

- Permanently removing up to approximately 150,000 cy of contaminated material from the marine environment of LNB
- Restoring designated beneficial uses to the Project Area
- Restoring the Project Area to design depth and improving navigation and public safety
- Beneficially reusing the dredged contaminated material as fill at the Middle Harbor CDF

Reasonably Foreseeable Projects

The impacts analysis provided in this document considers the contribution of this project to other “reasonably foreseeable” projects and the degree to which those projects and the proposed project cumulatively impact the environment. Cumulative impacts caused by other projects alone do not determine that a proposed project’s incremental effects are cumulatively considerable, and unless the proposed project results in a change to the environment, the project cannot contribute to cumulative impacts. As part of the impacts analysis from this project, cumulative impacts related to the projects listed were considered and are as follows:

- Project proponent: USACE. Project name: Upper Newport Bay Restoration Project. Project description: The Upper Newport Bay restoration project will allow for a

reduced frequency of maintenance dredging; improve or restore estuarine habitats; sustain a mix of open water, mudflat, and marsh habitat; increase tidal circulation for water quality; reduce predator access to sensitive habitats; improve public use and recreational access; and improve educational opportunities. Dredged material not beneficially reused for habitat construction is beneficially reused as beach nourishment material for City beaches. This project has been periodically ongoing since 2006 and is expected to be completed prior to the start of the LNB maintenance dredging project.

- Project proponent: USACE. Project name: LNB Maintenance Dredging Project. Project description: An estimated 1.5 million cy of sediment will be removed from the federal area; approximately 500,000 cy of sediment may be beneficially reused in the Middle Harbor CDF. Maintenance dredging will provide full access to the harbor, which is essential to the economic and recreational health of Newport Beach. The same contractor will complete the proposed City and USACE dredging projects in LNB; some project overlap may occur, but the USACE maintenance dredging project is planned to begin once the City's proposed project is complete or nearing completion.
- Project proponent: City of Newport Beach. Project name: Marina Park (1770 Balboa Boulevard) Refurbishment Project. Project description: The phased project consists of the removal of a nonconforming mobile home park located on historic tidelands and the construction of a public park. Proposed park components include community meeting rooms and a visitor-serving marina. Construction of the marina would require dredging of approximately 62,000 cy of sediment, approximately 3,000 cy of which would be dredged as part of the Rhine Channel contaminated sediment cleanup project and beneficially reused in the Middle Harbor CDF. These sediments are located away from the beach in the northernmost portion of the subtidal area of proposed dredging for the Marina Park project. This proposed project is immediately west of the American Legion and is not expected to occur before 2011. The City certified the Final Environmental Impact Report (EIR) for the project on May 11, 2010.
- Project proponent: ETCO Development, Inc. Project name: Newport Bay Marina (2300 Newport Boulevard) Redevelopment Project. Project description: This project consists of the redevelopment of a 2.5-acre former shipbuilding facility within the

Rhine Channel with a new mixed-use development and 21-slip marina. Project dredging and removal of contaminated sediments near shore is expected to be completed during the summer of 2010, before the Rhine Channel contaminated sediment cleanup project begins, and dock construction is expected to occur in 2011 after the proposed project is complete.

- Project proponent: Lido Peninsula Company. Project name: Channel Road Marina Refurbishment Project. Project description: Located at the end of the east side of the Rhine Channel, this project proposes to upgrade the existing marina facility. Because the project is located in the Rhine Channel, dredging would be part of the City's cleanup project. Subsequent to the dredging, the marina facility would be replaced with new docks.

FIGURES

L:\AutoCAD Project Files\090243-01 Newport CAD\Initial Study\090243-01-RP-013.dwg Figure 1

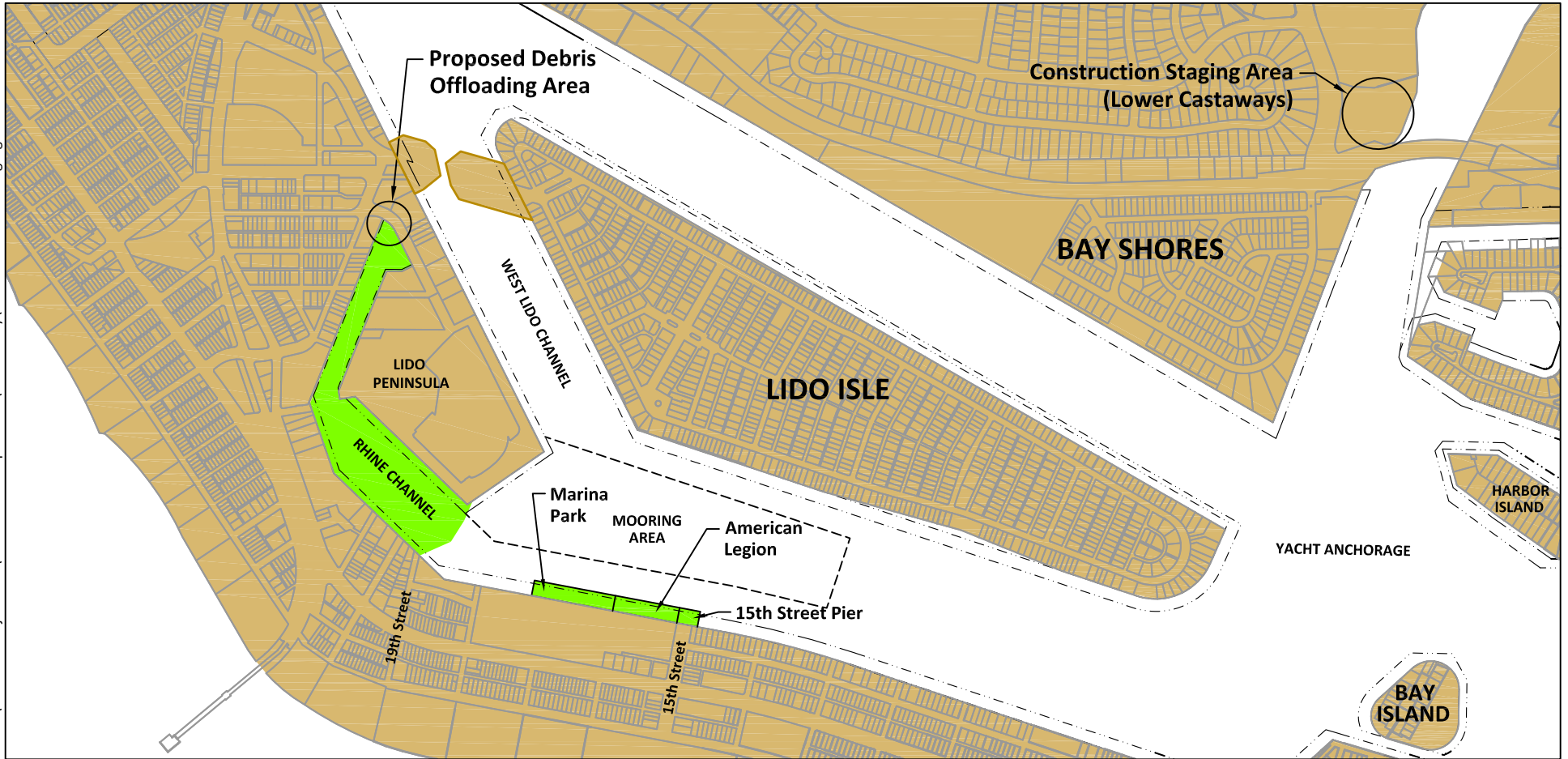
Mar 12, 2010 5:57pm banaya



SOURCE: Drawing prepared from Google Earth Pro 2009.



Not to Scale



SOURCE: Basemap prepared from City of Newport Beach GIS files.

NOTE: Temporary moorage areas are located throughout Lower Newport Bay.

LEGEND:

- Proposed Project Area
- Pierhead Lines (Approximate)

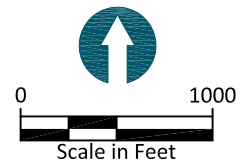
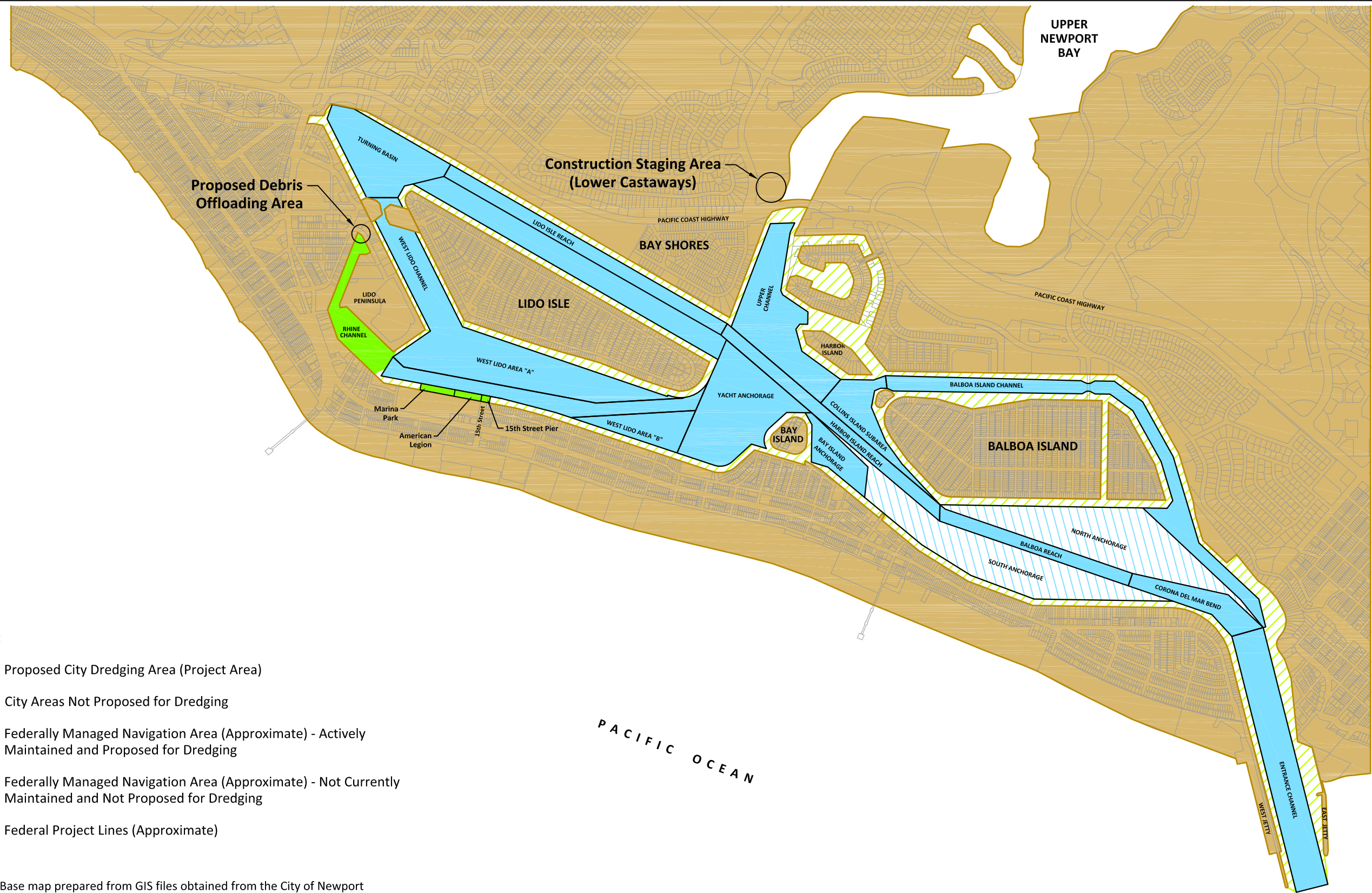







Figure 2
Proposed Project Area
Rhine Channel Contaminated Sediment Cleanup

L:\AutoCAD Project Files\090243-01 Newport CAD\Initial Study\090243-01-RP-020.dwg Figure 3
May 27, 2010 4:36pm bamaya



LEGEND:

-  Proposed City Dredging Area (Project Area)
-  City Areas Not Proposed for Dredging
-  Federally Managed Navigation Area (Approximate) - Actively Maintained and Proposed for Dredging
-  Federally Managed Navigation Area (Approximate) - Not Currently Maintained and Not Proposed for Dredging
-  Federal Project Lines (Approximate)

SOURCE: Base map prepared from GIS files obtained from the City of Newport Beach and site delineation provided by the USACE.



Figure 3
USACE and Proposed City Lower Newport Bay Dredging Areas
Rhine Channel Contaminated Sediment Cleanup

L:\AutoCAD Project Files\090243-01 Newport CAD\Initial Study\090243-01-RP-016.dwg Figure 4

Mar 15, 2010 10:50am banaya



SOURCE: Drawing prepared from Google Earth Pro 2009.



Not to Scale



Figure 4
 Middle Harbor Confined Disposal Facility Fill Site and Example Barge Haul Route
 Rhine Channel Contaminated Sediment Cleanup

L:\AutoCAD Project Files\090243-01 Newport CAD\Initial Study\090243-01-RF-017.dwg Figure 5
Jun 07, 2010 1:40pm banaya

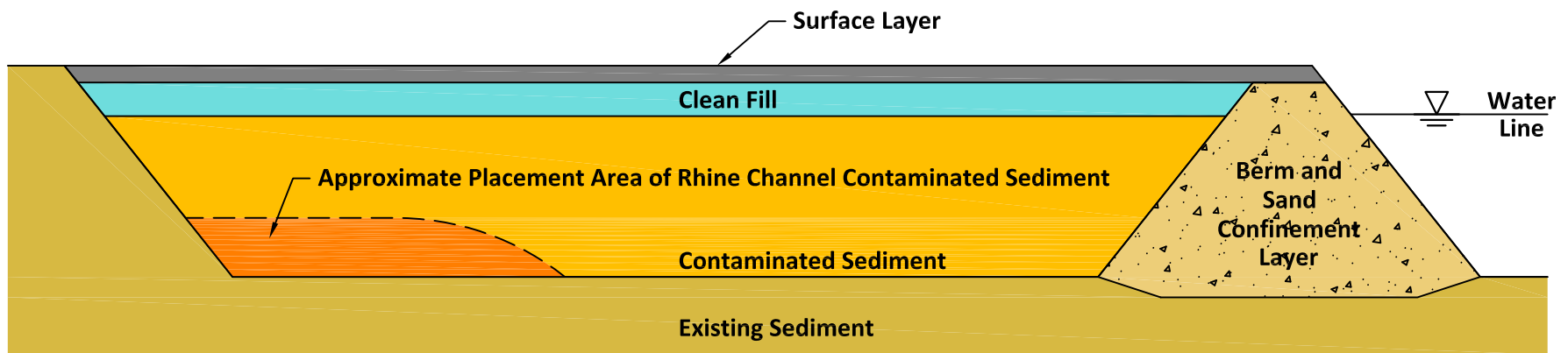


Figure 5
Profile of Conceptual Confined Disposal Facility
Rhine Channel Contaminated Sediment Cleanup

L:\AutoCAD Project Files\090243-01 Newport CAD\Initial Study\090243-01-RP-018.dwg Figure 6

Apr 08, 2010 12:11pm banaya



LEGEND:

Color	Thickness of Proposed Dredge Cut in Feet
Yellow	0 to 1
Light Orange	1 to 2
Orange	2 to 3
Dark Orange	3 to 4
Red-Orange	4 to 5
Red	5 to 6
Dark Red	6 to 7
Magenta	7 to 8
Pink	8 to 9
Purple	9 or more

SOURCE: Base map prepared from GIS files obtained from the City of Newport Beach.
HORIZONTAL DATUM: California State Plane, Zone VI, NAD83.
VERTICAL DATUM: Mean Lower Low Water (MLLW).

LEGEND:

- Bulkhead (Approximate)
- - - Pierhead Line
- 13'** Preliminary Required Dredge Elevations

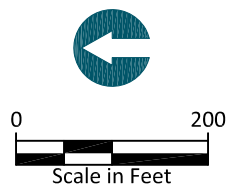
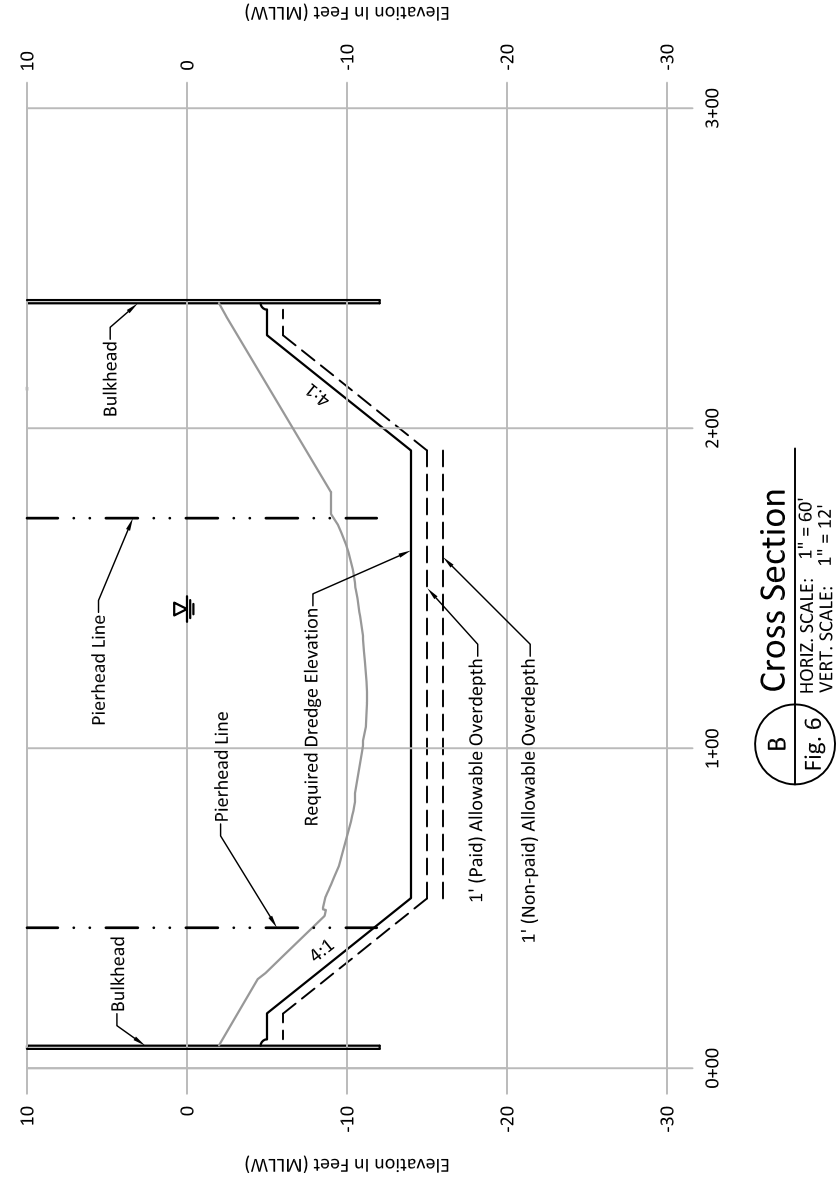
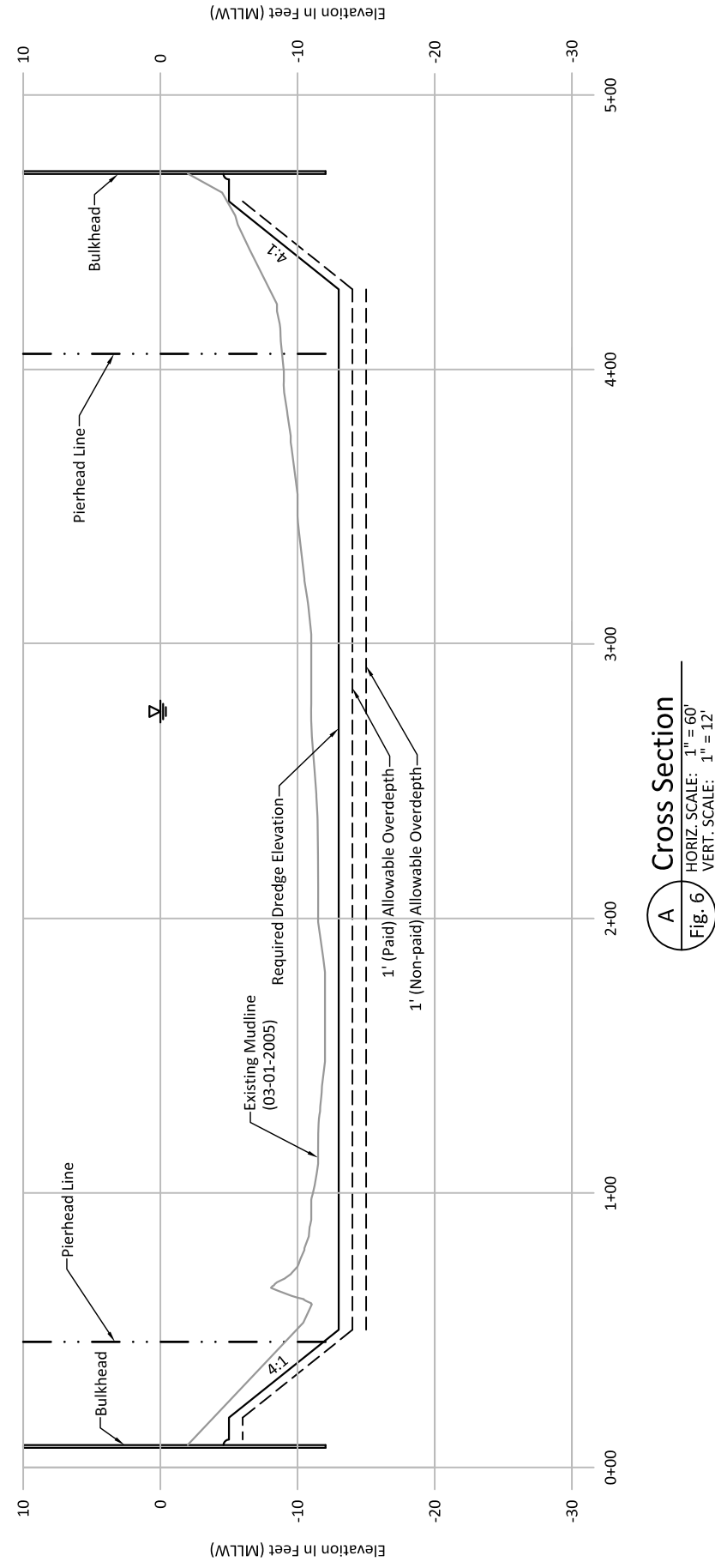
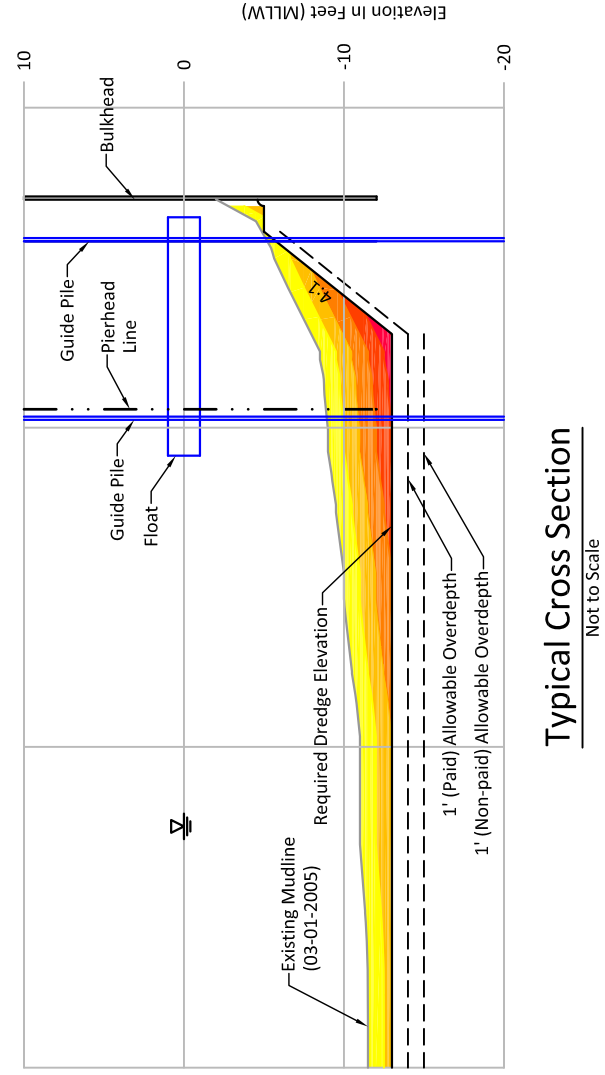


Figure 6
 Areas and Thickness of Conceptual Dredge Plan in the Rhine Channel
 Rhine Channel Contaminated Sediment Cleanup

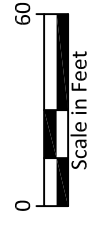


LEGEND:

Color	Thickness of Proposed Dredge Cut in Feet
Yellow	0 to 1
Orange	1 to 2
Red-Orange	2 to 3
Red	3 to 4
Dark Red	4 to 5
Magenta	5 to 6
Pink	6 to 7
Light Pink	7 to 8
Purple	8 to 9
Dark Purple	9 or more



SOURCE: Drawing prepared from information provided on Figure 6. Bathymetry provided by the USACE dated March 1, 2005.
HORIZONTAL DATUM: California State Plane, Zone VI, NAD83.
VERTICAL DATUM: Mean Lower Low Water (MLLW).



ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

- | | | |
|--|---|---|
| <input checked="" type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input checked="" type="checkbox"/> Geology and Soils |
| <input checked="" type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards and Hazardous Materials | <input checked="" type="checkbox"/> Hydrology and Water Quality |
| <input type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Mineral Resources | <input checked="" type="checkbox"/> Noise |
| <input type="checkbox"/> Population and Housing | <input type="checkbox"/> Public Services | <input checked="" type="checkbox"/> Recreation |
| <input type="checkbox"/> Transportation and Traffic | <input type="checkbox"/> Utilities and Service Systems | <input type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION (TO BE COMPLETED BY THE LEAD AGENCY)

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	<input type="checkbox"/>
I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	<input checked="" type="checkbox"/>
I find that the proposed project MAY have a significant effect on the environment, and ENVIRONMENTAL IMPACT REPORT is required.	<input type="checkbox"/>
I find that the proposed project 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.	<input type="checkbox"/>
I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.	<input type="checkbox"/>



Signature

6/7/10

Date

Signature

Date

EVALUATION OF ENVIRONMENTAL IMPACTS

I. AESTHETICS

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

Known for its picturesque views of the Pacific Ocean, Newport Beach is acclaimed for its beaches, outdoor recreation, and the oldest holiday boat parade in the nation. Within the Project Area, scenic views of the harbor and the City of Newport Beach (City) are provided from a number of locations and are shown on Figure NR3 of the City's General Plan (General Plan 2009). From these locations, the public can see harbor waters, recreational and commercial vessels, sailboats, and other water-borne vessels. In addition to the recreational and commercial vessels seen in the harbor, barges and dredging equipment that supported the dredging in Upper Newport Bay have been traversing Lower Newport Bay (LNB) for the past 5 years.

Potential Project Impacts and Best Management Practices

Dredging activities occurring during the approximately 4- to 5-month project timeframe may result in potential short-term impacts to the visual character of LNB. The presence and activities of the dredging equipment could slightly and temporarily degrade the visual character of the Project Area during dredging activities; however, the public has become accustomed to seeing various dredging equipment, barges, and related work boats in LNB

from the Upper Newport Bay Restoration Project. Localized discolored waters due to dredge-generated turbidity may also result in temporary impacts to aesthetics.

To reduce potential impacts to water quality and the visual character of the surface waters of LNB, the contractor will maintain silt curtains around the active dredging area, thus limiting the extent of this impact. Turbid water generated from dredging will be contained within the work area before the curtains are removed; based on the sediment characteristics in the project area, visual impacts from turbidity would no longer be present within 1 or 2 hours of dredging. Temporary turbidity generated from propeller wash during barge movement will be minimized by starting and stopping vessels as slowly as feasible.

Determination of Significance

No indirect (operational) effects to aesthetics have been identified. Cumulative impacts to aesthetics are primarily associated with the potential for localized turbidity during dredging activities and the presence of dredging equipment during federal maintenance dredging in LNB. The cumulative impacts to the visual character of the site and its surroundings resulting from the presence of construction equipment are not expected to be significant, because the size and number of equipment in LNB will not increase during the federal maintenance dredging project. Measures to isolate turbidity would also be taken for all future projects.

The project will not have a substantial adverse effect on a scenic vista. The proposed debris offloading area at the end of the Rhine Channel is located in close proximity to one view point shown in the General Plan (2009). This viewing area may be temporarily closed to the public during times that debris is offloaded; however, other view points are adjacent to this area and will remain open. No other temporary impacts to scenic vistas will occur. Due to the temporary (4 to 5 months) and negligible (isolated to active dredging areas) nature of the effects, impacts to scenic vistas are less than significant.

The proposed project will not damage scenic resources within a state scenic highway because the Project Area is not in the vicinity of such a highway.

The project will not substantially degrade the existing visual character or quality of the site and its surroundings, because there will be no change to these conditions upon project completion.

No additional lighting is proposed as part of the project; therefore, there would be no new source of light or glare. Because the proposed project will occur during the time of year with shortened daylight hours, temporary nighttime light or glare will result from construction activities from sundown to the end of the work day (approximately 3 hours). This impact is temporary and less than significant.

II. AGRICULTURE AND FOREST RESOURCES

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of State-wide 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51101(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The California Department of Conservation, Farmland Mapping, and Monitoring Program designates the land as “urban land” (CDC 2006); therefore, the proposed project will not result in the conversion of any farmland to non-agricultural use; conflict with existing zoning for agricultural use or a Williamson Act contract; conflict with existing zoning for forest land, timberland, or timberland zoned Timberland Production; result in the loss of forest land or conversion of forest land to no-forest use; or result in the loss of forest land or conversion of forest land to no-forest use.

III. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

A complete description of the existing conditions at the project site can be found in Appendix A; the following is a summary of the information contained in the attached report.

Regional Climate and Meteorology. The proposed project is located within the South Coast Air Basin (SCAB) and within the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAB consists of the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange County. The climate of the project site is classified as Mediterranean, characterized by warm, rainless summers and mild, wet winters. The major influences on the regional climate include the Eastern Pacific High (a strong persistent area of high atmospheric pressure over the Pacific Ocean), topography, and the moderating effects of the Pacific Ocean. Seasonal variations in the position and strength of the Eastern Pacific High are a key factor in weather changes in the area.

The project is expected to occur during the winter months. As winter approaches, the Eastern Pacific High begins to weaken and shift to the south, allowing storm systems to pass through the region. A wet seasonal pattern occurs during the months of November through April, while a dry seasonal pattern occurs during the months of May through October. This wet-dry seasonal pattern is characteristic of most of southern California.

During the fall and winter months, the Eastern Pacific High can combine with high pressure over the continent to produce light winds and extended inversion conditions in the region. These stagnant atmospheric conditions often result in elevated pollutant concentrations in the SCAB. Excessive buildup of high pressure in the region can produce a “Santa Ana” condition, characterized by warm, dry, northeast winds in the basin and offshore regions. Santa Ana winds often ventilate the SCAB of air pollutants.

Criteria Pollutants and Air Monitoring. The U.S. Environmental Protection Agency (USEPA) establishes the national ambient air quality standards (NAAQS). For most pollutants, maximum concentrations may not exceed a NAAQS more than once per year; and they may not exceed annual standards. The California Air Resources Board (CARB) establishes the California Ambient Air Quality Standards (CAAQS), which are generally more stringent and include more pollutants than the NAAQS. Project-generated maximum pollutant concentrations should not equal or exceed the CAAQS.

Pollutants that have corresponding NAAQS or CAAQS are known as criteria pollutants. The criteria pollutants of primary concern in this air quality assessment are ozone, carbon

monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and particulate matter with particle diameter less than 10 microns (PM₁₀) and 2.5 microns (PM_{2.5}). Criteria pollutants contribute directly to health issues. The known adverse effects associated with these criteria pollutants are shown in Table 2.1 in Appendix A.

Of the criteria pollutants of concern, ozone is unique because it is not directly emitted from project-related sources. Rather, ozone is a secondary pollutant, formed from the precursor pollutants volatile organic compounds (VOCs) and nitrogen oxides (NO_x). VOCs and NO_x react to form ozone in the presence of sunlight through a complex series of photochemical reactions. Unlike inert pollutants, ozone levels usually peak several hours after the precursors are emitted and many miles downwind of the source. Because of the complexity and uncertainty in predicting photochemical pollutant concentrations, ozone impacts are indirectly addressed in this study by comparing project-generated emissions of VOCs and NO_x to daily emission thresholds set by the SCAQMD and pollutant concentrations to NAAQS and CAAQS.

The USEPA designates areas of the United States according to whether they meet the NAAQS; areas that do not meet the NAAQS for any criteria pollutant are designated as “nonattainment” areas for that criteria pollutant. CARB also designates areas of the state according to whether they meet the CAAQS. CARB and SCAQMD maintain a network of monitoring stations in the vicinity of Newport Beach. The most representative station for the project vicinity is the Costa Mesa (North Coastal Orange County) monitoring station, because it is the closest monitoring station to the project site, located approximately 3.5 miles north of the project site. The Costa Mesa station does not monitor concentrations of PM₁₀ or PM_{2.5}. The next closest monitoring station that can be used to compile ambient air pollutant concentrations for PM₁₀ and PM_{2.5} for this analysis is the Mission Viejo monitoring station (Saddleback Valley), located approximately 15 miles east of the project site.

Table 2.2 in Appendix A shows the highest pollutant concentrations recorded at the two stations from 2006 to 2008 and exceedances of the NAAQS and CAAQS are shown in bold. Ozone concentrations exceeded the 1-hour state standard in 2008 and the 1-hour and 8-hour standards in 2007 and 2008. PM₁₀ and PM_{2.5} concentrations exceeded the 24-hour standard in 2006 and 2007.

Sensitive Receptors. The impact of air emissions on sensitive members of the population is a special concern. Sensitive receptor groups include children, the elderly, and the acutely and chronically ill. These groups are located in residences, schools, daycare centers, convalescent homes, and hospitals. The proximity of sensitive receptors closest to the project site is as follows:

- The nearest sensitive receptors to the project site include residents directly to the west, east, north, and south of the dredge area.
- The nearest school is the Newport Heights Elementary School, located 0.6 miles to the southeast, at 300 15th Street, Newport Beach, California.
- The nearest hospital is the Hoag Memorial Hospital, located approximately 0.6 miles north of the project site, at 1 Hoag Drive, Newport Beach, California.

Potential Project Impacts and Best Management Practices

Because all project-generated emissions would be new to the area, the project is considered to have an emissions baseline of zero. The sequential phases that were considered in the analysis of potential air quality impacts are Phase 1 (debris removal and associated activities) and Phase 2 (mechanical dredging activities).

Table 4.1 in Appendix A presents the typical activity and engine-size parameters expected for each emission source category. The proposed construction project would include the following distinct types of emission sources:

- Marine sources:
 - Dredging Equipment. A single mechanical clamshell dredge would be used to remove contaminated sediments. The dredge would be positioned on a barge and operated with diesel engines.
 - Push Tugboat/Tender. A single tugboat tender would be used to position the dredging barge. Once the barge is in place and the tugboat has been secured, tugboat tender engines would be turned off.
 - Tugboats. Tugboats would be used to pull a haul barge with dredged sediments for disposal in the Port of Long Beach (POLB) Middle Harbor Redevelopment Project confined disposal facility (Middle Harbor CDF).

- Work/Crew Boat. Workboat/crew boat would be used to shuttle workers and supplies out to the dredging barge.
- Excavator. There may be instances where a long-reach excavator would be used to reach sediment under existing docks to avoid temporarily moving floating docks and other structures during the debris removal phase.
- Off-road land-based mobile sources:
 - Front-End Loader. This type of equipment would be used to manage debris stockpiles and load the material into trucks for hauling.
- On-road mobile sources:
 - Haul Truck. A heavy-duty haul truck would be used during the debris removal phase to haul debris to a local landfill.
 - Worker Vehicles.

Project equipment would be diesel-fueled and would generate emissions of diesel exhaust in the form of VOCs, CO, NO_x, sulfur oxides (SO_x), PM₁₀, and PM_{2.5}. Equipment usage and scheduling data required to quantify emissions for the proposed activities were obtained for the project in consultation with contractors and engineers. When estimating, emissions were first calculated for the individual equipment and then summed within each phase.

Appendix A provides a detailed analysis of the anticipated emissions and air quality impacts associated with this project. The results of the analysis show that without mitigation significant impacts to air quality (i.e., exceedence of the NO_x regional threshold and on-site daily emissions that would exceed SCAQMD's Localized Significance Threshold [LST] emission thresholds for PM_{2.5}) would occur, and therefore, the City has considered other alternatives to reduce emissions. Connecting the dredge equipment to land-based electrical power would reduce NO_x emissions below significance; however, that alternative is economically infeasible because the infrastructure to provide the required power does not exist in the vicinity of the Project Area and would have to be constructed at a significant cost. Additionally, due to the time required to install the infrastructure needed to support electric dredges, this alternative could not be instituted during the timeframe for disposal of the dredged material. The City also considered reducing the hours dredging could occur; however, that alternative was rejected from a logistical and economic standpoint, as the

reduction in dredging hours per day would extend the overall dredging operation beyond POLB scheduling needs.

Regional Impacts. Table AQ1 shows the results of the air quality analysis of the project before mitigation. NOx emissions exceed the peak daily regional threshold for both phases of construction.

**Table AQ1
Summary of Peak Daily Construction Emissions,
Proposed Project Before Mitigation**

Activity/Source	Source Category	Criteria Pollutant Emissions (lb/day)					
		ROG	CO	NOx	SO ₂	PM ₁₀	PM _{2.5}
Phase 1: Debris Removal Activities							
Excavator	Off-Road, Land	1.5	4.5	14.1	0.0	0.5	0.4
Push Tugboat/Tender	Off-Road, Marine	1.3	5.5	19.9	0.0	0.8	0.6
Dredge	Off-Road, Marine	7.6	31.1	60.3	0.1	3.4	2.7
HHD Truck	On-Road	0.6	3.0	9.3	0.0	0.4	0.3
Worker Vehicles	On-Road	0.2	2.0	0.2	0.0	0.3	0.3
Phase 1 Total		11.1	46.1	103.9	0.1	5.4	4.4
Regional Thresholds (lb/day)		75	550	100	150	150	55
Phase 2: Mechanical Dredging Activities							
Push Tugboat/Tender	Off-Road, Marine	1.3	5.5	19.9	0.0	0.8	0.6
Tugboat	Off-Road, Marine	9.7	36.9	120.2	0.1	6.0	4.8
Work/Crew Boat	Off-Road, Marine	0.3	1.0	3.9	0.0	0.2	0.1
Dredge	Off-Road, Marine	7.6	31.1	60.3	0.1	3.4	2.7

**Table AQ1
Summary of Peak Daily Construction Emissions,
Proposed Project Before Mitigation**

Activity/Source	Source Category	Criteria Pollutant Emissions (lb/day)					
		ROG	CO	NOx	SO ₂	PM ₁₀	PM _{2.5}
Worker Vehicles	On-Road	0.2	2.0	0.2	0.0	0.3	0.3
Phase 2 Total		19.0	76.4	204.5	0.2	10.7	8.6
Regional Thresholds (lb/day)		75	550	100	150	150	55

Notes:

Values may not add precisely due to rounding.

Emissions reflect the use of California diesel fuel with a sulfur content of 15 parts per million (ppm).

lb/day = pounds per day

ROG = Reactive Organic Gases

Localized Impacts. Table AQ2 shows the results of the air quality analysis of the project without mitigation for localized impacts. On-site daily emissions would exceed the SCAQMD's LST for PM_{2.5}.

**Table AQ2
Summary of On-Site Daily Construction Emissions,
Proposed Project Without Mitigation**

	Criteria Pollutant Emissions (lb/day)			
	CO	NOx	PM ₁₀	PM _{2.5}
On-Site Daily Emissions	39	89	5	4
LST (lb/day)	672	92	7	3.6

Notes:

Values may not add precisely due to rounding.

LST significance thresholds are for a 1-acre site; the distance to the nearest receptor is 32 meters (105 feet).

LST thresholds were extrapolated for a distance of 32 meters between 25 (82) and 50 meters (164 feet).

Cumulative Impacts. No other major construction activities are expected to occur in LNB within the timeframe of the proposed project; therefore, no cumulative increases in short-term emissions from concurrent activities during any day of the project construction period will occur. Compared to ongoing impacts to air quality within SCAB—from operations at the Port of Los Angeles, POLB, Los Angeles International Airport, John Wayne Airport, and other regional airports, ports, and industry—the temporary effects from this

project do not significantly contribute to cumulative air quality impacts. Given the temporary nature of this project, permanent increases in pollutant emissions or concentrations are not anticipated from project implementation.

Best management practices (BMPs) implemented to minimize impacts during this project include:

- The contractor will be required to implement the air quality monitoring program required by the SCAQMD during construction.
- The contractor will restrict idling of construction equipment to a maximum of 5 minutes when equipment is not in use.
- The contractor will maintain equipment according to manufacturers' specifications.
- Activities and operations on unpaved surfaces, such as staging areas, will be minimized to the extent feasible during high-wind events to minimize fugitive dust.
- All internal combustion engines will be equipped with properly operating mufflers.

Mitigation Measures

Mitigation measures will be implemented to reduce air quality impacts to less than significant levels. These measures are offsetting and operational mitigation measures. After consultation with the SCAQMD, the City has decided to mitigate the impacts to air quality (i.e., the exceedence of NO_x regional threshold) below the significance level by offsetting the impact through the purchase of Mobile Source Emission Reduction Credits (MSERCs). MSERCs are created when high-emitting vehicles are retired, and these credits are considered by the SCAQMD to be an acceptable method to mitigate construction emissions. NO_x emissions will be mitigated by purchasing MSERCs for every pound of NO_x emissions in excess of the significance threshold for each day of the construction period. The total amount of MSERCs required to fully mitigate construction NO_x emissions to less than significant levels is estimated to be approximately 3,969 pounds.

The use of emission credits to offset NO_x construction emissions will mitigate regional air quality impacts but will not ensure that localized impacts are not significant. The proposed operational mitigation measure not only reduces regional NO_x emissions but helps to reduce localized impacts to PM_{2.5} to a less than significant level. This operational mitigation

measure to reduce NOx emissions requires push tugboat/tenders and work/crew boats to use modern (Tier 3) main engines. This measure reduces NOx during Phase 1 and reduces localized PM_{2.5} emissions to less than significant.

The SCAQMD has established monitoring requirements to verify that purchasing MSERCs for mitigation meets performance standards and that the project does not result in significant impacts to air quality. The monitoring program is designed to:

- Verify satisfaction of the required mitigation measures of the Mitigated Negative Declaration (MND)
- Provide a methodology to document implementation of the required mitigation
- Provide a record of the monitoring program
- Identify monitoring responsibility
- Establish the frequency and duration of monitoring
- Establish administrative procedures for the clearance of mitigation measures
- Utilize existing review processes whenever feasible

Mitigation measures AQ-2 through AQ-11 ensure that the monitoring program required by the SCAQMD is implemented.

Operational Mitigation Measure

AQ-1. Push tugboat/tenders and work/crew boats shall use Tier 3 main engines. Tugboats used to tow disposal barges to Middle Harbor CDF during both Phases 1 and 2 shall use Tier 2 main engines.

Offsetting Mitigation Measures

AQ-2. The City shall purchase credits to offset an estimated 3,969 pounds of NOx emissions credits to mitigate the exceedance of the significance threshold for NOx emissions from this project. The offset credits will meet the following criteria:

1. Emission credits have been derived from emission reduction project(s) through existing SCAQMD protocols.

2. Emission credits will be current for the time the project takes place, meaning the MSERCs have not expired before or during the period when the emissions from the project would occur.

AQ-3. All diesel-powered equipment shall be equipped with a meter to record hourly usage (not including worker vehicles, haul trucks, or delivery trucks).

AQ-4. The meter on each piece of equipment shall be verified by an independent construction monitor who shall certify that it is working properly.

AQ-5. To demonstrate that measures AQ-2, AQ-4, and AQ-5 have been met, a pre-start up audit of equipment shall be prepared by an independent construction monitor and provided to the SCAQMD for review prior to dredging activities.

AQ-6. The hourly meter reading for each piece of equipment shall be recorded.

AQ-7. Equipment use and hours of operations shall be recorded by the contractor and verified on a weekly basis by an independent monitor.

AQ-8. A monthly report shall be submitted to the SCAQMD to demonstrate that measures AQ-6 and AQ-7 have been met. The monthly report shall summarize equipment used, hours of operation, NO_x emissions as well as identify any problems that occur and corrective actions implemented by the contractor. If NO_x emissions exceed the original estimation, the report should also include additional Reactive Organic Gases (ROG), CO, and SO_x emissions emitted to ensure no exceedance of SCAQMD's California Environmental Quality Act (CEQA) NO_x construction significance threshold.

AQ-9. Within 15 days after the end of each construction month, NO_x emissions exceeding the original estimation as identified in AQ-8 shall be reconciled and reported to the SCAQMD. NO_x emission credits shall be purchased to reconcile actual emissions with the previously purchased NO_x emission credits, if necessary, at the completion of the project.

AQ-10. A final report summarizing all construction activities, NO_x emissions, and reconciliation of NO_x emission credits for the entire construction period shall be prepared by an independent construction monitor and provided to the SCAQMD within 20 days after the completion of the construction of the project.

AQ-11. A sign shall be posted at the project boundary along Lido Park Drive at the terminus of the Rhine Channel. The sign should contain City contact information for people with questions or comments regarding construction activities.

Appendix B includes sample forms provided by the SCAQMD for recording the required information and completing monitoring.

Determination of Significance

With mitigation, this project does not conflict with or obstruct implementation of the SCAQMD air quality plan.

With mitigation, this project does not violate any air quality standard or contribute to an existing or projected air quality violation.

With mitigation, this project does not result in cumulative increases of any criteria pollutant.

With mitigation, this project does not expose sensitive receptors to substantial pollutant concentrations.

The proposed project would increase air pollutants due to the combustion of diesel fuel, and although some individuals may find diesel combustion emissions to be objectionable in nature, odorous impacts of these emissions are subjective and depend on the distance of the individual from the source. The mobile nature of project emission sources would serve to disperse proposed project emissions over a broad area rather than concentrate them locally. Therefore, it is unlikely that the proposed project will produce objectionable odors that would affect a sensitive receptor.

Regional Impacts. Table AQ3 shows the results of the air quality analysis of the project after mitigation measures are implemented. These mitigation measures reduce the estimated

maximum daily emissions for each criteria air pollutant below mass daily significance thresholds.

**Table AQ3
Summary of Peak Daily Construction Emissions,
Proposed Project After Mitigation**

Activity/Source	Source Category	Criteria Pollutant Emissions (lb/day)					
		ROG	CO	NOx	SO ₂	PM ₁₀	PM _{2.5}
Phase 1: Debris Removal Activities							
Excavator	Off-Road, Land	1.5	4.5	14.1	0.0	0.5	0.4
Push Tugboat/Tender	Off-Road, Marine	0.9	6.2	7.0	0.0	0.3	0.3
Dredge	Off-Road, Marine	7.6	31.1	60.3	0.1	3.4	2.7
HHD Truck	On-Road	0.6	3.0	9.3	0.0	0.4	0.3
Worker Vehicles	On-Road	0.2	2.0	0.2	0.0	0.3	0.3
Phase 1 Total		10.7	46.8	90.9	0.1	4.9	4.0
Regional Thresholds (lb/day)		75	550	100	150	150	55
Phase 2: Mechanical Dredging Activities							
Push Tugboat/Tender	Off-Road, Marine	0.9	6.2	7.0	0.0	0.3	0.3
Tugboat	Off-Road, Marine	8.6	59.8	79.6	0.1	2.7	2.1
Work/Crew Boat	Off-Road, Marine	0.2	1.4	1.5	0.0	0.0	0.0
Dredge	Off-Road, Marine	7.6	31.1	60.3	0.1	3.4	2.7
Worker Vehicles	On-Road	0.2	2.0	0.2	0.0	0.3	0.3
MSERC (lb/day)		0	0	-49	0	0	0
Phase 2 Total		17.5	100.4	99.6	0.2	6.7	5.4
Regional Thresholds (lb/day)		75	550	100	150	150	55

Notes:

Values may not add precisely due to rounding.

lb/day = pounds per day

MSERCs will be used to offset NOx emissions during Phase 2.

With mitigation, regional air quality impacts will result in less than significant impacts as shown in Table AQ4.

**Table AQ4
Regional Impacts Significance Determination After Mitigation**

Total Emissions and Significance Determination by Phase	Criteria Pollutant Emissions (lb/day)					
	ROG	CO	NOx	SO ₂	PM ₁₀	PM _{2.5}
Phase 1: Debris Removal and Associated Activities						
Phase 1 Total	10.7	46.8	90.9	0.1	4.9	4.0
Regional Thresholds (lb/day)	75	550	100	150	150	55
CEQA Significant?	No	No	No	No	No	No
Phase 2: Mechanical Dredging Activities						
Phase 2 Total	17.5	100.4	99.6	0.2	6.7	5.4
Regional Thresholds (lb/day)	75	550	100	150	150	55
CEQA Significant?	No	No	No	No	No	No

Notes:

Values may not add precisely due to rounding.

MSERCs will be used to offset NOx emissions during Phase 2.

Localized Impacts. Following mitigation, localized impacts from construction emissions will not exceed the LST, as shown in Table AQ5.

**Table AQ5
Summary of On-Site Daily Construction Emissions, Proposed Project with Mitigation**

	Criteria Pollutant Emissions (lb/day)			
	CO	NOx	PM ₁₀	PM _{2.5}
On-Site Daily Emissions	41	73	4	3
LST (lb/day)	672	92	7	3.6

Notes:

Values may not add precisely due to rounding.

LST significance thresholds are for a 1-acre site; the distance to the nearest receptor is 32 meters (105 feet).

LST thresholds were extrapolated for a distance of 32 meters between 25 (82) and 50 meters (164 feet).

With mitigation, localized air quality impacts will result in less than significant impacts as shown in Table AQ6.

Table AQ6
Localized Impacts Significance Determination After Mitigation

	Criteria Pollutant Emissions (lb/day)			
	CO	NOx	PM ₁₀	PM _{2.5}
On-Site Daily Emissions	41	73	4	3
LST (lb/day)	672	92	7	3.6
CEQA Significant?	No	No	No	No

Notes:

Values may not add precisely due to rounding.

LST significance thresholds are for a 1-acre site; the distance to the nearest receptor is 32 meters (105 feet).

LST thresholds were extrapolated for a distance of 32 meters between 25 (82) and 50 meters (164 feet).

As previously mentioned and analyzed in Appendix A, the proposed project would not result in construction-related emissions that would exceed regional significance thresholds or result in significant localized impacts following mitigation. Mitigation consists of operational measures (i.e., use of Tier 3 main engines for push tugboat/tender equipment) and offsetting measures (i.e., purchase of MSERCs).

Cumulative Impacts. With mitigation, this project does not contribute significantly to regional or local air quality impacts and, therefore, does not contribute to cumulative air quality impacts.

IV. BIOLOGICAL RESOURCES

Would the project:	Potentially Significant Impact	Less than Significant 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 impeded the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Because the project occurs in the marine environment, this biological resources analysis focuses on marine species and habitats in the Project Area. Potential impacts to open-ocean habitat and species during the transfer of dredged material to the Middle Harbor CDF are also analyzed. Because of the marine focus of the proposed project, potential impacts to terrestrial species and habitats are only discussed where relevant. The proposed project's construction activities would occur only during daytime hours, so the activities of nocturnal species would not be affected and the inactive periods of diurnal species would not be disturbed.

Although nearly fully developed, LNB provides habitat to a number of species, including species listed under the California and Federal Endangered Species Acts (CESA and FESA, respectively), such as the California brown pelican (*Pelecanus occidentalis*) and California least tern (*Sterna antillarum browni*). LNB is also considered Essential Fish Habitat (EFH) for species managed by the National Marine Fisheries Service (NMFS) under the Pacific Coast Groundfish and Coastal Pelagic Species Fishery Management Plans (FMPs), which are designated under the Magnuson-Stevens Fishery Conservation and Management Act.

Eelgrass (*Zostera marina*), mudflats, and other habitats present within Newport Bay are considered Habitat Areas of Particular Concern (HAPCs) within EFH, and Environmentally Sensitive Habitat Areas (ESHA) under the California Coastal Act (CCA). The City has also identified 28 Environmental Study Areas (ESAs) within its jurisdiction; ESAs are generally undeveloped areas possibly supporting natural habitats that may be capable of supporting sensitive biological resources within the City. No HAPCs, ESHA, or ESAs are found within the Project Area.

Habitat types within or adjacent to the Project Area include upland areas, marine habitats (subtidal, unvegetated mud substrate, intertidal, subtidal sandy substrate, and floats and piles), and EFH. Shell mounds are commonly found immediately adjacent to and underneath bulkheads and docks in the Rhine Channel. Although eelgrass has not been identified within the Project Area (General Plan Figure NR1; General Plan 2009; Newfields 2009), pre-construction surveys, as required by the Southern California Eelgrass Mitigation Policy (SCEMP), will be conducted.

Upland Habitats and Species. Upland areas adjacent to the water are urbanized and developed with commercial and residential buildings, parking lots, and streets. These areas provide little or no suitable habitat for native wildlife species. The Project Area does not provide wildlife movement corridors or connectivity between large areas of open space on a local or regional scale, but the Project Area is connected with the existing open waters of LNB. Birds observed at or near the Project Area include the house sparrow (*Passer domesticus*), house finch (*Carpodacus mexicanus*), American crow (*Corvus brachyrhynchos*), and mourning dove (*Zenaida macroura*), which are all considered urban-adapted species. Marine-associated avian species include the snowy egret (*Egretta thula*), California brown pelican, and gull-billed tern (*Sterna nilotica*). The sandy beach at Marina Park would be expected to be used as a resting area by a number of shorebirds and seabirds, notably gulls (*Larus* spp.) and sandpipers (*Actitis* spp.); the intertidal portion of the beach likely serves as foraging habitat for these species. The adjacent waters of the channel are used by common waterfowl such as ducks, terns, and gulls (CRM 2009). Other wildlife found in the harbor includes marine birds, which are primarily spring and fall migrants or winter residents, and several species of gulls, such as the western grebe (*Aechmophorus occidentalis*) and Brandt's and double-crested cormorants (*Phalacrocorax penicillatus* and *P. auritus*) that are year-round residents. Grebes and seasonal migrants like surf scoters (*Melanitta perspicillata*), red-breasted mergansers (*Mergus serrator*), and red-throated loons (*Gavia stellata*) forage in the calm, open subtidal waters of LNB.

Three sandy beaches are found within or near the Project Area. The proposed project will not directly affect any of these beaches. The portion of the sandy beach at Marina Park that is not included in the Project Area, is cleaned and groomed regularly by the City and, thus, does not constitute wildlife habitat other than as a resting area for shorebirds. The shallow subtidal zone fronting the sand beach shoreline at Marina Park is sparsely vegetated by green algae (*Ulva* and *Enteromorpha*). At deeper depths, red (*Gracilariopsis*) and brown algae (*Colpomenia*, *Sargassum*, and *Cystoseira*) are more common (CRM 2009; City of Newport Beach 2006). A second, smaller beach area, approximately 170 feet long by 60 feet deep, is in the immediate vicinity of the 15th Street Pier. The third sandy beach, 430 feet long by 20 feet wide, is on the southwest corner of Lido Isle West Lido Channel.

Marine Habitats and Species. Pile and float communities found in LNB typically include colonial tunicates (*Riterella* sp.), anemones (*Anthopleura artemisia*), and bryozoans (*Bugula* sp. and *Eurystomella* sp.). Barnacles (*Balanus* spp.) generally cover the high intertidal areas where piles, sheetpile, and bulkheads are located, while oysters (*Crassostrea* spp.) are present at slightly deeper depths. The community of encrusting invertebrates is generally more abundant on dock floats and may include some solitary tunicates, sponges, mussels, feather duster worms, and colonial ascidians.

Recent surveys of marine resources have been conducted in the areas adjacent to the Project Area, in the Lido Yacht Anchorage (Merkel and Associates 2007) and Marina Park (CRM 2009). These surveys show that subtidal habitat in the Project Area consists of sandy and muddy areas with little to no vegetative coverage other than algae growing on piles. The dominant benthic invertebrate species commonly found in Newport Bay include annelid worms (polychaetes and oligochaetes), arthropods (gammarid and caprellid amphipods, isopods, ostracods, and cumaceans), and mollusks (gastropods and pelecypods; CRM 2009).

Between 1992 and 1997, the State Water Resources Control Board (SWRCB) and other state and federal agencies conducted investigations of sediment chemistry, toxicity, and benthic community conditions in Newport Bay and other selected waterbodies in the Santa Ana Region (SWRCB et al. 1998 *in* CRM 2009). Sample locations closest to the Project Area included Station 85006 located off the east tip of Lido Peninsula, Station 85012 located near the 10th Street Beach, and Station 85013 located in the Rhine Channel. The number of benthic infaunal species decreased from the harbor entrance—where water circulation is regular—through sample locations located deeper within LNB—where water circulation is restricted (CRM 2009). The number of benthic species identified at stations between 10th Street and the Rhine Channel during the survey varied between 14 species (10th Street) and 32 species (Lido Peninsula). Comparatively, cleaner sediments near the Newport Harbor entrance channel support as many as 207 species.

Sampling in the open waters of the channel along the Newport Peninsula between 9th and 13th streets recorded approximately 19 fish species; the most common of which are white croaker (*Genyonemus lineatus*), shiner surf perch (*Cymatogaster aggregata*), white surf perch (*Phanerodon furcatus*), slough anchovy (*Anchoa delicatissima*), deepbody anchovy (*Anchoa*

compressa), black surf perch (*Embiotoca jacksoni*), queen fish (*Seriphus politus*), bat ray (*Myliobatis californica*), and mullet (*Mugil cephalus*; CRM 2009). Other common fish species recorded from Newport Harbor include arrow goby (*Clevelandia ios*), California halibut (*Paralichthys californicus*), topsmelt (*Atherinops affinis*), and walleye surf perch (*Hyperprosopon argenteum*).

Essential Fish Habitat. The Magnuson-Stevens Fishery Management and Conservation Act directs NMFS, regional fishery management councils, and federal action agencies to identify and protect important marine and anadromous (migrating) fish habitat with the goal of maintaining sustainable fisheries. EFH is comprised of the waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. The EFH designation is only applicable if it is formally designated for a species through its respective FMP.

LNB is considered EFH for species managed under Coastal Pelagic Species and Pacific Coast Groundfish FMPs (NMFS 1998a, 1998b). Four coastal pelagic species—the northern anchovy (*Engraulis mordax*), Pacific sardine (*Sardinops sagax*), jack mackerel (*Scomber japonicus*), and Pacific mackerel (*Trachurus symmetricus*)—potentially occur in the waters offshore of Newport Beach and may occur inside the bay. Six groundfish species also potentially occur within the general project area: California scorpionfish (*Scorpaena guttata*), vermilion rockfish (*Sebastes miniatus*), calico rockfish (*Sebastes dallii*), California skate (*Raja inornata*), spiny dogfish (*Squalus acanthias*), and leopard shark (*Triakis semifasciata*). Of these species, only the northern anchovy is very abundant, although less so within Newport Bay. Northern anchovy support a commercial-bait fishing operation based in the Newport Harbor entrance channel and are an important food item for many fish and seabirds.

Candidate, Sensitive, or Special Status Species. Table B1 lists the protected species that could potentially be found in the vicinity of the Project Area.

**Table B1
Protected Species Potentially Occurring within the Project Vicinity**

Common Name	Scientific Name	Status	Occurrence in the Project Area
Double-crested cormorant	<i>Phalacrocorax auritus</i>	CDFG SSC	Rare
Light footed clapper rail	<i>Rallus longirostris levipes</i>	SE, FE	Rare
Marbled murrelet	<i>Brachyramphus marmoratus</i>	SE, FT	Rare
California least tern ¹	<i>Sterna antillarum browni</i>	SE, FE	Rare
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	FT	Rare
Peregrine falcon	<i>Falco peregrinus</i>	SE	Rare
California grunion	<i>Leuresthes tenuis</i>	CDFG SSC	Rare
Tidewater goby	<i>Eucyclogobius newberryi</i>	FE	Rare
Harbor seal	<i>Phoca vitulina</i>	MMPA	Occasional
California sea lion	<i>Zalophus californicus</i>	MMPA	Regular
Bottlenose dolphin	<i>Tursiops truncatus</i>	MMPA	Rare

Notes:

Table created from Merkel and Associates 2007.

SE State Endangered

FE Federally Endangered

FT Federally Threatened

CDFG SSC California Department of Fish and Game Species of Special Concern

MMPA Marine Mammal Protection Act

1 California least terns are a migratory summer breeding resident found from approximately April 1 through September 1 of each year.

The double-crested cormorant could use the Project Area for loafing and foraging. California least terns could also use the waters adjacent to the dredging area seasonally for foraging but would not use the Project Area for regular loafing or nesting. Known breeding areas for the California least tern include Least Tern Island in the northeast portion of Upper Newport Bay, approximately 3 miles from the Project Area. California least terns feed exclusively on fish and typically forage in open waters within 2 miles of the colony site. Their prey includes anchovies and silversides, and they feed by taking the fish near the surface of the water after a short, plunging dive. California least terns may transit or feed at the Project Area, but the project is unlikely to disrupt feeding due to:

- Distance from the seasonal colony
- Existing conditions (low water visibility) and lack of high quality foraging habitat
- Availability of feeding waters in other areas of Newport Bay

The Western snowy plover (*Charadrius lexandrinus nivosus*) is a small shorebird that nests on coastal beaches. No critical habitat for snowy plover is found within the Project Area. Until recently, no nesting by this species has been observed on beaches in the area, which are likely too heavily used to be attractive to birds. In 2009, one nest on the beach near the eastern end of the Balboa Peninsula produced three young (CRM 2009). Snowy plover have consistently roosted on that same beach during the winter, but they are considered to have a low potential for occurring within the small beaches of the Project Area.

Several species of marine mammals are common to the Project Area and surrounding vicinity, such as the California sea lion (*Zalophus californicus*). More rare visitors are the harbor seal (*Phoca vitulina*) and bottlenose dolphin (*Tursiops truncatus*). The California sea lion, in particular, has acclimated to the presence of humans and human activities. Occasionally, marine mammals are struck in the navigational channels of LNB by recreational or tourist vessels; whales have been known to be struck by large ships going into the POLB.

Potential Project Impacts and Best Management Practices

Upland Habitats and Species. The proposed project would not result in impacts to upland habitat features. The debris staging area is urbanized and paved. Construction BMPs will be implemented to ensure that no removed debris or waste re-enters the water. Dredging will not disturb sandy beaches; rather, dredging will be located at a sufficient distance from the beach to prevent beach erosion (distance varies depending on existing bathymetry). BMPs, such as the use of silt curtains, will protect the beach and surrounding water column from the effects of a temporary increase in turbidity. This project would result in the long-term benefit of improved sediment quality near upland recreational areas and beaches by removal of the contaminated sediments.

Marine Habitats and Species. Dredging activities and pile removal and replacement will cause some fish to flee the immediate disturbance; others may remain in the area to capitalize on the availability of food as organisms are suspended into the water column during pile removal and disturbance of the seabed. Dredging in the Project Area would temporarily suspend sediment in the water column in the immediate work area. The response of marine organisms to resuspended sediments is a function of the resuspended

sediment concentration, the duration of exposure, and the type and level of development of organisms (Anchor 2002). Elevated resuspended sediment concentrations for the proposed project will be confined to the immediate vicinity of active dredging and pile work.

Resuspended sediment concentrations caused by natural phenomenon such as floods, storms, large tides, and winds are often higher and of longer duration than those caused by dredging. Based on a review of existing literature, it appears that in most cases motile marine organisms are unlikely to suffer adverse impacts from dredging activities.

Within the dredge prism, the entire soft bottom invertebrate community would be removed. Benthic invertebrates found within the Project Area would tend to recover relatively rapidly through recolonization from adjacent areas as well as planktonic recruitment. Removal of the silty, contaminated sediments and exposure of sandy native seabed is anticipated to provide improved substrate for recolonization of benthic species. The existing benthic substrate in the Project Area has been found to cause mortality in invertebrates; thus, removal of the contaminated surface layers and exposure of uncontaminated native sediments would improve the overall quality of the benthic environment.

Impacts to pile communities will be temporary; there will be no net loss of piles as the same number of piles removed will be replaced. In addition, pile communities are known to recover quickly after disturbances (Fioravanti-Score 1998; Sutherland 1974).

Essential Fish Habitat. Increased turbidity and loss of encrusting organisms as a food source due to dredging activities may impact fish species managed by federal resource agencies; however, silt curtains will be used to contain turbidity and loss of encrusting organisms will be temporary and negligible. A recent biological survey conducted in an area adjacent to the Project Area (Merkel and Associates 2007) in support of the Lido Yacht Anchorage Marina refurbishment project, which entails similar dredging and pile replacement activities, supports the conclusion that impacts to managed pelagic fish species would be minimal.

Although not present at the Project Area, eelgrass is present in the Newport Harbor entrance channel. To reduce the possible impacts to eelgrass from barge movement, tugboats and barges transporting material to the Middle Harbor CDF will follow the same route through the entrance channel as was used during the federal dredging project in Upper Newport Bay.

By avoiding areas previously unaffected by tugboat propeller wash, eelgrass production in Newport Bay is not expected to be impacted.

Candidate, Sensitive, or Special Status Species. Sensitive bird species that are likely to occur in the Project Area are the double-crested cormorant and California least tern. These species will not lose loafing, nesting, or roosting habitat as a result of the proposed project but may experience temporary, localized foraging impacts that are insignificant due to the small area of temporary exclusion.

Turbidity plumes from dredging operations could potentially affect the foraging behavior of the California least tern and double-crested cormorant; however, a silt curtain will be deployed around active dredging areas to isolate turbidity to the immediate vicinity of the active dredging operation. By controlling turbidity in the active dredge area, no significant foraging opportunities for these species are anticipated to be lost. In addition, the known California least tern breeding locations in Upper Newport Bay are not in close proximity to the Project Area, and the rest of Newport Harbor will remain available to least terns and other avian species throughout construction.

The above-water noise generated during driving of replacement end piles could affect marine birds in the area; however, any noise from pile driving will be of a short duration (approximately 15 minutes per individual pile). In addition, the Project Area is already urbanized and subject to a variety of anthropogenic noise sources, to which avian species have become acclimated. Additionally, the contractor may use jetting to install the piles, following by proofing the piles with the hammer (applying a smaller number of blows to drive the piles the final few feet). This technique reduces noise due to pile-driving, but the ability to use jetting will be determined by the engineer on a case-by-case basis.

California sea lions are observed in Newport Bay, but harbor seals are not common in the Project Area (CRM 2009). These species are not expected to be affected by the proposed work, because they do not frequent the Project Area and are highly mobile and able to move throughout LNB.

According to NMFS (City of Newport Beach 2010), the measured sound exposure levels of a clamshell dredge could affect sea lions (and other marine mammals near the project site) at a less than significant level. The Marina Park Recirculated EIR (City of Newport Beach 2010) contains additional analysis regarding the effects of noise on marine mammals and fish:

Based on observations at the Marina Park project site, sea lions tend to be present in the spring and summer, and not during the late autumn or winter... Pile driving in the air and water could cause sea lions to temporarily move farther away from these activities, such as to other areas of the bay, although the sea lions are anticipated to adapt to noise and continue to be present in the general area of marina construction. It is expected that pile driving and dredging activity would occur during a relatively short-period (two months), which limits the potential for adverse effects, if any to occur. Breeding would not be affected because sea lions do not breed in the Harbor.

Noise generated by pile installation may be attenuated by jetting the pile prior to driving, as to reduce the number of blows required by the impact hammer.

Sensitive pelagic species potentially found in the deep subtidal habitat between LNB and POLB include marine mammals (seals, sea lions, whales), sea turtles, and fish (anchovy, squid [*Loligo opalescens*], Pacific halibut [*Paralichthys californicus*]; marine birds (pelicans, gulls, terns) are commonly foraging in this habitat. It is highly unlikely that contact would occur between the tugboat and barge and marine mammals, sea turtles, fish, or birds, as these species are highly mobile and could avoid the pathway of the tugboat and barge. Maritime commerce is common in the waters between LNB and the POLB, and the limited number of barge and tugboat trips associated with the proposed project is unlikely to result in any impacts to pelagic species.

BMPs implemented to minimize impacts during this project include:

- During construction, the contractor will be required to implement the water quality monitoring program required by the Santa Ana Regional Water Quality Control Board (RWQCB) and to comply with the permit conditions imposed by the U.S. Army Corps of Engineers (USACE) and California Coastal Commission (CCC; see Section IX, Hydrology and Water Quality).
- During construction, the contractor will be required to deploy and maintain silt curtains around areas of active dredge and pile installation activities.
- Consistent with CCA, SCEMP, and City Harbor Code, a pre-construction eelgrass and *Caulerpa taxifolia* survey will be performed in the Project Area between 30 to 60 days prior to dredging; a post-construction survey will be performed if eelgrass is located during the pre-construction survey.
- Based on the determination of the project geotechnical engineer, the replacement piles will be jetted into place as far as possible, only hammering the piles when necessary.
- Operators of construction equipment, and all other project workers, shall not harass any marine mammals, waterfowl, or fish in the Project Area.

Determination of Significance

The benthic communities in the project area have been shown to be depauperate compared to communities in other parts of LNB that are not impacted by contaminants in the sediment. Benthic areas impacted by dredging may be recolonized in as little as 6 to 8 months, especially if impacts occur in areas composed of fine sediments like the Project Area (Newell et al. 1998). Other studies have reported recovery of benthic communities at dredged sites occurring in as little as 2 to 3 months (Stickney and Perlmutter 1975; Van Dolah et al. 1984) therefore, project impacts on the benthic community found in the subtidal, unvegetated mud bottom are less than significant. The removal of contaminated sediments is beneficial in the long term, because it removes contaminants that have been shown to be toxic to invertebrates, which form the bulk of the benthic community.

Sensitive bird species may be temporarily excluded from the immediate work area due to increased localized turbidity and noise and the presence of construction equipment;

however, this exclusion is not expected to have a measurable effect on their foraging capabilities because of the relatively small size of the Project Area in relation to the rest of Newport Bay and because the high baseline level of use of the Project Area already discourages use by sensitive bird species. Impacts to marine mammals are expected to be less than significant, because these mammals can easily avoid the Project Area.

Cumulative impacts to marine species and habitats are primarily associated with the loss of benthic organisms from LNB. The temporary loss of benthic habitat from the USACE maintenance dredging project is substantially greater than that expected from this project and the contribution of this project to cumulative impacts is less than significant. In the long-term, habitat conditions (sediment and water quality) will be improved as a result of the removal of contaminated sediments from LNB by both the City and the USACE. Impacts to habitats and species found within the Project Area, as previously described, are temporary and less than significant.

Because of the seasonality of project activities, the relatively short duration of project activities, and the implementation of established BMPs, the project will not have less than significant effects on species identified as a candidate, sensitive, or special status species.

The project will not have a substantial adverse effect on any riparian habitat or other sensitive natural community, because no sensitive natural communities are found in the project area.

The project will not have a substantial adverse effect on federally protected wetlands because no wetlands are found within the Project Area.

While some marine species may be temporarily excluded from the active dredging area, the project will not 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. This impact is less than significant given the remaining available habitat in LNB. The temporary loss of use of the active dredging area will not result in loss of foraging or resting area.

This project will not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, because these biological resources are not found within the Project Area.

This project does not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan including the FESA, CESA, Federal Migratory Bird Treaty Act, CCA, and the Natural Community Conservation Plan and Habitat Conservation Plan.

V. CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less than Significant 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 §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The project does not entail grading undisturbed areas. The Project Area has been dredged previously, so that the sediment to be dredged is non-native shoaled material that has accumulated above the design elevations. While the City has more than 30 archeological sites identified within its boundaries, none of these sites are located in or near the project site (General Plan Historical Resources Element 2006), and no archaeological resources would occur within shoaled sediments.

No historical or archaeological resources are located on site, and therefore, the proposed project will have no impact on historical or archaeological resources. No paleontological

resources or unique geologic feature will be impacted. It is highly unlikely that any human remains will be encountered or disturbed during dredging.

VI. GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less than Significant 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:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18- 1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Newport Beach is located in the southern California geological region, which contains several active faults. Faults in the region include the Newport-Inglewood Fault Zone, the Norwalk Fault, the Raymond Fault Zone, the San Andreas Fault Zone, the San Fernando Fault Zone, and the San Jacinto Fault Zone. No active faults or fault zones are located immediately within the project site, although the Project Area is located approximately 1.5 miles from of the Newport-Inglewood Fault Zone, the only active fault zone within or immediately adjacent to Newport Beach (General Plan Figure S2; General Plan Safety Element 2006).

A portion of the Rhine Channel is located in areas with liquefaction potential (General Plan Figure S2). In particular, the loose to medium-dense bay deposits underlying the Rhine Channel are saturated and exhibit relatively low densities, making them susceptible to seismic-induced liquefaction. Liquefaction is a phenomenon in which seismically induced shaking results in temporary loss of strength in soils as a result of porewater pressure buildup—essentially, the soil acts as a weakened, “fluid” mass until the porewater pressures can dissipate—and typically occurs in loose, saturated sediments primarily of sandy composition. Liquefaction of soil layers can result in significant ground settlement, lateral spreading, and surface cracking.

Potential Project Impacts

At a waterfront site such as the Project Area, the potential for liquefaction would manifest itself in the form of destabilization of shorelines and bulkheads. However, this project’s dredge plan is specifically designed to avoid impacting the stability of bulkheads in the Rhine and Newport channels by offsetting the dredge areas from these structures (see Figure 7).

Removing sediment from immediately in front of the seawalls would lessen the amount of earth pressure that acts on the embedded portion of the bulkhead, a pressure that is necessary to counter the horizontal loads imposed by retained soils behind the walls. Because the project dredge plan will be specifically designed to maintain the existing stability of the perimeter bulkheads, dredging will not affect the site’s current potential for liquefaction. Furthermore, dredging will only remove recently deposited sediments, with

minimal removal of underlying native material, thus returning the site to pre-existing conditions of water depth and seawall embedment.

Because the proposed project will involve no upland land regrading, no unstable slopes will be created, and new upland or water-based structures that could be exposed to liquefaction or other seismic risks will be constructed. All existing end piles in the Rhine Channel portion of the Project Area will be removed to facilitate dredging and replaced quickly to ensure their stability. The Project Engineer has determined that, based on the substrate type, distance from shore, and stability of the existing bulkheads, driving new piles is not expected to cause any significant vibrations in surrounding land areas.

Determination of Significance

The project will not result in the construction of new residential or commercial structures, and no active faults are found in the Project Area; therefore, the project will not result in exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, and landslides. Seismic-related ground failure, including liquefaction, is avoided by providing calculated dredging offsets from the bulkheads and other in-water structures, such as piles.

This project does not result in substantial soil erosion or the loss of topsoil, because no work is occurring in the upland, where soils exist.

The project is not located on an unstable geologic unit, or one that would become unstable as a result of the project, because the Project Area is located on a geological sequence primarily comprised of beach deposit sands that cannot be destabilized by project activities. All dredging will be designed with offset distances from existing seawall structures to avoid any loss of stability to the structures.

The project is not located on expansive soil, as defined in Table 18- 1-B of the Uniform Building Code (1994). Also, this project does not need soils capable of adequately supporting the use of septic tanks or alternative wastewater disposal systems.

VII. GREENHOUSE GAS EMISSIONS

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

Gases that trap heat in the atmosphere are often called greenhouse gases (GHGs). GHGs are emitted by natural processes and human activities. Carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) are GHGs produced by both natural processes and industrial activities. In addition, fluorinated gases (hydrofluorocarbons [HFCs] and perfluorocarbons [PFCs]) and sulfur hexafluoride are GHGs created and emitted primarily through human activities. A close relationship between the increased concentration of GHGs in the atmosphere and global temperatures is apparent. Scientific evidence indicates a trend of increasing global temperatures near the earth's surface over the past century due to increased human-induced levels of GHGs. A complete discussion of GHGs as they pertain to the proposed project may be found in Appendix A.

GHGs differ from criteria pollutants in that GHG emissions do not cause direct adverse human health effects. Rather, the direct environmental effect of GHG emissions is the increase in global temperatures, which in turn has numerous indirect effects on the environment and humans. Appendix A contains a more detailed description of the major GHGs that contribute to global climate change and the global warming potential of each of the identified GHGs.

Currently, there are no federal standards for GHGs emissions. The U.S. Supreme Court recently ruled that impacts associated with climate change are serious and well recognized and that the USEPA must regulate GHGs as pollutants; however, no federal regulations have

been set at this time. GHGs are generally regulated at the state level and are approached by setting emission reduction targets for existing sources of GHGs, instituting policies to promote renewable energy and increase energy efficiency, and developing state-wide action plans. Appendix A provides a complete description of the regulatory environment relative to GHGs and an explanation of how this project complies with existing laws and regulations.

Potential Project Impacts and Best Management Practices

Because all project emissions would be new to the area, the project is considered to have an emissions baseline of zero. GHG emissions will be generated by the burning of diesel fuel in construction equipment. Table GHG1 shows the project's mitigated GHG emissions from construction activities.

Table GHG1
GHG Emissions

Activity/Source	Source Category	GHG CO ₂ -e (mton)
Phase 1: Debris Removal and Associated Activities		
Excavator	Off-Road, Land	9
Push Tugboat/Tender	Off-Road, Marine	2
Dredger	Off-Road, Marine	10
HHD Truck	On-Road	1,312
Worker Vehicles	On-Road	163
<i>Phase 1 Total</i>		<i>1,496</i>
Phase 2: Mechanical Dredging Activities		
Push Tugboat/Tender	Off-Road, Marine	32
Tugboat	Off-Road, Marine	311
Work/Crew Boat	Off-Road, Marine	8
Dredger	Off-Road, Marine	197
Worker Vehicles	On-Road	163
<i>Phase 2 Total</i>		<i>711</i>
Project Total		2,207

Notes:

Values may not add precisely due to rounding.

mton = million tons

CO₂-e = CO₂ equivalent emissions

Determination of Significance

In the absence of a federal or state-wide threshold, SCAQMD has developed an interim significance threshold that applies mainly to industrial (stationary source) projects where SCAQMD is the lead agency. However, for the purposes of determining whether GHG emissions from affected projects are significant, SCAQMD identifies that project emissions include direct, indirect, and life cycle emissions, to the extent information is available, during construction and operation. SCAQMD directs that construction emissions be amortized over the life of the project (defined as 30 years), added to the operational emissions, and compared to the applicable interim GHG significance threshold tier. SCAQMD's significance threshold for stationary projects is 10,000 million tons (mton) of CO₂ equivalent emissions (CO₂-e) per year. SCAQMD does not specify a significance threshold for projects that are comprised solely of construction activities. In the absence of other more appropriate significance thresholds, this interim threshold was used to determine significance for this project, as shown in Table GHG2.

Table GHG2
GHG Significance Determination

	GHG CO ₂ -e (mton)
Project Total	2,207 one time
SCAQMD Threshold (mton)	10,000 per year
CEQA Significant?	No

Notes:

Values may not add precisely due to rounding.

GHG emissions are considered from the total project; Phases 1 and 2 were added to determine significance.

Based on SCAQMD threshold, GHG emissions generated by this project, either directly or indirectly, do not result in a significant impact on the environment.

This project does not conflict with any adopted plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs (such as AB32 [California Global Warming Solutions Act of 2006] and Executive Order S-03-05 that establishes state-wide GHG reduction targets mandate a reduction in GHG).

VIII. HAZARDS AND HAZARDOUS WASTES

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites which complied pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The state of California defines hazardous materials as substances that are toxic, ignitable or flammable, reactive, and/or corrosive. California also defines an extremely hazardous material as a substance that shows high acute or chronic toxicity, is carcinogenic (causes cancer), has bioaccumulative properties (accumulates in the body's tissues), is persistent in the environment, or is water reactive (California Code of Regulations, Title 22; California Health and Safety Code, Division 20, Chapter 6.5).

The proposed project entails dredging and transporting sediment that has elevated concentrations of a suite of chemicals but does not meet the requirements to be classified as hazardous waste. Sediment investigations revealed elevated concentrations of metals, pesticides, polycyclic aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs) that are toxic to representative benthic organisms in the Rhine Channel.

A localized area within the Rhine Channel was found to contain lead concentrations above California Hazardous Waste threshold levels; however, this material will be removed as part of a separate project (i.e., ETCO Development, Inc.'s [ETCO] proposed Newport Bay Marina redevelopment project) prior to commencing dredging in the Project Area.

The contaminated dredged material is not considered hazardous waste, and no other hazardous waste or hazardous materials are found within the Project Area, with the exception of the Newport Bay Marina area. Should ETCO be unable to complete the dredging and hazardous waste removal prior to the start of this proposed project, the City will include removal of this material as part of the project. The Newport Bay Marina project has undergone separate environmental review; the sediment removal would be accomplished using the methods and practices identified in the ETCO EIR certified by the City in 2006.

Potential Project Impacts and Best Management Practices

Accidental spills of oil, grease, or other petroleum products could occur during construction, because heavy construction equipment will be employed at the site. The potential risk associated with the use of these products does not differ from the current baseline conditions in the Project Area, where vessels navigate the waterways and vehicles access the adjacent upland areas. BMPs implemented to minimize impacts during this project include:

- The contractor will implement a Spill Prevention, Control, and Countermeasures (SPCC) Plan during all construction activities to avoid accidental spills and to ensure that the appropriate materials are maintained on site during construction to respond to any gas, oil, or other leak or spill.
- All construction equipment (on land and over water) will be kept in proper operating condition and will be inspected regularly to minimize the opportunity of accidental leaks.
- Vehicle repairs and fueling at the upland staging area will be conducted in a manner that ensures no spillage into the water occurs.

Because the sediment proposed for transport to the CDF is not classified as hazardous, transportation of dredged material to the Middle Harbor CDF fill site will not result in the accidental spillage of hazardous material.

Determination of Significance

Dredging and transporting of contaminated dredged material in the Project Area will not result in adverse impacts due to the presence of hazardous material, because this material is not classified as hazardous by the state of California. The potential direct impacts associated with hazards and hazardous materials at the project site are related to the management of fuel and other petroleum-based products used during construction; these impacts will be less than significant as a result of the implementation of the SPCC Plan.

The project will not create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials, and it will not 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, because no

hazardous material will be dredged or transported, and the contractor will be required to implement an SPCC Plan.

Dredging activities will occur within 0.25 mile of an existing or proposed school; however, dredging does not involve the removal or transport of hazardous materials. Potential impacts from spills of petroleum products from the land-based equipment (e.g., dump trucks) will be minimized by implementation of the SPCC Plan.

The project is not located on a site that is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5.

The proposed project is not located within 2 miles of any airport, (John Wayne Airport, the closest airport, is approximately 5.5 miles away), nor in the vicinity of a private airstrip.

The project will comply with all applicable fire codes and emergency evacuation plans set forth by the City Fire Department. Moreover, emergency plans will be made by the contractor to ensure prompt, safe, and orderly evacuation, if necessary, at any time during construction due to a variety of emergencies (fire, tsunami, health and safety, etc.).

This project will not expose people or structures to a significant risk of loss, injury, or death involving wildland fires because no wildlands are adjacent or near the project site.

IX. HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Settings

The Newport Bay/San Diego Creek watershed is located in central Orange County in the southwest corner of the Santa Ana River Basin, about 35 miles southeast of Los Angeles and 70 miles north of San Diego (Figure 1). The watershed encompasses 154 square miles and includes portions of the cities of Newport Beach, Irvine, Laguna Hills, Lake Forest, Tustin, Orange, Santa Ana, and Costa Mesa. Mountains on three sides encircle the watershed; runoff from these mountains drains across the Tustin Plain and enters Upper Newport Bay via the San Diego Creek. Newport Bay is a combination of two distinct waterbodies—LNB and Upper Newport Bay—that are divided by the Pacific Coast Highway Bridge. LNB, where the majority of commerce and recreational boating exists, is highly developed. Upper Newport Bay contains a diverse mix of development in its lower reach and an undeveloped ecological reserve in its upper reach. The Upper Newport Bay has also been undergoing the Upper Newport Bay Ecosystem Restoration Project (UNBERP), which is a multiyear, \$38 million project led by the USACE to restore the ecosystem. The UNBERP involves substantial dredging of sediments and transporting a majority of those sediments offshore for disposal.

Hydrology. The Project Area lies in a sheltered area of LNB, relatively far (approximately 3 miles) from the Newport Harbor entrance. Hydrology (i.e., the movement of water) is muted in this secluded location and is influenced primarily by wind-driven currents and vessel-generated wakes (Everest 2008). The muted hydrology results in poor circulation in the Project Area, which in turn results in poor water quality.

Groundwater Quality. Two borings conducted at a site in the general vicinity of the Project Area encountered groundwater at 6.5 and 10 feet below the ground surface (City of Newport Beach 2010). Analysis of the groundwater detected in those borings showed that groundwater near the Project Area is heavily influenced by seawater and is unsuitable for use as a municipal water supply. No municipal wells are located in the general vicinity of the Project Area.

Surface Water Quality. Water quality in Newport Bay is influenced by a number of factors, primarily by tidal flushing, discharges into the bay from the watershed, surface runoff, and sediment contamination. Typical urban runoff contaminants found in the Project Area include bacteria, heavy metals, nutrients, pesticides, organic compounds, sediments, trash

and debris, oxygen demanding substances, and oil and grease. These contaminants are carried into the bay by storm events and routine surface water runoff through the storm drain system or, in the case of very large storms, via sheet flow.

Residence time represents the amount of time required for water at a given location within Newport Bay to be exchanged with new water from the ocean by tidal action. The longer the residence time the higher the potential for poor water quality. A shorter residence time results in a faster exchange of harbor water with ocean water and an associated improvement in water quality. The residence time of ocean water in the vicinity of the Project Area (approximately 15th Street Pier) is in the range of 25 to 30 days (Everest 2008). By comparison, residence time of ocean water near the entrance to LNB is approximately 1 day. According to the USEPA guidelines established for water quality of marina basins, tidal flushing, and by extension water quality, near the Project Area is currently inadequate (USEPA 2010).

LNB is listed on the state of California's 2006 Section 303(d) List of Water Quality Limited Segments published by the Santa Ana RWQCB. LNB is listed as impaired for chlordane, copper, DDT, PCBs, and sediment toxicity. Once a water body has been listed as impaired, a Total Maximum Daily Load (TMDL) for the constituent of concern (pollutant) must be developed for the waterbody. A TMDL is an estimate of the daily load of pollutants that a waterbody may receive from point sources, non-point sources, and natural background conditions (including an appropriate margin of safety) without exceeding its water quality standard. Those facilities and activities that are discharging into the waterbody, collectively, must not exceed the TMDL.

Several TMDLs have been developed jointly for the San Diego Creek Watershed and Newport Bay, including nutrients, pathogens, and pesticides. In addition, TMDLs for organochlorine compounds and metals currently exist or are in development by the RWQCB and other agencies. TMDLs developed for LNB (and other areas in the watershed) include:

- Siltation (sediments)
- Nutrients
- Fecal coliform (pathogen)
- Selenium

- Metals
- Organochlorine compounds (particularly DDT, chlordane, and PCBs)

Past agricultural and industrial activities in the watershed have resulted in a legacy of sediment contamination in LNB and, in particular, the Rhine Channel. Sediment contamination in Newport Bay is specifically a result of historic releases from industrial sources and storm drains adjacent to the bay as well as ongoing runoff from the surrounding watershed. Contaminants of concern include metals, pesticides, and PCBs. Rhine Channel sediments showed metals (arsenic, cadmium, copper, lead, mercury, nickel, and zinc). DDT and PCBs have been detected at concentrations above sensitive ecological screening levels at stations throughout the channel in both the surface and subsurface sediments. While DDT and PCB exceedances appear mostly in the upper layers of the sediment, elevated metal concentrations extend to the interface with the underlying native sediments.

Based on recent site characterization (Anchor 2006), it appears that the interface between recently deposited sediment and underlying native sediment corresponds well with the vertical extent of chemically impacted sediment throughout the channel. That is, the contamination appears to be found in the deposited material not the native material. Project Area sediments found outside of the Rhine Channel are not as highly impacted; however, they are physically and chemically unsuitable for open-ocean disposal or beach nourishment and are consequently most suitable for beneficial use for CDF placement. Therefore, these sediments are appropriate to include in the Middle Harbor CDF and to isolate from the marine environment.

The sediment and sediment-water interface (SWI) toxicity have been extensively studied in the Rhine Channel (SCCWRP 2003; Anchor 2006). In a report prepared by the Southern California Coastal Water Research Project, correlation analyses for amphipod (small benthic organisms living in or near the SWI) toxicity and SWI metal concentration provided statistical evidence for an association between toxicity to amphipods and sediment contamination. Significant negative correlations between amphipod survival and concentrations of selenium and zinc were detected. In addition, elevated concentrations of dissolved trace metals were observed for copper, nickel, mercury, selenium, and zinc, indicating that some contaminants were released from the sediment into the water column.

Potential Project Impacts and Best Management Practices

Project activities consist of removing buried debris, removing and replacing piles, and dredging and transporting dredged material to the Middle Harbor CDF fill site. The proposed project could result in direct, temporary impacts to water quality from these activities. Potential water quality impacts would be temporary and localized in nature and generally limited to the immediate work area within the silt curtains.

Hydrology. This project will not have an appreciable effect on water circulation in the Project Area, although removal of sediment may slightly increase the volume of tidal exchange in the Project Area.

Groundwater Quality. Groundwater supplies or groundwater recharge will not be impacted by this project, because no municipal wells are located in the general vicinity of the Project Area.

Surface Water Quality. In the short term, construction impacts include temporary, localized increases in turbidity and the potential for increased concentrations of dissolved chemicals and metals as well as lowered dissolved oxygen levels as a result of disturbance of anoxic sulfidic sediments during dredging. Project permits and approvals (e.g., 401 Water Quality Certification/Waste Discharge Requirements) will define the required water quality thresholds, including required BMPs and monitoring. Typically, the monitoring requirements imposed by the permits include measuring light transmission, dissolved oxygen, salinity, temperature, pH, and Total Suspended Solids (TSS). Periodic chemical analyses to detect dissolved metals and other chemical compounds, such as PCBs, DDT, and TBT, may be required to be conducted concurrently with TSS samples. The duration, location, and frequency of the water quality monitoring will be developed to comply with project-specific permit requirements and construction activities, and the contractor will be required to comply with all regulatory agency monitoring requirements. In the long-term, sediment and water quality will be improved by the removing contaminated sediments from the Project Area.

As mechanical dredging occurs, sediments are suspended in the water column. Usually water quality changes are not observable and are only measurable within a relatively short

distance, often less than 65 to 120 feet from the point of dredging (Thackston and Palermo 2000). The magnitude of these water quality changes tends to decrease rapidly with increasing distance from the point of dredging (MBC 2000). Thus, increased turbidity may be observed a few feet from the dredge but difficult to discern at slightly greater distances. Most research on turbidity plumes has been conducted in areas with predominantly silty material, similar to the sediment that would be dredged from the Rhine Channel (sediment grain size ranged from 71 to 95 percent fines). Sediments in the lower part of the channel had the greatest proportion of fines and grain size tended to increase at stations closest to the upper end of the channel (SCCWRP 2003). The use of silt curtains around the immediate, active dredging area will greatly minimize the migration of sediments and turbid water.

Contaminants may also be released into the water column during dredging; however, the presence of turbidity does not imply that contaminants are present, because the refractive properties (which reduce light penetration) and chemical concentrations of sediments vary from site to site. Turbidity can be caused by more than suspended sediment, for instance high levels of organic matter (e.g., plankton) in the water column, and therefore, observations of increased turbidity should not be used as a primary indicator of either suspended sediment or contaminant impacts. Furthermore, any exceedance of turbidity observed during dredge operations should not be inferred to constitute an impact related to chemical or suspended sediment concentrations unless confirmed through separate water quality analyses. Turbidity can provide a general indication of where suspended sediments and dissolved chemicals are being carried by water currents, but the chemical concentration that might be measured within that plume at two different sites (or even at the same site over time) may vary significantly. Turbidity can be used as a general field indicator of where a plume is centered for the purposes of a wide range of water quality measurements; however, a measured turbidity level will not correlate to the same level of chemicals or chemical impacts over various sites and times.

As dredging occurs and sediment is removed from the seafloor and transported up through the water column, a fraction of chemicals contained in the bulk mass of the sediment and in the sediment porewater will be released into the surrounding water column. Similarly, some of the fine particles contained in the sediment mass will also enter the surrounding water,

forming a temporary cloud of turbidity. Both of these effects may temporarily affect water quality in the immediate vicinity of active dredging.

This effect, however, will be lessened in three ways. First, it is expected that the turbidity will dissipate over a period of 20 to 30 minutes; thus, the release of chemicals into the water column will be very short-term. This effect was recently demonstrated at the Dredged Material Management Plan (DMMP) Pilot Capping Project in Long Beach (USACE 2002). Second, because the contaminated material will be mechanically dredged, it will be transported through the water column as a distinct mass within the bucket rather than as a diffuse mass, thus lessening the degree of intermixing of sediment into the water column. Third, when considering potential effects to water quality, it is important to recognize that the relatively small volume of porewater that escapes from the sediment mass is several orders of magnitude smaller than the volume of surrounding water in the Project Area. Therefore, the porewater will quickly be mixed into and diluted by the surrounding water, and as a result, any measurements made at a short distance from the active dredging site will detect far lower concentrations than those within the sediment plume. Exposures to the sediment porewater will only occur as an instantaneous exposure at the point of dredging, as dilution will nearly instantly reduce the dissolved concentrations. Water quality monitoring conducted during mechanical dredging and in-water placement of contaminated sediments into a Confined Aquatic Disposal (CAD) cell at the Port of Hueneme, for example, demonstrated that turbidity and concentrations of dissolved chemicals in the water column did not exceed thresholds established by the RWQCB even at a distance of only 50 meters from the active dredging and placement sites (Oxnard Harbor District 2009).

Sediments may also be temporarily suspended during the removal and replacement of piles. Sediment clinging to the pile may be released into the water column during removal and agitated into suspension as replacement piles are driven into place. Jetting may be used by the contractor to install the piles; however, silt curtains are required during pile jetting, which will localize the turbidity to within a few feet of the pile. Due to the temporary and localized nature of this impact, water quality standards are not expected to be exceeded by this activity. Debris generated during pile removal may be temporarily placed for up to 1 week in the offloading area (Figure 2) until disposed of in an upland landfill or recycled.

Runoff will be managed by the contractor at the offloading area by installing plastic sheeting, straw bales, and other approved BMPs for this purpose, if appropriate.

BMPs implemented to minimize impacts during this project include:

- Floating booms will be used to contain debris, and the debris will be removed from the water as soon as possible but no later than the end of each work day. The debris will be taken to the upland landfill.
- Silt curtains will be employed during dredging and pile replacement.
- The contractor will be required to implement an SPCC Plan to minimize impacts to water quality from accidental spills of petroleum products during dredging and transportation of dredged material.
- Water quality monitoring during dredging will be conducted according to the requirements of the 401 Water Quality Certification/Waste Discharge Requirements that will be issued by the RWQCB to demonstrate the success of the contractor in meeting water quality standards.

While it is not expected, the contractor will implement additional BMPs should an increase in turbidity outside of the silt curtains occur during construction. These BMPs are implemented only if exceedences of water quality standards are measured outside of the silt curtain and if simple measures, such as reconfiguring the silt curtains, are not effective in preventing the exceedences. Rules and methods set out by the Contaminated Sediments Task Force (CSTF) Long-Term Management Strategy (LTMS) BMP toolbox (CSTF 2005) for use during dredging activities shall be provided to the contractor, if necessary. Examples of BMPs to reduce turbidity during mechanical dredging, if exceedences are observed, include:

- Increasing cycle time. Longer cycle time reduces the velocity of the ascending loaded bucket through the water column, which reduces potential to wash sediment from the bucket.
- Using an environmental dredge bucket. The environmental dredged bucket completely encloses the dredge bite and result is less loss of sediment from the bucket.

During transportation of the material to the Middle Harbor CDF, barges will not be overloaded and will be transported only when weather and sea conditions will allow safe transport without risking spillage, leakage, or other loss of dredged material in transit.

Determination of Significant Impacts

Turbidity is the most likely direct impact to water quality; this impact would be temporary and localized and would result in less than significant impacts to water quality. Adherence to proposed BMPs and permit conditions will result in avoidance and minimization of significant impacts to water quality. In the long term, improved water quality in LNB will result from removal of the contaminated sediments.

Cumulatively, impacts from this project are not significant because water quality will be protected during dredging in LNB through the use of BMPs and will be demonstrated through compliance with permit conditions. Maintenance dredging by the USACE, anticipated to occur after the proposed project is complete, is substantially greater in volume and duration than that proposed by the City (approximately 1.5 million cy and 150,000 cy, respectively), and thus, the proposed project is not a significant cumulative contributor to impacts associated with turbidity. Based on these factors, cumulative impacts to water quality from this project are less than significant.

The project will comply with permit conditions and employ all practicable BMPs as well as all required compliance monitoring; thus, project activities will not violate any water quality standards or waste discharge requirements.

Groundwater supplies or groundwater recharge will not be impacted by this project, because there are no municipal wells in the general vicinity of the Project Area.

This project will not substantially alter the existing drainage pattern of the site or area, because there is no upland work in or near a stream or river; nor will the project substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off-site because no impervious surface will be created.

With the implementation of BMPs and the temporary nature of the potential impact, water quality will not be substantially degraded.

No housing or other structures will be created as part of this project; therefore, this project will not place housing within a 100-year flood hazard area.

This project will not expose people or structures to a significant risk of loss, injury, or death due to flooding, because it does not involve work with flood control structures. While a tsunami could damage portions of the project site, the Project Area is protected by its position in the harbor, and this position and orientation will not be altered by the proposed project. A tsunami is a rare event and is not likely to impact this project.

X. LAND USE AND PLANNING

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The General Plan (2006) and the Coastal Land Use Plan (CLUP; 2009) designations for land use within the Project Area are tidelands and submerged lands (General Plan 2006; General Plan Figure LU1; CLUP 2009). This designation is intended to address the use, management, and protection of tidelands and submerged lands of Newport Bay and the Pacific Ocean immediately adjacent to Newport Beach. The designation is generally not applied to historic tidelands and submerged lands that are presently filled or reclaimed. Tidelands and submerged lands are subject to a public trust that, among other things, limits their use to

navigation, fishing, commerce, public access, water-oriented recreation, open space, and environmental protection. The vast majority of tidelands and submerged lands in Newport Beach have been granted to the City or the County of Orange to administer in a manner consistent with the public trust limitations relative to use of the property and revenue derived from that use.

Local Land Use Planning. Determination of consistency with the relevant goals and policies stated in the adopted General Plan, Land Use Element, Harbor and Bay Element, Natural Resource Element, and Noise Element, as well as the Coastal Land Use Policy, are provided as Tables LU1 through LU5. Some aspects of these elements that address public access, water quality, the environment, and plan administration are also covered in other elements. These overlapping policies or goals are parenthetically noted within each element. Redundancy is avoided by not repeating each overlapping element.

**Table LU1
Consistency with Land Use Element, General Plan**

Policy	Implementation
LU 2.5. Harbor and Waterfront Uses. Preserve the uses of the Harbor and the waterfront that contribute to the charm and character of Newport Beach and provide needed support for recreational and commercial boaters, visitors, and residents, with appropriate regulations necessary to protect the interests of all users as well as adjoining residents.	Removal of impacted sediments in the Rhine Channel and the rest of the Project Areas preserves the uses of these areas, which contributes to the charm and character of the City.

**Table LU2
Consistency with Harbor and Bay Element, General Plan**

Policy	Implementation
HB 8.1. Chemical Uses Impacting Water Quality. Support regulations limiting or banning the use insecticides, fertilizers, and other chemicals, which are shown to be detrimental to water quality. (NR 3.1)	The contractor will be required to implement a SPCC Plan, which will be approved by the City. The proposed project will not involve the use of insecticides or fertilizers.
HB 8.7. Newport Beach Water Quality Ordinance. Update and enforce the Newport Beach Water Quality Ordinance. (NR 3.7)	The contractor will be required to comply with the City's Water Quality Ordinance.
HB 13.1. Sediment Management within Newport Bay. Develop a comprehensive sediment management program that provides for safe navigation and improved water quality. (NR 13.1)	Dredging in the Project Area is part of a comprehensive approach to sediment management, resulting in minimized impacts to the environment by beneficially reusing the dredged material at the approved Middle Harbor CDF in the POLB.
HB 13.2. Cooperation with U.S. Army Corps of Engineers. Cooperate with the U.S. Army Corps of Engineers in their maintenance and delineation of federal navigational channels at Newport Harbor in the interest in providing navigation and safety. (NR 13.2)	This project is being coordinated with the USACE to ensure comprehensive sediment management and cost efficiencies with the federal maintenance dredging of the navigational channels in LNB.

Table LU3
Consistency with Natural Resources Element, General Plan

Policy	Implementation
NR 3.2. Water Pollution Prevention. Promote pollution prevention and elimination methods that minimize the introduction of pollutants into natural water bodies. (HB 8.2)	The contractor will be required to implement a SPCC Plan approved by the City and to comply with the terms and conditions of permits issued by regulatory agencies for this project. Removal of sediments will eliminate a repository of pollutants in LNB.
NR 3.10. Best Management Practices. Implement and improve upon BMPs for residences, businesses, development projects, and City operations. (Policy HB 8.10)	BMPs have been identified in this Initial Study. The contractor will be required to implement these BMPs as part of the project and all other BMPs required by regulatory agencies in order to comply with the terms and conditions of project permits and approvals.
NR 4.1. Total Maximum Daily Loads. Develop and implement the TMDLs established by the RWQCB, Santa Ana Region and guided by the Newport Bay Watershed Executive Committee (WEC).	Implementation of this project is consistent with the ongoing development of TMDLs related to metals and other pollutants in the Project Area. Removal of sediments will eliminate a repository of pollutants in LNB.
NR 14.2. Maintain and enhance deep-water channels and ensure they remain navigable by boats (Goal HB 13).	This project is being coordinated with the USACE to ensure that it is consistent with the federal maintenance dredging of the navigational channels in LNB. This project will also improve navigation in LNB by removing shoaled sediments.
NR 15.1. Dredging Projects. Monitor dredging projects within the region to identify opportunities to reduce disposal costs and utilize dredge spoils for beach nourishment.	The sediments to be dredged in this project have been determined to be unsuitable for ocean disposal or beach nourishment. Upland disposal of 150,000 cy of sediment is not cost effective and would not result in beneficial reuse of the sediment. This project beneficially reuses the sediment in the most cost effective and environmentally protective manner (i.e., the Middle Harbor CDF).
NR 15.2. Regional Sediment Management. Participate in regional sediment management by maintaining records of the number of channelized streams, miles of channelization in streams, volumes of sediment extracted from stream channels and debris basins, and the grain size distribution of the extracted sediments.	Volumes and sediment composition of dredged material from LNB will be submitted to the state and federal agencies, consistent with regional sediment management planning goals and objectives.

**Table LU4
Consistency with Noise Element, General Plan**

Policy	Implementation
N 4.6. Maintenance or Construction Activities. Enforce the Noise Ordinance noise limits and limits on hours of maintenance or construction activity in or adjacent to residential areas, including noise that results from in-home hobby or work related activities.	The contractor will be required to work within the hours prescribed in the City Noise Ordinance: Monday through Friday, 7 AM through 6:30 PM and Saturdays, 8 AM through 6 PM.

**Table LU5
Consistency with Coastal Land Use Policy**

Policy	Implementation
2.1.9-1. Land uses and new development in the coastal zone shall be consistent with the Coastal Land Use Plan (CLUP) Map and all applicable Local Coastal Program (LCP) policies and regulations.	This project will not result in changes to existing land uses and uses of LNB and is consistent with the Coastal Land Use Map.
2.5.2-1. Administer the use of tidelands and submerged lands in a manner consistent with the tidelands trust and all applicable laws, including Chapter 70 of the Statutes of 1927, the Beacon Bay Bill (Chapter 74, Statutes of 1978), SB 573 (Chapter 317, Statutes of 1997), AB 3139 (Chapter 728, Statutes of 1994), and Chapter 715, Statutes of 1984 and the Coastal Act.	Dredging of the Project Area is consistent with the Public Trust and ensures ongoing commercial and recreation use of tidelands and submerged lands.
4.1.2-1. Maintain, enhance, and, where feasible, restore marine resources.	Marine resources will be restored and enhanced by the removing chemically impacted sediments from the Project Area.
4.1.2-3. Require that uses of the marine environment be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.	The proposed dredging activities will not result in significant impacts to marine organisms and will promote long-term use of the Project Area and improve the quality of the marine environment in LNB.

**Table LU5
Consistency with Coastal Land Use Policy**

Policy	Implementation
4.1.2-5. Continue to require <i>Caulerpa</i> protocol surveys as a condition of City approval of projects in the Newport Bay and immediately notify the SCCAT when found.	A <i>Caulerpa taxifolia</i> survey will be conducted prior to dredging to ensure compliance with this policy.
4.2.3-1. Permit the diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes in accordance with other applicable provisions of the LCP, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects.	The City has determined that the dredging methodology and beneficial use of sediments at the Middle Harbor CDF is the least environmentally damaging alternative. The environmental restoration of the project area by removal of contaminated sediments is consistent with 30233(a)(6) of the CCA, and maintenance of authorized navigation depths is consistent with 30233(a)(2). BMPs have been identified to minimize impacts and feasible mitigation measures have been incorporated into the project to reduce potential impacts to air quality and water quality. As a result, the proposed activities will avoid disruption to wildlife habitat (30233[b]) and enhance the ecological functions of LNB (30233[c]).
4.2.4-3. Dredged materials suitable for beneficial reuse shall be transported for such purposes to appropriate areas and placed in a manner that minimizes adverse effects on the environment.	Beneficial use of the sediment generated by this project in the Middle Harbor CDF is consistent with this policy. The contaminated dredged material from this project has been determined to be unsuitable for ocean disposal, including beach nourishment.
4.3.1-1. Continue to develop and implement the TMDLs established by the Regional Board and guided by the Newport Bay Watershed Executive Committee (WEC).	Removal of chemically impacted sediments from the Project Area is consistent with existing and developing TMDLs for metals and other pollutants in LNB.
4.3.1-8. Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.	The contractor will be required to implement a SPCC Plan that has been approved by the City and to maintain spill response equipment at the construction site.

**Table LU5
Consistency with Coastal Land Use Policy**

Policy	Implementation
<p>4.6-8. Coordinate with the California Department of Fish and Game, U.S. Fish and Wildlife Service, National Marine Fisheries Service, and other resource management agencies, as applicable, in the review of development applications in order to ensure that impacts to ESHA and marine resources, including rare, threatened, or endangered species, are avoided or minimized such that ESHA is not significantly degraded, habitat values are not significantly disrupted, and the biological productivity and quality of coastal waters is preserved.</p>	<p>Coordination with resource management agencies will occur as part of the permitting processes. Project design features (also referred to as BMPs) will ensure that no impacts to threatened, endangered, or sensitive species occur from project implementation.</p>

California Coastal Act. The project site is located in the coastal zone, and the CCA is the state's regulatory authority governing land use in the coastal zone. This act (California State Public Resources Code, Division 20, Sections 30000 et seq.) was passed in 1976 in order to implement the federal Coastal Zone Management Act and ultimately established the California Coastal Commission (CCC) as the coastal management and regulatory agency for the coastal zone (Public Resources Code 30103). The CCC is responsible for assisting in the preparation, review, and certification of Local Coastal Programs (LCPs). LCPs, which include a CLUP, are developed by local governments and governmental agencies for the portion of their jurisdictions that fall within the coastal zone. Following certification of the LCP and CLUP, regulatory responsibility is then delegated to the local jurisdiction for projects within the coastal zone, although the CCC retains jurisdiction over the immediate shoreline.

The policies of the CCA constitute the statutory standards applied to planning and regulatory decisions made by the CCC and local governments, pursuant to the CCA. In the case of the City, the CCC has not certified the implementation plan of the City's CLUP; accordingly, the CCC retains jurisdiction in the City's tidelands and is the responsible permitting agency. The City's General Plan and LCP sets forth policies that serve to guide land use planning efforts in Newport Beach. As described in Tables LU1 through LU4, the proposed project is consistent with the applicable goals and policies of the General Plan. As described in Table LU5, the proposed project is consistent with the applicable goals and policies of the CLUP and, therefore, with the CCA on which the CLUP is based. In addition, analysis of consistency with the CCA is provided in this section.

Chapter 3 of the CCA identifies the six coastal resources planning and management principles used to evaluate a proposed project's consistency with the CCA. These principles include:

- Providing for maximum public access to California's coast
- Protecting water-oriented recreational activities
- Maintaining, enhancing, and restoring California's marine environment
- Protecting sensitive habitats and agricultural uses
- Minimizing environmental and aesthetic impacts of new development

- Locating coastal-dependent industrial facilities within existing sites whenever possible

Analysis under the CCA finds that with implementation of proposed BMPs, the proposed project is consistent with CCA goals and objectives. The significant relevant policies are identified as follows.

Section 30211 of the CCA states:

Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

During construction, public and private access to the water in portions of the Project Area may be temporarily restricted during dredging. This restriction results from the need to maintain public safety during active construction by maintaining a perimeter around construction equipment, including periodic debris offloading in shoreline areas. However, public use of dry sand and rocky beaches to the first line of terrestrial vegetation will not be affected. As stated in the project description, the width of the Rhine Channel is insufficient to provide an open channel for private vessels at all times during dredging of this area. However, this disruption is of short duration and will result in no permanent effects. Upon project completion there would be no alteration of public or private access as a result of this project, and access would remain the same as the pre-project conditions. Therefore, the proposed project would not have any adverse impacts to public access to the shoreline and is consistent with Section 30211 of the CCA.

Section 30221 of the CCA states:

Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.

As previously described, this project may temporarily and intermittently interfere with recreational use of small areas of the LNB shoreline and waters. However, this disruption is of short duration and will result in no permanent effects. Upland areas necessary to support coastal recreational will not be permanently modified. Upon project completion there would be no alteration of recreation as a result of this project and access would remain the same as the pre-project conditions. Therefore, the proposed project would not have any adverse impacts on recreational use and is consistent with Section 30221 of the CCA.

Section 30230 of the CCA states:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231 of the CCA states:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Removing chemically impacted sediments from the Project Area will improve biological productivity and water and sediment quality, thus improving the conditions for marine organisms and human health. Water quality standards during dredging will be maintained by following an approved water quality monitoring plan, developed to comply with the terms and conditions of regulatory agency permits, and using silt curtains during dredging

activities to isolate the active workspace. No HAPCs, ESHA, or ESAs are found within the Project Area; therefore no sensitive habitats will be altered. The proposed project would result in removal of contaminated sediments from the Project Area in the least environmentally damaging practicable manner without damage to sensitive habitats or species and is consistent with Sections 30230 and 30231 of the CCA.

Section 30232 of the CCA states:

Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.

The contractor will be required to provide a SPCC Plan to the City for approval and to maintain sufficient spill response materials in the Project Area to effectively contain any accidental spills that may occur.

Section 30233 of the CCA states:

(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following: (1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities. (2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps. (3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities. (4) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines. (5) Mineral extraction, including sand for restoring beaches,

except in environmentally sensitive areas. (6) Restoration purposes. (7) Nature study, aquaculture, or similar resource dependent activities.

(b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for these purposes to appropriate beaches or into suitable longshore current systems.

(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary.

The removal of sediment in the Newport Channel portion of the Project Area (Marina Park, American Legion, and 15th Street Pier) will restore these areas to previously dredged depths and, therefore, is consistent with 30233(a)(2). By removing contaminated sediments from these areas, the proposed project is also consistent with 30233(a)(6). While it is potentially necessary to dredge below previously dredged depths in the Rhine Channel to effectively remove contaminated sediments, removal of these sediments is considered a high priority for the City and the region and would therefore be an allowable restoration project per 30233(a)(6). The beneficial use of the dredged material in the permitted and approved Middle Harbor CDF creates the least impact to the environment by permanently sequestering the material from the marine environment and, therefore, is consistent with 30233(a)(6). No new facilities will be created in the Project Area, and no additional marina or dock facilities will result from project implementation. Therefore, the proposed project would remove contaminated sediments from the Project Area in the least environmentally damaging practicable manner and is consistent with Section 30233 of the CCA.

Section 30240 of the CCA states:

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

There are no environmentally sensitive areas within the Project Area. Dredging that will occur adjacent to recreational beaches will be designed and executed so that the beaches will not be degraded. For example, adequate distance from the shoreline will be maintained to protect the beach from erosion and to ensure turbidity does not impact the quality of the area.

Section 30251 of the CCA states, in relevant part:

The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas...

Public views of Newport Bay exist along the bridge leading to Lido Isle, from establishments along the Rhine Channel, and residences and public areas in and near Lido Peninsula, Lido Isle, and along the Newport Channel. The existing public views are those of a developed harbor (i.e., boats, boat docks, gangways). Upon project completion, there would be no alteration of the visual characteristics, and views would remain the same as the existing conditions. No landside buildings or expanded in-water structures are included in the project. Therefore, the proposed project is consistent with the character of the surrounding area and would not have any adverse impacts upon public views to and along the shoreline and is consistent with Section 30251 of the CCA.

Section 30604 of the CCA provides for the issuance of coastal development permits directly by the CCC in regions where the local government having jurisdiction does not have a certified LCP. The permit may only be issued if the CCC finds that the proposed

development will not prejudice the ability of the local government to prepare an LCP, which conforms to the Chapter 3 policies of the CCA. The Newport Beach LUP was certified in May 2005 and updated in 2009. The proposed development is consistent with the policies of the certified LUP. Therefore, the proposed development will not prejudice the City's ability to prepare an LCP (Implementation Plan) for Newport Beach that is consistent with the Chapter 3 policies of the CCA as required by Section 30604.

Determination of Significance

No potential indirect or cumulative impacts to land use and planning have been identified. The proposed project will not result in any direct impacts to land use and planning and will benefit the local area and the coastal zone by removing contaminated sediments from the marine environment.

The proposed project would not physically divide an established community nor result in any barriers that would preclude travel throughout the project area. As an in-water project that will not result in the construction or demolition of any road, building, or other physical obstacle, no impact related to this issue would result from implementation of the proposed project.

As demonstrated in the Tables LU1 through LU5, this project does not 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, LCP, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

This project does not conflict with any applicable habitat conservation plan or natural community conservation plan, as none of these protected areas exist in the Project Area.

XI. MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less than Significant 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project is not located in an area identified as a known mineral resource, and project implementation will not result in the loss of availability of either a known mineral resource or locally important mineral resource recovery site (General Plan NR Element 2006). The City has determined that the Project Area is located in an “Area with No Significant Mineral Deposits” (General Plan Update EIR 2006).

The project will not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state and will not 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, because no such resources are found within the Project Area.

The sediments that would be dredged during project implementation would be beneficially reused by incorporation into the Middle Harbor CDF.

XII. NOISE

Would the project:	Potentially Significant Impact	Less than Significant 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The dominant noise sources in the Project Area are transportation related (General Plan Update EIR 2006) and include vessel traffic, automobile and truck traffic, and aircraft. Noise in the Project Area is also generated from ship repair activities, gas-generated motors, and other commercial, recreational, and harbor-related activities.

Potential Project Impacts and Best Management Practices

Noise levels may temporarily increase over background conditions in the immediate vicinity of the Project Area due to dredging equipment (use of the mechanical dredging apparatus to excavate and place sediment into barges and use of diesel powered tender vessels to move the dredge and barges) and pile removal and installation activities. Potential direct impacts during dredging include noise produced by diesel generators and vessel engines, metal cables and buckets, and occasional truck traffic. Dredging and placement of sediment into barges and removal and installation of piles will occur only during allowable construction hours, per the City Noise Ordinance (Section 10.28.040). Work will occur between the hours of 7 AM and 6:30 PM on weekdays and between 8 AM and 6 PM on Saturday; no dredging or other construction activities are allowed on Sundays or holidays. Construction activity is exempt from specific noise thresholds under the City Noise Ordinance, provided that it is conducted within these hours; however, the increase in noise during project activities has the potential to result in temporary, localized nuisance effects for nearby residents.

Noise levels will also temporarily increase during impact driving of the replacement concrete piles. The primary sources of ground-borne vibration during construction would be from the pile-driving activities, which would occur intermittently and for generally short durations for each pile. The majority of pile driving will occur no closer than approximately 80 feet from the shoreline, and based on other projects in LNB (most notably the recent Balboa Marina refurbishment project), damage to buildings is highly unlikely. Construction-related noise could be an annoyance to nearby residents during periods of pile driving. Vibratory advancement of piles is unlikely to be detected by residents, because piles are being placed into marine sediments at a distance from upland residences and businesses.

The typical noise level produced during impact pile driving is 101 decibels (dBA) at a distance of 50 feet. It is estimated that the noise level at the shoreline will be approximately 67 dBA (for perspective, a vacuum cleaner produces approximately 70 dBA at a distance of 3 feet and conversational speech produces noise at a level of 60 dBA at 3 feet). Noise related to pile driving would be temporary and intermittent, because neither pile driving nor vibratory advancement of piles would be continuous. To minimize this impact, all pile-driving activities will occur within the allowable construction work windows set by the City Noise

Ordinance. Jetting may also be used to install a portion of the piles to within a few feet of tip elevation, which would further limit noise impacts.

It is anticipated that two roundtrip tugboat trips between LNB and the POLB will be generated per construction day. By living in a working harbor, residents in LNB are accustomed to noise associated with vessel traffic. The noise associated with tugboat trips to and from the POLB would be similar to the typical noises associated with non-project vessel traffic in LNB, including previous dredging projects in Newport Bay.

During the proposed project, noise levels will return to pre-project conditions once construction activities halt for the day. Chapter 10.26 of the City Municipal Code sets internal and external noise standards. Chapter 10.26 exempts “any activity conducted on public property...which [is] consistent with, and in furtherance of, the governmental functions or services the public entity has authorized” and “noise sources associated with construction...of any real property” as long as construction is conducted within the allowable timeframe found in Section 10.28.040. To minimize noise impacts resulting from the proposed project, project activities will comply with the City’s Noise Ordinance (Municipal Code Chapter 10.26 and Chapter 10.28) during all aspects of construction.

Determination of Significance

The project will not result in any permanent increase in ambient noise levels in the project vicinity. Localized, temporary increases above current ambient noise levels will occur in the project vicinity during daily construction hours; however, this noise impact is less than significant due to the compliance with Chapter 10.28 of the City Municipal Code and the existing commercial and industrial noise-producing activities in and around the Project Area. Noise generated from pile-driving activities will be temporary and intermittent. Noise generated by tugboats transporting barges to and from the Middle Harbor CDF fill site will not create significant noise impacts above existing conditions, largely because the vast majority of the tugboat route occurs outside of LNB.

Cumulative noise impacts include those associated with the federal maintenance dredging project in LNB and minor dredging and construction activities in LNB. Given the magnitude of the proposed federal dredging project, cumulative impacts from noise generated by the

proposed project activities are insignificant. No proposed large construction projects are proposed that would result in overlapping construction noise with construction noise from the proposed project; therefore, there would not be a cumulative impact to which the proposed project would contribute. Pile installation activities are not a part of the USACE maintenance dredging project; therefore, no cumulative noise impacts associated with this activity are expected.

The project would potentially expose persons to noise levels in excess of standards established in the City Community Noise Ordinance only during allowable construction hours. All dredging and pile-driving activities will be completed within the timeframe allowed by City ordinance. Therefore, elevated noise levels would not result in a significant impact. During pile removal and replacement activities, the project would expose persons to increased noise levels. Based on the distance of the pile driving to the upland structures, the temporary and intermittent nature of the pile driving, and the ongoing noise and vibrations generated by marine-related and upland activities, these impacts are less than significant.

This project will not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

The proposed project is not located within an airport land use plan or within 2 miles of a public airport or located in the vicinity of a private airstrip that would expose people residing or working in the project area to excessive noise levels.

XIII. POPULATION AND HOUSING

Would the project:	Potentially Significant Impact	Less than Significant 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project will not affect population and housing, because it is a sediment cleanup project that will not result in construction of new infrastructure or displacement of people or existing housing. No permanent buildings or roads will be constructed as part of or as a result of the proposed project. The project will not involve the construction of residential homes or businesses or an increase in population, housing, or employment in the nearly built-out city. Project implementation will not necessitate the construction of replacement housing elsewhere, because it will not displace any people from existing housing.

Because of the limited duration of the proposed project, it is anticipated that the employees who will be used for the proposed construction will travel to the Project Area from their existing residences. As a result, the project will not induce substantial population growth, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure). In addition, the project will not result in the displacement of existing housing; thus, the construction of replacement housing elsewhere will not be necessary.

XIV. PUBLIC SERVICES

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government 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:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project will not result in adverse effects to public service ratios, response times, or other performance objectives, because it is a sediment cleanup project that is temporary in nature and does not entail modification to governmental facilities. The proposed project will not impair implementation of or physically interfere with adopted emergency response plans or emergency evacuation plans. The temporary staging area and the temporary debris offloading area are the only upland component of the project, and these areas are not located within the City’s tsunami evacuation route. Given the project location in relation to the U.S. Coast Guard (USCG) facility and the harbor entrance, dredging equipment will not interfere with USCG emergency operations.

The proposed project will not expose people or structures to increased risk of fire due to the physical separation of the construction equipment from existing structures. Due to the temporary timeframe for the project and the coordination of the project with the City’s Parks and Recreation Department, project implementation would not increase the use of existing neighborhood regional parks or other recreational facilities nor would it require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

The project will not require additional wastewater treatment facilities and the existing capacity is adequate to serve the project’s projected demand. While the project will contribute a limited volume of solid waste to area landfills, it will not exceed projected capacity and will comply with federal, state, and local statutes and regulations related to solid waste.

Because the purpose of the proposed project is essentially to maintain existing facilities by removing contaminated sediments, this project will not result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, or other public services.

XV. RECREATION

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Include recreational facilities or require the construction of or expansion of recreational facilities that might have an adverse physical effect on the environment? Opportunities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

City parks within Newport Harbor provide recreational activities, including picnicking, walking, and bird watching. In-water activities include boating, diving, fishing, kayaking, paddle boarding, parasailing, rowing, sailing, swimming, and windsurfing. Three parks are located in the vicinity of the project: Lido Park, Rhine Wharf Park, and Veterans’ Memorial Park. Lido Park, a small “mini park,” provides benches for resting and harbor views. Rhine

Wharf Park, planned for future expansion, is currently an unimproved strip of land. Veterans' Memorial Park amenities include four covered picnic tables, barbecues, and harbor viewing. The future Marina Park is located within the Project Area, between 19th and 15th streets and currently offers a sandy beach suitable for recreational activities, including launching non-motorized craft. Two sailing bases and one restroom facility are also located in the project vicinity.

Few special events are expected to occur within the Project Area during the proposed project timeframe (fall and winter). At this time, it is anticipated that only the annual Christmas Boat Parade will need to be accommodated by storing the dredging equipment out of the Parade corridor. City-sponsored recreational classes will not be located within the Project Area during the proposed construction timeframe.

Potential Project Impacts

The proposed project is expected to occur during the fall and winter months when park use is relatively low, thus reducing potential impacts to recreational opportunities in the vicinity of the Project Area. To provide a safety buffer zone during debris removal and dredging and disposal activities, Lido Park, which provides a view point, may be temporarily closed to the public. Other viewing points in the vicinity of the Project Area would remain open to the public.

Veterans' Memorial Park is located adjacent to the 15th Street Pier, a City facility that is open to the public for launching and temporarily mooring non-motorized recreational vessels. Dredging will occur under and around the 15th Street Pier and bayward of Veterans' Memorial Park; however, this activity will not require the closure of the 15th Street Pier. The upland area of Veterans' Memorial Park and the sailing bases located in the vicinity of the Project Area will also remain open.

Project activities will occur at a safe distance from shore and will allow for continued use of the beaches and water. Dredging will occur to the north of the beach at Marina Park and will be offset sufficiently from the beach so that its closure will not be necessary. A safety perimeter will be maintained around the dredging equipment while it is working in the vicinity of parks and beaches.

Construction equipment will move within the Project Area on a daily basis, thus reducing the overall impacts on in-water recreation at any particular location. Dredging equipment will occupy a relatively small portion of the Project Area while actively dredging, leaving sufficient room for a safety zone around the equipment. Private vessels that need to be relocated during construction activities can be accommodated at nearby City moorage facilities for the relatively short period they are displaced.

Should dredging be delayed and project activities occur during spring or summer months, additional coordination with the City's Park and Recreation Department would need to occur. Depending on the construction timeframe and duration, sailing classes, swimming classes, and other recreational activities offered by the City may need to be temporarily relocated to other City beaches, where City recreational activities may already be scheduled. If recreational classes need to be relocated to another City area, coordination with the City's Park and Recreation Department is needed to ensure there would be no inconsistent uses of the areas. It is unlikely that the City will need to cancel recreational classes due to the presence of dredging equipment off the shoreline, although activities may be relocated.

Determination of Significance

Potential recreational impacts due to a temporary loss of viewing opportunities from Lido and Rhine Wharf parks are offset by the numerous viewing locations available in the immediate area. Potential impacts due to the possible temporary loss of use of small portions of the shoreline and open water for recreational purposes (e.g. sailing lessons) are less than significant, because the duration of the construction operations will be short and will occur during a period of seasonally low use.

Cumulative impacts to recreation include temporary loss of access to open water for in-water activities during dredging and disposal activities undertaken by the USACE maintenance dredging project. Given the time of year, the limited spatial scope and distance from the shore, and short timeframe of the proposed dredging, the cumulative impacts associated with the proposed project are negligible.

There will be no increased use of existing neighborhood and regional parks or other recreational facilities due to project activities such that substantial physical deterioration of

the facility would occur. In addition, recreational facilities that require construction or expansion are not required.

XVI. TRANSPORTATION AND TRAFFIC

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety if such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The majority of work associated with this project will occur in-water rather than on land; therefore, potential transportation impacts associated with dredging in the Project Area will be limited almost exclusively to marine transit, with the exception of a limited number of potential truck trips (25 to 35 over the entire construction period) to transport any debris encountered during dredging.

The Project Area is subject to ongoing use by commercial fishing and sightseeing vessels; sailboats ranging in size from less than 20 feet long to more than 150 feet long; and private motorized vessels as small as Duffy electric boats and as large as yachts more than 100 feet in length. Human-powered vessels such as kayaks and paddleboards also make frequent use of the Project Area. In addition, various dredging projects in Newport Bay have periodically resulted in tugboat and barge traffic. Vessel traffic in LNB is not currently subject to long delays or unsafe operating conditions, though vessel traffic may be heavy during peak recreational periods, such as summer weekends.

Potential Project Impacts and Best Management Practices

Dredging operations for the proposed project will be relatively short term (4 to 5 months) and will likely involve a barge-mounted mechanical dredge, two bottom-dump barges, two tugboats, and small support vessels. Typically, all vessels will not be present in LNB simultaneously, because they will be used as needed during specific construction activities. The addition of these vessels to LNB will result in localized, temporary constraints on vessel traffic, particularly in the Rhine Channel. Communication protocols will be developed to ensure that navigation is impeded as little as possible, and the contractor will be required to follow standard rules of navigation. Safety perimeters will be established around active construction equipment, and all vessels will be equipped with appropriate running lights and day shapes. Information regarding the dredging activities will be available through regular Notices to Mariners (NOTAMs), public postings, and updates on the City's website.

Access by private vessels to portions of the Rhine Channel may be restricted for as much as 2 to 3 months, depending on the exact sequencing of the contractor's operations. Given the advance notice to the upland property owners in the Rhine Channel and the temporary

nature of this impact, this restriction to navigation is inconvenient but not significant. Private boat owners who must access the Rhine Channel during the construction period may request permission in advance from the City, who will coordinate with the contractor regarding access. Because the construction will only occur during the City Noise Ordinance work windows, the Rhine Channel will be more accessible to private vessels during non-construction hours and on Sundays. Although navigation within the Rhine Channel will be restricted temporarily during construction, the proposed project will result in the long-term removal of shoaled, contaminated sediments from LNB, which will be beneficial to navigation.

Potential upland traffic impacts are limited to the activities associated with debris transportation for landfill disposal and contractor personnel traveling to and from the staging area. Any debris encountered during dredging would be transported to an appropriate upland landfill using typical 16-yard dump trucks. However, because of the limited volume of debris identified in the Project Area, it is anticipated that, on average, 2 to 3 roundtrip trucks trips per week will be required to transport this material to a landfill, which will not disrupt local traffic patterns to businesses and residences in the area. The contractor will be required to prepare a traffic plan that ensures adequate access to all residences and businesses in the Project Area during all aspects of construction. This project will not result in a permanent increase to traffic volume or vehicle trips nor will it affect the existing level of service standards.

BMPs implemented to minimize impacts during this project include:

- The contractor will observe all standard USCG practices for navigational safety and communications, including publications of NOTAMs.
- The contractor will be required to prepare and implement a traffic plan that ensures adequate access to all residences and businesses in the Project Area during all aspects of construction.
- The City will update the construction website on a weekly basis to inform residents and visitors of the upcoming location of the project equipment and potential restricted areas.

Determination of Significance

The proposed project is expected to occur during the winter months, which is a period of relatively low use in LNB. Should project activities occur during the more active spring or summer months, it may be necessary to increase public notifications regarding dredging activities and to further physically demarcate the boundaries of dredging activities using buoys.

The temporary increase in truck traffic from debris disposal is negligible. Because the dredging and disposal vessels will occupy portions of LNB during construction, temporary, localized, minor adverse impacts to vessel navigation may occur during the project. These temporary effects will be less than significant due to their timing, duration, and implementation of all standard USCG safety protocols. The proposed project will result in long-term benefits to vessel traffic by removing contaminated sediments from the Project Area.

Cumulative impacts to marine transportation are primarily related to the maintenance dredging of LNB by the USACE that is planned to occur once the proposed project is completed. As previously stated, dredging in Upper Newport Bay and at private or commercial facilities in LNB has been commonplace for the last several years, and no cumulatively significant effects on transportation access or safety in the harbor have occurred as a result of the combination of any of these projects.

This project does not conflict with any adopted policies, plans, or programs supporting alternative transportation, because none of these transportation alternatives is present in the Project Area. Resident parking will remain available; the contractor will be provided a landside staging area to ensure no impacts to residents occur.

Because the project would not result in upland traffic impacts, conflicts with an applicable congestion management program or other standards established by the county congestion management agency for designated roads or highways will not occur.

This project will have no effect on air traffic patterns. No hazards, such as sharp curves or dangerous intersections, will result from project implementation, nor will incompatible uses be created due to any project design features.

Existing emergency access to the area will not be impacted, either temporarily during construction or as a permanent feature of the project. Because the project does not include upland traffic impacts, conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities will not occur.

XVII. UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulation related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The state of California Government Code 4126 mandates that anyone performing excavation work shall call at least 2 working days prior to commencement of any excavation. Notice of this project will be provided to area fiber optic, communications, and electrical providers to request additional information on the location, if any, of private cables or utilities. Although no known in-water or overhead City-provided utilities are located within the Project Area, the contractor will be required to confirm the locations, alignments, and depths of any utilities potentially located within the Project Area prior to dredging. In addition, as part of the construction plan, all overhead and buried upland utility lines will need to be demarcated and avoided by the contractor prior to initiating construction.

A relatively small amount of debris will be removed from the Rhine Channel. For disposal of commercial debris, the City currently has an open franchise system, in which the contractor will select a City-approved hauler who will dispose of or recycle the debris appropriately (construction and demolition projects generate a high volume of recyclable material that is counted towards the City's recycling rate).

The proposed project will not affect utilities and service systems, because it consists of removal of contaminated sediments from the Project Area for transport to the Middle Harbor CDF and does not result in additional demands on existing utilities and service systems or create future demand on them.

No potential direct or indirect impacts to utilities and service systems have been identified, because no direct or indirect impacts will result from the proposed project. It will also not result in cumulative impacts to utilities and service systems.

The project will not generate wastewater or require treatment of wastewater, and therefore, will not exceed requirements of the applicable RWQCB. The project will not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. Therefore, the proposed project will not require a determination by the wastewater treatment provider that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

The proposed project does not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities. Sufficient water supplies are available to serve the project from existing entitlements and resources, and no new or expanded entitlements are needed.

The proposed project will be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs. Through the City's open franchise system, the contractor will select a City-approved hauler who will dispose of or recycle the debris appropriately at a landfill that has demonstrated capacity. Therefore, the proposed project will comply with federal, state, and local statutes and regulation related to solid waste.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) 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 period of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) 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.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Design features have been incorporated into the project to substantially minimize or eliminate potential project impacts to maintain the quality of the environment; upon project completion, the sediment and water quality in LNB will be improved, and dredged material from LNB will be beneficially reused at the Middle Harbor CDF, consistent with a regional approach to sediment management. Given the temporary nature of the project, its primary goal of cleaning up contaminated sediments, and the implementation of established BMPs, this project does not have the potential to substantially reduce the habitat of a fish or wildlife or plant species.

All direct and indirect project impacts are less than significant or can be mitigated to a level of insignificance. No other projects have been proposed in the vicinity of the Project Area that would result in significant impacts. No cumulative impacts are anticipated to result from the proposed project in combination with other projects.

The City has found that after the adoption of feasible mitigation measures, all potentially significant impacts have been reduced to a less than significant level. Temporary, construction-related increases in air pollutant emissions that would result from the proposed project have been analyzed in this Initial Study. As discussed in the respective sections of this document, implementation of the proposed project would not result in potentially significant impacts. However, where impacts were determined to be potentially significant, mitigation measures have been identified that will reduce the impacts to less than significant levels. Therefore, the proposed project would have no substantial adverse effects on human beings, either directly or indirectly.

XIX. STATUTORY AUTHORITY AND EARLIER ANALYSES

In compliance with state law and procedures, the City has determined that a MND is the appropriate CEQA document for the proposed project. In compliance with Section 15063 of the CEQA Guidelines, the City conducted an Initial Study to determine whether the project may have a significant effect on the environment. The preparation of the Initial Study and MND is governed by two principal sets of documents: the CEQA statute and the CEQA Guidelines (California Code of Regulations Section 15000, et seq.). Section 15063(d)(3) requires that the potential environmental effects identified on the Initial Study checklist be explained, and evidence be provided in sufficient detail to support the conclusions. An

Initial Study may rely upon expert opinion supported by facts, technical studies, or other substantial evidence to document its findings. Section 15070 states that a public agency shall prepare a Negative Declaration or MND for a project subject to CEQA when the Initial Study shows that the project will not have a significant effect on the environment or the Initial Study identifies potentially significant effects, but revisions in the project plans/designs show the effects would be avoided, or the effects would be reduced with implementation of mitigation measures to a point where it is clearly shown that no significant impacts to the environment would occur as a result of the project.

As allowed by CEQA, this MND relies on the City's General Plan EIR. CEQA states that earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, one or more effects have been adequately analyzed in an earlier EIR or negative declaration (CEQA Guidelines Section 15063[c][3][D]). For this project, two earlier documents were relied on for information and analysis for the effects to biological resources, hydrology and water quality, and land use. Reference documents include:

- *Revised Marine Biological Impact Assessment Marina Park Project, Newport Beach, California* (CRM 2009)
- *Draft Recirculated Environmental Impact Report (DREIR) for the proposed Marina Park* (City of Newport Beach 2010)

XX. INCORPORATION BY REFERENCE

Certain documents are incorporated by reference into this Initial Study and MND pursuant to CEQA Guidelines Section 15150. These documents are identified in the previous Initial Study Checklist discussion. When a document is referenced and/or incorporated by reference, its pertinent sections are briefly summarized in the Initial Study checklist discussion.

The following documents are incorporated by reference:

- *City of Newport Beach General Plan Final Program EIR* (General Plan 2006)
- City of Newport Beach General Plan, including all its elements
- City of Newport Beach Zoning Map (February 2009)

- *South Coast Air Quality Management District Air Quality Management Plan* (SCAQMD 2007)
- *Revised Marine Biological Impact Assessment Marina Park Project, Newport Beach, California* (CRM 2009)
- *Draft Recirculated Environmental Impact Report (DREIR) for the proposed Marina Park* (City of Newport Beach 2010)

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APPENDIX A

AIR QUALITY ANALYSIS

DRAFT

Air Quality Analysis

In Support of:

***Rhine Channel Contaminated Sediment Cleanup
Newport Beach, California
Confined Disposal Facility Alternative
Initial Study***

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March 2010

Table of Contents

1.0	INTRODUCTION	1
2.0	ENVIRONMENTAL SETTING	1
2.1	Regional Climate and Meteorology	1
2.2	Criteria Pollutants and Air Monitoring	3
2.3	Toxic Air Contaminants.....	5
2.4	Sensitive Receptors.....	6
2.5	Greenhouse Gas Emissions.....	6
3.0	REGULATORY SETTING.....	7
3.1	Federal Regulations	7
3.2	State Regulations	9
3.3	Local Regulations and Agreements	10
4.0	PROJECT SOURCES AND EMISSION METHODOLOGY	10
4.1	Harbor Craft.....	12
4.2	Off-Road Emission Sources (Land-Based and Marine)	13
4.3	On-Road Emission Sources	14
5.0	AIR QUALITY IMPACTS.....	14
5.1	Significance Criteria	14
5.2	Significance Determination	17

Tables

- Table 2.1. Adverse Effects Associated with the Criteria Pollutants
- Table 2.2. Maximum Pollutant Concentrations Measured at the Costa Mesa and Mission Viejo Monitoring Stations
- Table 4.1. Source Activity and Characteristics
- Table 5.1. Significance Criteria
- Table 5.2. Summary of Peak Daily Construction Emissions—Proposed Project without Mitigation
- Table 5.3. Summary of Peak Daily Construction Emissions—Proposed Project with Mitigation
- Table 5.4. Summary of On-Site Daily Construction Emissions—Unmitigated Proposed Project
- Table 5.5. Summary of On-Site Daily Construction Emissions—Proposed Project with Mitigation
- Table 5.6. GHG Emissions and Significance Determination

ACRONYMS

AB32	Assembly Bill 32 California Global Warming Solutions Act of 2006
AQI	Air Quality Impact
AQMP	Air Quality Management Plan
CAAQS	California Ambient Air Quality Standard
CARB	California Air Resources Board
CDF	Confined Disposal Facility
CH ₄	Methane
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CO ₂ -e	Carbon Dioxide Equivalent
DPM	Diesel Particulate Matter
EMFAC2007	Emission Factors model developed by the California Air Resources Board and used to calculate emission rates from on-road motor vehicles
GHG	Greenhouse Gas
GWP	Global Warming Potential
hp	Horsepower
LCFS	Low Carbon Fuel Standard
MSERC	Mobile Source Emission Reduction Credit
mton	Metric Ton
N ₂ O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standard
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
O ₃	Ozone
OPR	Office of Planning and Research
OFFROAD2007	Off-road emissions inventory, developed by CARB is an estimate of the population, activity, and emissions estimate of varied types of off-road equipment
PERP	Portable Equipment Registration Program
PFCs	Perfluorocarbons
PM ₁₀	Particulate Matter, diameter <10 microns
PM _{2.5}	Particulate Matter, diameter <2.5 microns
POLB	Port of Long Beach
ppmV	Parts Per Million on a Volume Basis
SB	Senate Bill
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SF ₆	Sulfur Hexafluoride
SIP	State Implementation Plan
SO ₂	Sulfur Dioxide
SRA	Source Receptor Area
TAC	Toxic Air Contaminant
URBEMIS	Urban Emissions software is used to estimate construction, area source, and operational air pollutant emissions from land use projects
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
WRI	World Resources Institute

1.0 Introduction

This air quality analysis was prepared in support of the CEQA Initial Study for the Rhine Channel contaminated sediment cleanup in Newport Beach, California under the Confined Disposal Facility (CDF) alternative. The main objective of the proposed project is to restore beneficial uses to the Rhine Channel and Lower Newport Bay by eliminating potential risks associated with elevated chemicals in the water and sediments. The purpose for the project and project objectives are described in the Project Description section of the Initial Study document.

This study discusses the methodology and assumptions for the following analyses conducted for the proposed project:

- Regional air quality impacts
- Localized air quality impacts
- Greenhouse gas (GHG) emission estimates

Methods of estimating source emissions vary by emission source and pollutant. Because of the predominance of mobile emissions in California, methodologies for estimating mobile source emissions are well-documented. The State of California has developed computer programs, able to estimate mobile source emissions for off-road equipment that are flexible and adaptable to a wide variety of equipment types, climates, and operating conditions. Emission factors used in this study are current best estimates subject to future revision.

This study describes each air emission source associated with the proposed dredging project, and the methodology used to estimate air emissions and ambient air quality impacts. The detailed calculation worksheets are attached as Appendix Tables A-1 through A-9.

2.0 Environmental Setting

The Project site is located in the City of Newport Beach, Orange County within the South Coast Air Basin (SCAB) and within the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAB consists of the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties and all of Orange County. The air basin covers an area of approximately 6,000 square miles and is bounded on the west by the Pacific Ocean; on the north and east by the San Gabriel, San Bernardino, and San Jacinto Mountains; and on the south by the San Diego County line.

2.1 Regional Climate and Meteorology

The climate of the Project site is classified as Mediterranean, characterized by warm, rainless summers and mild, wet winters. The major influence on the regional climate is the Eastern Pacific High (a strong persistent area of high atmospheric pressure over the Pacific Ocean), topography, and the moderating effects of the Pacific Ocean. Seasonal variations in the position and strength of the High are a key factor in the weather changes in the area.

The Eastern Pacific High attains its greatest strength and most northerly position during the summer, when the High is centered west of northern California. In this location, the High

effectively shelters Southern California from the effects of polar storm systems. Large-scale atmospheric subsidence associated with the High produces an elevated temperature inversion along the West Coast. The base of this subsidence inversion is generally from 1,000 to 2,500 feet (300 to 800 meters) above mean sea level during the summer. Vertical mixing is often limited to the base of the inversion, and air pollutants are trapped in the lower atmosphere. The mountain ranges that surround the Los Angeles Basin constrain the horizontal movement of air and also inhibit the dispersion of air pollutants out of the region. These two factors, combined with the air pollution sources of over 15 million people, are responsible for the high pollutant concentrations that can occur in the SCAB.

Marine air trapped below the base of the subsidence inversion is often condensed into fog and stratus clouds by the cool Pacific Ocean. This is a typical weather condition in the coastal region during the warmer months of the year. Stratus clouds usually form offshore and move into the coastal plains and valleys during the evening hours. When the land heats-up the following morning, the clouds burn-off to the immediate coastline, but often reform again the following evening.

As winter approaches, the Eastern Pacific High begins to weaken and shift to the south, allowing storm systems to pass through the region. The number of days with precipitation varies substantially from year to year, which produces a wide range of variability in annual precipitation totals, with a wet seasonal pattern during the months of November through April and a dry season during the months of May through October. This wet-dry seasonal pattern is characteristic of most of southern California. Infrequent precipitation during the summer months usually occurs from tropical air masses that originate from continental Mexico or tropical storms off the West Coast of Mexico.

The average high and low temperatures in the area range from approximately 85°F (29°C) and 65°F (18°C) in August, respectively. January average high and low temperatures are 67°F (19°C) and 46°F (8°C). Temperatures in the coastal regions are generally less extreme than inland regions, due to the moderating effect of the ocean.

The proximity of the Eastern Pacific High and a thermal low pressure system in the desert interior to the east produce a sea breeze regime that prevails at the Project site for most of the year, particularly during the spring and summer months. Sea breezes at the region typically increase during the morning hours from the southerly direction and reach a peak in the afternoon as they blow from the southwest. These winds generally subside after sundown. During the warmest months of the year, however, sea breezes could persist well into the nighttime hours. Conversely, during the colder months of the year, northerly land breezes increase by sunset and into the evening hours. Sea breezes transport air pollutants away from the coast and towards the interior regions in the afternoon hours for most of the year.

During the fall and winter months, the Eastern Pacific High can combine with high pressure over the continent to produce light winds and extended inversion conditions in the region. These stagnant atmospheric conditions often result in elevated pollutant concentrations in the SCAB. Excessive buildup of high pressure in the Great Basin region can produce a “Santa Ana” condition, characterized by warm, dry, northeast winds in the basin and offshore regions. Santa Ana winds often ventilate the SCAB of air pollutants.

2.2 Criteria Pollutants and Air Monitoring

Criteria Pollutants

Air quality at a given location can be characterized by the concentration of various pollutants in the air. Units of concentration are generally expressed as parts per million on a volume basis (ppmv) or micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) of air. The significance of a pollutant concentration is determined by comparing the concentration to an appropriate national or state ambient air quality standard. These standards represent the allowable atmospheric concentrations at which the public health and welfare are protected. They include a reasonable margin of safety to protect the more sensitive individuals in the population.

The United States Environmental Protection Agency (USEPA) establishes the national ambient air quality standards (NAAQS). For most pollutants, maximum concentrations might not exceed an NAAQS more than once per year; and they might not exceed the annual standards. The California Air Resources Board (CARB) establishes the California Ambient Air Quality Standards (CAAQS), which are generally more stringent and include more pollutants than the NAAQS. Maximum pollutant concentrations might not equal or exceed the CAAQS.

Pollutants that have corresponding national or state ambient air quality standards are known as criteria pollutants. The criteria pollutants of primary concern in this air quality assessment are ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and particulate matter with particle diameter less than 10 microns (PM_{10}), and particulate matter with particle diameter less than 2.5 microns ($\text{PM}_{2.5}$). Criteria pollutants contribute directly to regional health issues. The known adverse effects associated with these criteria pollutants are shown in Table 2.1.

Of the criteria pollutants of concern, ozone is unique because it is not directly emitted from project-related sources. Rather, ozone is a secondary pollutant, formed from the precursor pollutants volatile organic compounds (VOC) and nitrogen oxides (NO_x). VOC and NO_x react to form ozone in the presence of sunlight through a complex series of photochemical reactions. As a result, unlike inert pollutants, ozone levels usually peak several hours after the precursors are emitted and many miles downwind of the source. Because of the complexity and uncertainty in predicting photochemical pollutant concentrations, ozone impacts are indirectly addressed in this study by comparing project-generated emissions of VOC and NO_x to daily emission thresholds set by the SCAQMD and pollutant concentrations to federal and state ambient air standards.

Table 2.1. Adverse Effects Associated with the Criteria Pollutants

<i>Pollutant</i>	<i>Adverse Effects</i>
Ozone	(a) Short-term exposures: (1) Pulmonary function decrements and localized lung edema in humans and animals and (2) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (b) Long-term exposures: Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (c) Vegetation damage; (d) Property damage
Carbon Monoxide	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; (d) Possible

Table 2.1. Adverse Effects Associated with the Criteria Pollutants

<i>Pollutant</i>	<i>Adverse Effects</i>
	increased risk to fetuses
Nitrogen Dioxide	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; (c) Contribution to atmospheric discoloration
Sulfur Dioxide	(a) Broncho-constriction accompanied by symptoms that may include wheezing, shortness of breath, and chest tightness during exercise or physical activity in persons with asthma
Suspended Particulate Matter (PM ₁₀)	(a) Excess deaths from short-term and long-term exposures; (b) excess seasonal declines in pulmonary function, especially in children; (c) asthma exacerbation and possibly induction; (d) adverse birth outcomes including low birth weight; (e) increased infant mortality; (f) increased respiratory symptoms in children such as cough and bronchitis; and (g) increased hospitalization for both cardiovascular and respiratory disease (including asthma) ^a
Suspended Particulate Matter (PM _{2.5})	(a) Excess deaths from short-term and long-term exposures; (b) excess seasonal declines in pulmonary function, especially in children; (c) asthma exacerbation and possibly induction; (d) adverse birth outcomes including low birth weight; (e) increased infant mortality; (f) increased respiratory symptoms in children such as cough and bronchitis; and (g) increased hospitalization for both cardiovascular and respiratory disease (including asthma) ^a
<p>^a More detailed discussions on the health effects associated with exposure to suspended particulate matter can be found in the following documents: OEHHA, <i>Particulate Matter Health Effects and Standard Recommendations</i> (www.oehha.ca.gov/air/toxic_contaminants/PM10_notice.html#may), May 9, 2002 (OEHHA 2002); and U.S. EPA, <i>Air Quality Criteria for Particulate Matter</i>, October 2004.</p> <p>^b California Ambient Air Quality Standards have also been established for lead, sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. They are not shown in this table because they are not pollutants of concern for the proposed Project.</p>	

Local Air Monitoring Levels

USEPA designates all areas of the United States according to whether they meet the NAAQS. A nonattainment designation means that a primary NAAQS has been exceeded more than once per year in a given area. USEPA currently designates the Orange County portion of California as in extreme nonattainment for 1-hr O₃; serious nonattainment for PM₁₀; nonattainment for 8-hr O₃, PM_{2.5}, and NO₂; and attainment for CO and SO₂. States with nonattainment areas must prepare a State Implementation Plan (SIP) that demonstrates how those areas will come into attainment.

The CARB also designates areas of the state according to whether they meet the CAAQS. A nonattainment designation means that a CAAQS has been exceeded more than once in 3 years. The CARB currently designates the South Coast Air Basin as a nonattainment area for O₃, PM₁₀, PM_{2.5}, and NO₂. The Basin is in attainment of the CAAQS for CO and SO₂.

CARB and SCAQMD maintain a network of monitoring stations in the vicinity of Newport Beach. The most representative station for the project vicinity is the Costa Mesa (North Coastal Orange County) monitoring station because it is the closest monitoring station to the Project site,

located approximately 3.5 miles north of the project site. The station monitors CO, O₃, NO₂ and SO₂ concentrations. However, the Costa Mesa station does not monitor concentrations of PM₁₀ or PM_{2.5}. The next closest monitoring station in the vicinity is the Mission Viejo monitoring station (Saddleback Valley), located approximately 15 miles east of the project site. The Mission Viejo station was used to compile ambient air pollutant concentrations for PM₁₀ and PM_{2.5} for this analysis. Table 2.2 shows the highest pollutant concentrations recorded at the two stations for 2006 to 2008, inclusive, the most recent complete 3-year period of data available from the SCAQMD. Table 2.2 shows exceedances of the NAAQS and CAAQS in bold.

Table 2.2 Maximum Pollutant Concentrations Measured at the Costa Mesa and Mission Viejo Monitoring Stations

Pollutant	Averaging Period	National Standard	State Standard	Highest Monitored Concentration		
				2006	2007	2008
Ozone ¹	1 hour	na	0.09 ppm	0.07 ppm	0.082 ppm	0.094 ppm
	8 hour	0.075 ppm	0.070 ppm	0.064 ppm	0.072 ppm	0.079 ppm
CO ¹	1 hour	35 ppm (40mg/m ³)	20 ppm	4 ppm	5 ppm	3 ppm
	8 hours	9 ppm (10mg/m ³)	9 ppm	3 ppm	3.1 ppm	2 ppm
NO ₂ ¹	1 hour	0.100 ppm ³	0.180 ppm (338 µg/m ³)	0.10 ppm	0.070 ppm	0.080 ppm
SO ₂ ¹	1 hour	na	0.25 ppm	0.01 ppm	0.01 ppm	0.01 ppm
	24 hours	0.14 ppm	0.04 ppm	0.004 ppm	0.004 ppm	0.003 ppm
PM ₁₀ ²	24 hours	150 µg/m ³	50 µg/m ³	57 µg/m³	74 µg/m³	42 µg/m ³
PM _{2.5} ²	24 hours	35µg/m ³	35µg/m ³	47.0 µg/m³	46.9 µg/m³	32.6 µg/m ³

Source: SCAQMD historical air quality data <http://www.aqmd.gov/smog/historicaldata.htm>, 2010.

¹ Costa Mesa monitoring station, Orange County. State station code: 30195; District station code: 3195.

² Mission Viejo monitoring station, Orange County. State station code: 30002; District station code: 3812.

³ In February 2010 a new federal NO₂ 1-hr standard was set at 0.100 ppm. This new standard is not retroactive in that it does not affect 2006-2008 attainment determination.

Note: Exceedances of the standards are highlighted in bold.

µg/m³ micrograms per cubic meter

ppm parts per million

2.3 Toxic Air Contaminants

Toxic air contaminants (TACs) are identified and their toxicity is studied by the California Office of Environmental Health Hazard Assessment (OEHHA). TACs include air pollutants that can produce adverse human health effects, including carcinogenic effects, after short-term (acute) or long-term (chronic) exposure. The CARB designates diesel particulate matter (DPM) as a TAC,

and SCAQMD studies determined that DPM results in the majority of the cancer risk from the inhalation of air contaminants in the Port region (SCAQMD 2008, MATES III). Per SCAQMD's policy (SCAQMD 2010) temporary construction projects need not undergo a health risk assessment for health impacts.

2.4 Sensitive Receptors

The impact of air emissions on sensitive members of the population is a special concern. Sensitive receptor groups include children, the elderly, and the acutely and chronically ill. The locations of these groups include residences, schools, daycare centers, convalescent homes, and hospitals. The following summarizes the sensitive receptors closest to the project site.

- The nearest sensitive receptors to the Project site include residents directly to the west, east, north and south of the dredge area.
- The nearest school is the Newport Heights Elementary School, located 0.6 miles to the southeast, at 300 15th Street, Newport Beach, CA.
- The nearest hospital is the Hoag Memorial Hospital, located approximately 0.6 miles north of the project site, at One Hoag Drive Newport Beach CA.

2.5 Greenhouse Gas Emissions

Gases that trap heat in the atmosphere are often called greenhouse gases (GHGs). GHGs are emitted by natural processes and human activities. Examples of GHGs that are produced both by natural processes and industry include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). Examples of GHGs created and emitted primarily through human activities include fluorinated gases (hydrofluorocarbons HFCs and perfluorocarbons PFCs) and sulfur hexafluoride.

The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without these natural GHGs, the earth's surface would be about 61°F cooler (AEP, 2007). However, emissions from fossil fuel combustion for activities such as electricity production and vehicular transportation have elevated the concentration of GHGs in the atmosphere above natural levels. There appears to be a close relationship between the increased concentration of GHGs in the atmosphere and global temperatures. Scientific evidence indicates a trend of increasing global temperatures near the earth's surface over the past century due to increased human induced levels of GHGs.

GHGs differ from criteria pollutants in that GHG emissions do not cause direct adverse human health effects. Rather, the direct environmental effect of GHG emissions is the increase in global temperatures, which in turn has numerous indirect effects on the environment and humans.

Currently, there are no federal standards for GHGs emissions. Recently, the U.S. Supreme Court ruled that the harms associated with climate change are serious and well recognized, that the U.S. EPA must regulate GHGs as pollutants, and unless the agency determines that GHGs do not contribute to climate change, it must promulgate regulations for GHG emissions from new motor vehicles (Massachusetts et al. Environmental Protection Agency [case No. 05-1120], 2007). However, no federal regulations have been set at this time. Currently, control of GHGs is generally regulated at the state level and approached by setting emission reduction targets for existing sources of GHGs, setting policies to promote renewable energy and increase energy efficiency, and developing statewide action plans.

The World Resources Institute's GHG Protocol Initiative identifies six GHGs generated by human activity that are believed to be contributors to global warming (WRI/WBCSD, 2007). These are the same six GHGs that are identified in California Assembly Bill (AB) 32 and by the USEPA.

- Carbon dioxide (CO₂)
- Methane (CH₄)
- Nitrous oxide (N₂O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF₆)

The different GHGs have varying global warming potential (GWP). The GWP is the ability of a gas or aerosol to trap heat in the atmosphere. By convention, CO₂ is assigned a GWP of 1. By comparison, CH₄ has a GWP of 21, which means that it has a global warming effect 21 times greater than CO₂ on an equal-mass basis. N₂O has a GWP of 310, which means that it has a global warming effect 310 times greater than CO₂ on an equal-mass basis. To account for their GWPs, GHG emissions are often reported as a CO₂ equivalent (CO₂e). The CO₂e is calculated by multiplying the emission of each GHG by its GWP, and adding the results together to produce a single, combined emission rate representing all GHGs.

This air quality analysis includes estimates of GHG emissions generated by the Project.

3.0 Regulatory Setting

The Federal Clean Air Act of 1969 and its subsequent amendments established air quality regulations and the NAAQS, and delegated enforcement of these standards to the states. In California, the CARB is responsible for enforcing air pollution regulations. The CARB has, in turn, delegated the responsibility of regulating stationary emission sources to the local air agencies. In Orange County, the local air agency is the SCAQMD.

The following is a summary of the key federal, state, and local air quality rules, policies, and agreements that potentially apply to the project and its related activities.

3.1 Federal Regulations

State Implementation Plan

In federal nonattainment areas, the California Clean Air Act requires preparation of a SIP, detailing how the state will attain the NAAQS within mandated timeframes. In response to this requirement, the SCAQMD has developed the 2007 Air Quality Management Plan (AQMP) in June 2007. The focus of the 2007 AQMP is to demonstrate progress in attaining federal 8-hr ozone and 24-hr PM_{2.5} standards.

Emission Standards for Nonroad Diesel Engines

To reduce emissions from off-road diesel equipment, USEPA established a series of increasingly strict emission standards for new off-road diesel engines. Tier 1 standards were phased in from 1996 to 2000 (year of manufacture), depending on the engine horsepower category. Tier 2 standards are phased in from 2001 to 2006. Tier 3 standards will be phased in from 2006 to 2008. Tier 4 standards, which likely will require add-on emission control equipment to attain

them, will be phased in from 2008 to 2015. These standards apply to construction equipment and terminal equipment, based on year of manufacture. Locomotives and marine vessels are exempt.

Emission Standards for Marine Diesel Engines

To reduce emissions from Category 1 (at least 50 horsepower [hp] but < 5 liters per cylinder displacement) and Category 2 (5 to 30 liters per cylinder displacement) marine diesel engines, USEPA established emission standards for new engines, referred to as Tier 2 marine engine standards. The Tier 2 standards have been phased in from 2004 to 2007 (year of manufacture), depending on the engine size. These standards apply to harbor craft, depending on year of engine manufacture.

Emission Standards for On-Road Trucks

To reduce emissions from on-road, heavy-duty diesel trucks, USEPA established a series of increasingly strict emission standards for new engines, starting in 1988. Currently, the strictest standards will be phased in starting in 2007 (USEPA, 2001a). Complete phase-in of the 2007 standards for new engines will be accomplished by 2010. This rule applies to haul trucks used during the debris-removal phase of the proposed project, depending on year of engine manufacture.

Nonroad Diesel Fuel Rule

With this rule, USEPA set sulfur limitations for non-road diesel fuel, including marine vessels. For the proposed project, this rule affects construction equipment and harbor craft, although the California Diesel Fuel Regulations (described under state regulations) generally pre-empt this rule. Under this rule, the diesel fuel used by off-road equipment and harbor craft was limited to 500 ppm starting June 1, 2007; and further limited to 15 ppm starting January 1, 2012.

Highway Diesel Fuel Rule

With this rule, USEPA set sulfur limitations for on-road diesel fuel to 15 ppm starting June 1, 2006 (USEPA 2006). This rule applies to fuel used by haul trucks used during the debris-removal phase of the proposed project.

General Conformity Rule

Section 176(c) of the CAA states that a federal agency cannot support an activity unless the agency determines that the activity will conform to the most recent USEPA-approved SIP. This means that projects using federal funds or requiring federal approval must not: (1) cause or contribute to any new violation of a NAAQS; (2) increase the frequency or severity of any existing violation; or (3) delay the timely attainment of any standard, interim emission reduction, or other milestone.

Based on the present attainment status of the SCAB, a federal action would conform to the State Implementation Plan if its annual emissions remain below 100 tons of CO or PM2.5, 70 tons of PM10, or 10 tons of NOX or VOC (40 CFR Part 93). These de minimis thresholds apply to the federal project, which may include construction and/or operation, depending on the Federal authority. If the proposed action exceeds one or more of the de minimis thresholds, a more rigorous conformity determination is the next step in the conformity evaluation process. Project emissions estimated in section 4 show that the project would not exceed conformity thresholds.

3.2 State Regulations

California Clean Air Act

The California Clean Air Act of 1988, as amended in 1992, outlines a program to attain the CAAQS by the earliest practical date. Because the CAAQS are more stringent than the NAAQS, attainment of the CAAQS requires more emissions reductions than what would be required to show attainment of the NAAQS. Consequently, the main focus of attainment planning in California has shifted from the federal to state requirements. Similar to the federal system, the state requirements and compliance dates are based upon the severity of the ambient air quality standard violation within a region.

Heavy Duty Diesel Truck Idling Regulation Heavy Duty Diesel Truck Idling Regulation

This CARB rule affects heavy-duty diesel trucks in California starting February 1, 2005. The rule requires that heavy-duty trucks shall not idle for longer than 5 minutes at a time. However, truck idling for longer than 5 minutes while queuing is allowed if the queue is located beyond 100 feet from any homes or schools.

California Diesel Fuel Regulations

With this rule, the CARB set sulfur limitations for diesel fuel sold in California for use in on-road and off-road motor vehicles. Harbor craft were originally excluded from the rule, but were later included by a 2004 rule amendment. Under this rule, diesel fuel used in motor vehicles except harbor craft has been limited to 500-ppm sulfur since 1993. The sulfur limit was reduced to 15 ppm on September 1, 2006. (A federal diesel rule similarly limited sulfur content nationwide to 15 ppm by October 15, 2006.)

Statewide Portable Equipment Registration Program (PERP)

The PERP establishes a uniform program to regulate portable engines and portable engine-driven equipment units. Once registered in the PERP, engines and equipment units may operate throughout California without the need to obtain individual permits from local air districts. The PERP generally would apply to proposed dredging equipment.

Executive Order S-3-05

California Governor Arnold Schwarzenegger announced on June 1, 2005 through Executive Order S-3-05, state-wide GHG emission reduction targets as follows: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels. Some literature equates these reductions to 11 percent by 2010 and 25 percent by 2020.

AB 32 - California Global Warming Solutions Act of 2006

The purpose of Assembly Bill (AB) 32 is to reduce statewide GHG emissions to 1990 levels by 2020. This enactment instructs the CARB to adopt regulations that reduce emissions from significant sources of GHGs and establish a mandatory GHG reporting and verification program by January 1, 2008. AB 32 requires the CARB to adopt GHG emission limits and emission reduction measures by January 1, 2011, both of which are to become effective on January 1, 2012. The CARB must also evaluate whether to establish a market-based cap and trade system.

AB32 does not identify a significance level of GHG for CEQA/NEPA purposes, nor has the CARB adopted such a significance threshold.

Senate Bill 97 Chapter 185, Statutes of 2007

SB 97 requires the Office of Planning and Research (OPR) to prepare guidelines to submit to the California Resources Agency regarding feasible mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions as required by CEQA. The California Resources Agency is required to certify and adopt these revisions to the State CEQA Guidelines by January 1, 2010. The Guidelines will apply retroactively to any incomplete environmental impact report, negative declaration, mitigated negative declaration, or other related document.

As directed by SB97, the Natural Resources Agency adopted Amendments to the CEQA Guidelines for greenhouse gas emissions on December 30, 2009. On February 16, 2010, the Office of Administrative Law approved the Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The Amendments became effective on March 18, 2010.

Executive Order S-01-07

Executive Order S-01-07 was enacted by the Governor on January 18, 2007. The order mandates the following: 1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020; and 2) that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established for California.

3.3 Local Regulations and Agreements

Through the attainment planning process, the SCAQMD develops SCAQMD Rules and Regulations to regulate sources of air pollution in the SCAB. The most pertinent SCAQMD rules to the proposed project are listed below. The emission sources associated with the proposed project are considered mobile or portable sources and are not subject to the SCAQMD rules that apply to stationary sources.

Rule 402 – Nuisance

This rule prohibits discharge of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any such persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property.

4.0 Project Sources and Emission Methodology

The proposed project would remove contaminated sediments via dredging and beneficially reuse the impacted materials at the Port of Long Beach (POLB) Middle Harbor Redevelopment site in a confined disposal facility. The project would include temporary dredging and associated activities. Since all project emissions would be new to the area, the project is considered to have an emissions baseline of zero.

The following sequential and non-overlapping phases were considered in the analysis:

- Phase 1 Debris Removal
- Phase 2 Mechanical Dredging

The proposed project, analyzed as a construction project, would include the following distinct types of emission sources. Table 4.1 presents the activity and engine size parameters for each source category.

- Marine Sources
 - Dredging Equipment: A single mechanical clamshell dredge would be used to remove contaminated sediments. The dredger would be positioned on a barge and operated with diesel engines. Although in some instances it is possible to electrify the main engines associated with dredging equipment, this project configuration and location would not allow the use of electric equipment due to lack of access to the electrical grid in the dredging location (Anchor QEA to confirm).
 - Push Tugboat Tender: A single tugboat tender would be used to position the dredging barge. Once the barge is in place, tugboat tender engines would be turned off.
 - Tugboats: Tugboats would be used to pull a haul barge with dredged sediments for disposal in the POLB Middle Harbor Redevelopment site CDF.
 - Workboat/crew boat: Workboat/crew boat would be used to shuttle workers and supplies out to the dredging barge.
- Off-road Land-Based Mobile Sources
 - Excavator: There may be instances where a long-reach excavator would be used to reach material under existing docks in order to avoid temporarily moving floating docs and other structures during the debris removal phase.
- On-road Mobile Sources
 - Haul Truck: A heavy duty haul truck would be used during the debris removal phase to haul debris to a local landfill.
 - Worker Vehicles

Table 4.1. Source Activity and Characteristics

Activity/Source	Source Category	Pieces of Equipment	Engine Power Rating (hp)	Activity (hr/day)	Activity (total days)
Phase 1: Debris Removal					
Excavator	Off-Road, Land	1	400	6	12
Push Tug/Tender	Harbor Craft	1	800 main engine	2	4
			275 auxiliary engine	2	4
Dredger	Off-Road, Marine	1	2325 main engine	8	4

Activity/Source	Source Category	Pieces of Equipment	Engine Power Rating (hp)	Activity (hr/day)	Activity (total days)
			350 deck engine	1	4
HHD Truck	On-Road	1	na	40-mile roundtrip	12
Worker Vehicles	On-Road	10	na	URBEMIS2007 default	12
Phase 2: Mechanical Dredging					
Push Tug/Tender	Harbor Craft	1	800 main engine	2	81
			275 auxiliary engine	2	81
Tugboat	Harbor Craft	1	1275 main engine	16	81
			115 auxiliary engine	16	81
Work/Crew Boat	Harbor Craft	1	350 main engine	1	81
			25 auxiliary engine	1	81
Dredger	Off-Road, Marine	1	2325 main engine	8	81
			350 deck engine	1	81
Worker Vehicles	On-Road	10	na	URBEMIS2007 default	81
Notes: Equipment characteristics and activity were provided by Anchor QEA engineers. URBEMIS2007 is a CARB-approved software program used to quantify emissions from construction projects. The program uses CARB-approved emission factors and activity parameters.					

Project equipment would be diesel-fueled and would generate emissions of diesel exhaust in the form of VOC, CO, NOX, SOX, PM10 and PM2.5. GHG emissions would also be generated from these sources. Equipment usage and scheduling data required to quantify emissions for the proposed activities were obtained from the engineering specifications for the project and consultation with contractors/engineers. In estimating emissions, emissions were first calculated for the individual equipment and then summed within each phase.

4.1 Harbor Craft

Emission calculations for harbor craft exhaust (e.g. push tug/tender, tugboats, and workboats/crew boats) were based on generalized emission factors for harbor craft derived from the Stracrest 2008 Port Emissions Inventory document for the Port of Long Beach (Starcrest 2009) as well as from information contained in the CARB Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach (CARB 2006). Both documents provide a current methodology and emission factors for calculating emissions from

port-related sources. Equation 4.1 reports the basic equation used in estimating emissions from these sources.

$$E = EF_0 * F * \left(1 + D * \frac{A}{UL}\right) * HP * LF * Hr \quad \text{Equation 4.1}$$

Where:

E = criteria pollutant emission

EF₀ = specific zero hour emission factor (when engine is new)

F = fuel correction factor which accounts for emission reduction benefits from burning cleaner fuel

D = horsepower and pollutant specific engine deterioration factor, which is the percentage increase of emission factors at the end of the useful life of the engine

A = age of the engine when the emissions are estimated

UL = vessel type and engine use specific engine useful life

HP = rated horsepower of the engine

LF = the vessel type and engine use specific engine load factor

Hr = the number of annual operating hours of the engine

A fuel-based methodology was used to estimate SO_x emissions from harbor craft sources. Equation 4.2 shows the basic equation used to determine annual fuel consumption. Fuel consumption was then converted to SO_x emissions based on mass based sulfur content of 15 ppm.

$$F_c = HP * LG * Hr * BSFC * C \quad \text{Equation 4.2}$$

Where:

F_c = fuel consumed per engine per year

HP = rated horsepower of the engine

Hr = the number of annual operating hours of the engine

LF = the load factor

LF = the vessel type specific engine load factor

BSFC = brake specific fuel consumption rate of 0.078 gal/kW-hr or 184 g/hp-hr

The power of each harbor craft engine (propulsion and auxiliary), as well as the activity were provided as part of the project specifications. Emission factors and load factors were obtained from the Starcrest 2008 Port inventory.

4.2 Off-Road Emission Sources (Land-Based and Marine)

The emission calculations for off-road (excavator and dredging equipment) equipment exhaust were based on generalized emission factors for construction and dredging equipment in Orange County. To derive the generalized emission factors, the OFFROAD2007 program was used to calculate annual emission inventories for all specified equipment in the SCAB (OFFROAD2007). OFFROAD2007 is the most current emissions program for California off-road sources developed by the CARB. The county-wide emission inventories were then divided by the population of specified equipment in Orange County, as provided by OFFROAD2007, to produce the emission factors. The basic equation used to estimate off-road equipment emissions is:

$$E = EF * Pop * AvgHp * Load * Activity \quad \text{Equation 4.3}$$

Where:

E = Emission, ton/day

$AvgHp$ = Maximum rated average horsepower

Load = Load factor

Activity = Annual activity in hours per year (hr/yr)

EF = Emission factor in grams per horsepower-hour (g/bhp-hr)

Pop = Population

The equipment power and activity levels were provided as part of the project specifications. Emission factors, load factors, and population were generated by OFFROAD2007, with the exception of the dredging equipment for which load factors were provided by equipment operators (Anchor QEA to provide contractor name, March 16, 2010). The following equation was then used to convert OFFROAD output to daily emissions:

$$E = E_{OFFROAD} / Pop * EqCt * 2000 \text{ lb/ton} \quad \text{Equation 4.4}$$

Where:

E = Emission, lb/day

$E_{OFFROAD}$ = OFFROAD Emission Output, ton/day

Pop = Population from OFFROAD output

EqCt = Equipment Count

4.3 On-Road Emission Sources

A single haul truck and worker vehicles comprise the on-road emission source category for this project. A haul truck would be used during Phase 1, debris-removal. Truck emissions were estimated using EPA's Emission Factors (EMFAC2007) model. The model calculates truck emissions based on geographic area, truck size, fuel, vehicle miles traveled, and other activity data. For this air quality analysis it was assumed that a single heavy-heavy-duty diesel truck would travel an average of 40 miles per round trip on its way to a disposal location.

5.0 Air Quality Impacts

This section presents a discussion of the potential air quality impacts associated with the proposed Project.

5.1 Significance Criteria

The significance thresholds for this project were based on standards established by the City of Los Angeles in the L.A. CEQA Thresholds Guide (City of LA 2006), with the exception of AQ-5 (Greenhouse Gas Emissions), which is separately defined and evaluated. For the purposes of this study, the air quality thresholds of significance for construction activities are based on regional and localized significance thresholds established by the SCAQMD (SCAQMD 2009).

Regional Significance Thresholds

Regional significance thresholds, set by the SCAQMD, are emissions-based thresholds used to assess the potential significance of criteria air pollutants on the regional level. The construction thresholds are set at higher levels for NOx and VOCs, to account for the short-term nature of

construction versus operational emissions. The operational emissions thresholds are tied to thresholds contained in SCAQMD Rule 1304 for permitting proposed new emission sources within the SCAQMD's jurisdiction.

Localized Significance Thresholds

CEQA requires that the potential local impact from construction emissions be compared to the Ambient Air Quality for Criteria Pollutants thresholds. These significance thresholds represent concentrations at sensitive off-site locations for comparison with modeled concentrations from project emissions. SCAQMD developed the Localized Significance Thresholds (LSTs) and mass rate look-up tables as a means to assess localized significance for construction projects without the need to perform dispersion modeling. The LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest residence or sensitive receptor, taking into consideration each source receptor area (SRA), project size, and distance to the residence or sensitive receptor.

LSTs were derived for CO, NO_x, PM₁₀ and PM_{2.5}. Since O₃ is a pollutant of regional concern, LSTs were not developed for VOC emissions, which contribute to O₃ formation. LSTs and associated lookup tables are best applied to projects that disturb less than 5 acres in any given day and are not applicable to mobile sources traveling over roadways. SCAQMD requires that for construction projects only on-site emissions be compared to LST thresholds. Table 5.1 lists SCAQMD's criteria use to determine significance for each Air Quality Impact (AQI) for the proposed project.

Toxic Air Contaminants and Health Impacts

A project would be considered significant if it exposed receptors to significant levels of toxic air contaminants. The SCAQMD does not require quantification of health impacts due to short-term construction projects (SCAQMD Staff, 2009). It is therefore concluded that health impacts associated with short-term construction activities of this project are not expected to be significant.

GHG Significance Threshold

Subsequent to the adoption of Assembly Bill (AB) 32 – The California Global Warming Solutions Act of 2006, there had been little regulatory guidance with regard to analyzing GHG emission impacts in CEQA documents until the OPR released its Technical Advisory on CEQA and Climate Change in June 19, 2008. Consistent with Senate Bill 97, OPR's Technical Advisory was developed in cooperation with the Resources Agency, the California Environmental Protection Agency (CalEPA), and CARB. According to OPR, the Technical Advisory offers informal interim guidance regarding the steps lead agencies should take to address climate change in their CEQA documents, until CEQA guidelines are developed pursuant to SB 97 on how state and local agencies should analyze, and when necessary, mitigate greenhouse gas emissions.

In October 2008, CARB prepared a Preliminary Draft Proposal of Recommended Approaches for Setting Interim Significance Thresholds for GHGs under CEQA. The draft guidance specifies a 7,000 metric tons (mton) carbon dioxide equivalent (CO₂-e) as a significance threshold for industrial projects and the use of performance standards for construction-related emissions. In the draft guidance, CARB stated that it intends to compile benchmark performance standards as part of its final threshold recommendation.

In the absence of a statewide threshold, SCAQMD developed an interim significance threshold that applies mainly to industrial (stationary source) projects where the AQMD is the lead agency. However, for the purposes of determining whether or not GHG emissions from affected projects are significant, SCAQMD identifies that project emissions include direct, indirect, and, to the extent information is available, life cycle emissions during construction and operation. SCAQMD directs that construction emissions be amortized over the life of the project, defined as 30 years, added to the operational emissions, and compared to the applicable interim GHG significance threshold tier. The SCAQMD's significance threshold for stationary projects is 10,000 mton of CO2 equivalent emissions per year. The SCAQMD does not specify a significance threshold for projects which are comprised solely of construction activities. However, in the absence of other more appropriate significance thresholds, this interim threshold was used to determine significance for this project.

Table 5.1. Significance Criteria

AQI-1: A project would have a significant impact if its construction-related emissions would exceed the following SCAQMD thresholds of significance:

SCAQMD Mass Daily Thresholds - Construction

Air Pollutant	pounds/day
NOx	100
VOC	75
PM10	150
PM2.5	55
SOx	150
CO	550

Source: SCAQMD Air Quality Significance Thresholds, Rev. March 2009

AQI-2: A project would have a significant impact if its construction emissions would result in offsite ambient air pollutant concentrations that exceed the SCAQMD LST thresholds.

SCAQMD LST Thresholds

Air Pollutant	pounds/day
NOx	92
PM10	7
PM2.5	4
CO	672

Source: SCAQMD LST Lookup Tables, Appendix C, Rev. October 2009

Notes:

LST significance thresholds are for a 1-acre site; the distance to the nearest receptor is 32 feet. LST thresholds were extrapolated for a distance of 32m between 25m and 50m.

AQI-3: A project would have a significant impact if it created an odor nuisance pursuant to SCAQMD Rule 402.

AQI-4: A project would be considered significant if it conflicted with or obstructed implementation of an applicable AQMP.

AQI-5: A project would have a significant impact if CO₂-e emissions would exceed 10,000 mton.

AQI-6: A project would be considered significant if it would result in cumulatively significant impacts.

5.2 Significance Determination

AQI-1: The Proposed Project would not result in construction-related emissions that would exceed regional significance thresholds following mitigation.

Table 5.2 compares the Project's unmitigated construction emissions to SCAQMD's regional significance thresholds. Table 5.2 shows that the estimated maximum daily emissions for each criteria air pollutant are below SCAQMD's mass daily threshold with the exception of NO_x, which exceeds the regional threshold for both phases of construction.

Table 5.2 Summary of Peak Daily Construction Emissions—Proposed Project without Mitigation

Activity/Source	Source Category	Criteria Pollutant Emissions (lb/day)					
		ROG	CO	NO _x	SO ₂	PM ₁₀	PM _{2.5}
Phase 1: Debris Removal							
Excavator	Off-Road, Land	1.5	4.5	14.1	0.0	0.5	0.4
Push Tug/Tender	Off-Road, Marine	1.3	5.5	19.9	0.0	0.8	0.6
Dredger	Off-Road, Marine	7.6	31.1	60.3	0.1	3.4	2.7
HHD Truck	On-Road	0.6	3.0	9.3	0.0	0.4	0.3
Worker Vehicles	On-Road	0.2	2.0	0.2	0.0	0.3	0.3
Phase 1 Total		11.1	46.1	103.9	0.1	5.4	4.4
Regional Thresholds (lb/day)		75	550	100	150	150	55
CEQA Significant?		No	No	Yes	No	No	No
Phase 2: Mechanical Dredging							
Push Tug/Tender	Off-Road, Marine	1.3	5.5	19.9	0.0	0.8	0.6
Tugboat	Off-Road, Marine	9.7	36.9	120.2	0.1	6.0	4.8
Work/Crew Boat	Off-Road, Marine	0.3	1.0	3.9	0.0	0.2	0.1
Dredger	Off-Road, Marine	7.6	31.1	60.3	0.1	3.4	2.7
Worker Vehicles	On-Road	0.2	2.0	0.2	0.0	0.3	0.3
Phase 2 Total		19.0	76.4	204.5	0.2	10.7	8.6
Regional Thresholds (lb/day)		75	550	100	150	150	55
CEQA Significant?		No	No	Yes	No	No	No
Notes: Values may not add precisely due to rounding. Emissions reflect the use of California diesel fuel with a sulfur content of 15 parts per million (ppm).							

Impact Determination

Project peak daily emissions would exceed the emission thresholds for NO_x during each Project phase. Therefore, significant impacts under CEQA would occur for proposed project construction prior to mitigation.

Mitigation Measures

MM AQ-1. Harbor Craft Engines:

Tugboats used to tow disposal barges to POLB CDF during Phase 2 shall use Tier 2 main engines. Push tugboat/ tenders and work/crew boats will use Tier 3 main engines.

MM AQ-2. Mobile Source Emission Reduction Credits (MSERCs):

MSERCs are created when high-emitting vehicles are retired and are considered an acceptable method to mitigate construction emissions. Remaining NO_x emissions will be mitigated by purchasing MSERCs for every pound of NO_x emissions in excess of the significance threshold for each day of the construction period. The total amount of MSERCs required to fully mitigate construction NO_x emissions to less than significant levels is estimated to be 3,969 pounds.

Table 5.3 compares the Project’s mitigated construction emissions to SCAQMD’s regional significance thresholds and shows that the estimated maximum daily emissions for each criteria air pollutant following mitigation would be below mass daily significance thresholds.

Residual Impacts

Following mitigation, construction emissions will have less-than-significant regional impacts.

Table 5.3 Summary of Peak Daily Construction Emissions—Proposed Project with Mitigation

Activity/Source	Source Category	Criteria Pollutant Emissions (lb/day)					
		ROG	CO	NO _x	SO ₂	PM ₁₀	PM _{2.5}
Phase 1: Debris Removal							
Excavator	Off-Road, Land	1.5	4.5	14.1	0.0	0.5	0.4
Push Tug/Tender	Off-Road, Marine	0.9	6.2	7.0	0.0	0.3	0.3
Dredger	Off-Road, Marine	7.6	31.1	60.3	0.1	3.4	2.7
HHD Truck	On-Road	0.6	3.0	9.3	0.0	0.4	0.3
Worker Vehicles	On-Road	0.2	2.0	0.2	0.0	0.3	0.3
Phase 1 Total		10.7	46.8	90.9	0.1	4.9	4.0
Regional Thresholds (lb/day)		75	550	100	150	150	55
CEQA Significant?		No	No	No	No	No	No
Phase 2: Mechanical Dredging							
Push Tug/Tender	Off-Road, Marine	0.9	6.2	7.0	0.0	0.3	0.3
Tugboat	Off-Road, Marine	8.6	59.8	79.6	0.1	2.7	2.1
Work/Crew Boat	Off-Road, Marine	0.2	1.4	1.5	0.0	0.0	0.0

Dredger	Off-Road, Marine	7.6	31.1	60.3	0.1	3.4	2.7
Worker Vehicles	On-Road	0.2	2.0	0.2	0.0	0.3	0.3
MSERC (lb/day)		0	0	-49	0	0	0
Phase 2 Total		17.5	100.4	99.6	0.2	6.7	5.4
Regional Thresholds (lb/day)		75	550	100	150	150	55
CEQA Significant?		No	No	No	No	No	No
Notes: Values may not add precisely due to rounding. MSERCs will be used to offset NOx emissions during Phase 2.							

AQI-2: The Proposed Project would not result in on-site construction-related emissions that would exceed localized significance thresholds following mitigation.

Impact Determination

On-site daily emissions would exceed the LST emission thresholds for PM2.5. Therefore, significant impacts under CEQA would occur for proposed project construction prior to mitigation per Table 5.4.

Table 5.4 Summary of On-Site Daily Construction Emissions—Unmitigated Proposed Project

	Criteria Pollutant Emissions (lb/day)			
	CO	NOx	PM10	PM2.5
On-Site Daily Emissions	39	89	5	4
Localized Significance Thresholds (lb/day)	672	92	7	3.6
CEQA Significant?	No	No	No	Yes
Notes: Values may not add precisely due to rounding. LST significance thresholds are for a 1-acre site; the distance to the nearest receptor is 32 feet. LST thresholds were extrapolated for a distance of 32m between 25m and 50m.				

Mitigation Measures

Application of MM-AQ1.

Residual Impacts

Following mitigation, construction emissions will have less-than-significant localized impacts per Table 5.5.

Table 5.5 Summary of On-Site Daily Construction Emissions—Proposed Project with Mitigation

	Criteria Pollutant Emissions (lb/day)			
	CO	NOx	PM10	PM2.5
On-Site Daily Emissions	41	73	4	3
Localized Significance Thresholds (lb/day)	672	92	7	3.6
CEQA Significant?	No	No	No	No
Notes: Values may not add precisely due to rounding. LST significance thresholds are for a 1-acre site; the distance to the nearest receptor is 32 feet. LST thresholds were extrapolated for a distance of 32m between 25m and 50m.				

AQI-3: The Project would not result in an odor nuisance pursuant to SCAQMD Rule 402.

The Proposed Project would increase air pollutants due to the combustion of diesel fuel. Although some individuals may find diesel combustion emissions to be objectionable in nature, odorous impacts of these emissions are subjective in nature. In addition, the mobile nature of project emission sources would serve to disperse proposed Project emissions.

Impact Determination

The potential is low for the proposed Project to produce objectionable odors that would affect a sensitive receptor. Significant odor impacts, therefore, are not anticipated.

Mitigation Measures

None required.

AQI-4: The Project would not conflict with or obstruct implementation of an applicable AQMP.

Proposed project operations would produce emissions of nonattainment pollutants, primarily in the form of diesel exhaust. The 2007 AQMP proposes emission reduction measures that are designed to bring the SCAB into attainment of the state and national AAQS. The attainment strategies in these plans include mobile-source control measures and clean fuel programs that are enforced at the state and federal level on engine manufacturers and petroleum refiners and retailers; as a result, proposed project operations would comply with these control measures. SCAQMD also adopts AQMP control measures into SCAQMD rules and regulations, which are then used to regulate sources of air pollution in the SCAB. Therefore, compliance with these requirements would ensure that the proposed Project would not conflict with or obstruct implementation of the AQMP.

Impact Determination

The proposed Project would not be significant under this criterion.

Mitigation Measures

None required.

AQ-5: The Proposed Project would not result in a construction-related emission that would exceed GHG significance thresholds.

Although unmitigated project emissions will not exceed the GHG significance threshold and mitigation measures are not required, MM-AQ1 will nevertheless be implemented as part of AQI-1. Table 5.6 therefore compares the Project’s mitigated GHG emissions from construction activities to SCAQMD’s GHG significance thresholds and shows that total GHG emissions would be below SCAQMD’s significance threshold.

Impact Determination

The project will not result in significant impacts for GHG.

Mitigation Measures

None required, but MM-AQ1 will be applied as part of AQI-1.

Table 5.6 GHG Emissions and Significance Determination

Activity/Source	Source Category	GHG CO2-e (mton)
Phase 1: Debris Removal		
Excavator	Off-Road, Land	9
Push Tug/Tender	Off-Road, Marine	2
Dredger	Off-Road, Marine	10
HHD Truck	On-Road	1,312
Worker Vehicles	On-Road	163
<i>Phase 1 Total</i>		<i>1,496</i>
Phase 2: Mechanical Dredging		
Push Tug/Tender	Off-Road, Marine	32
Tugboat	Off-Road, Marine	311
Work/Crew Boat	Off-Road, Marine	8
Dredger	Off-Road, Marine	197
Worker Vehicles	On-Road	163
<i>Phase 2 Total</i>		<i>711</i>
Project Total		2,207
SCAQMD Threshold (mton)		10,000
CEQA Significant?		No
Notes: Values may not add precisely due to rounding. GHG emissions are considered from the total project; Phase 1 and Phase 2 were added to determine significance.		

AQ-6: The Proposed Project would not result in cumulative emissions that exceed any of the SCAQMD thresholds of significance.

Construction activities in other Newport City locations within a similar time frame as the proposed Project would increase short-term emissions from concurrent activities during any day

of the Project construction period. As discussed, construction emissions associated with the proposed Project would not exceed any of the SCAQMD construction thresholds. Since no development is being proposed on the Project site, permanent increases in pollutant emissions or concentrations are not anticipated. As such, the proposed Project would not contribute to cumulative impacts.

Impact Determination

The proposed Project would not be significant under this criterion.

Mitigation Measures

None required.

6.0 List of References

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Appendix A

Calculation Tables

APPENDIX B
SCAQMD SAMPLE FORMS

ATTACHMENT C

Sample Daily Log Sheet

Day: _____

Piece of Equipment	Identification Number	2001 NOx Compliance Certificate (yes/no)	Equipped with NOx Oxidation Catalyst (yes/no)	Use of Aqueous Diesel (yes/no)	Hours of Operation
CAT 637 Scraper					
Terex S24 Scraper					
CAT D10L Dozer					
CAT D9L Dozer					
CAT D8L Dozer					
CAT D8K Dozer					
CAT D7H Dozer					
Dresser TD20 Dozer					
CAT 824 Dozer					
CAT 631 Water Pull					
CAT 14G Motograder					
CAT 992C Loader					
CAT IT28 Loader					
CAT 235 Excavator					

Note: The hours of operation for diesel-powered equipment are limited as follows:

- 2-Dozers each for 5 hours per day
- 2-Water Trucks/Water Pulls each for 5 hours per day
- 4-Scrapers each for 8 hours per day
- 4-Miscellaneous (e.g., motor grader, loader, excavator) each for 8 hours per day

Figure 1

Form for Recording Equipment Usage

Type of Equipment: _____

Identification Number: _____

Date (mm/dd/yy)	Day of Week	Beginning Reading	Ending Reading	Hours
	Sunday			
	Monday			
	Tuesday			
	Wednesday			
	Thursday			
	Friday			
	Saturday			
Total				

Certification: _____
Operator

Foreman

Figure 2

Form for Recording Delivery Trucks

Receipt of Delivery

Date:

Time of Delivery:

Time Truck Left:

Cargo Delivered:

Certification:

Driver

Foreman

Figure 2A

Form for Recording Haul Trucks

Record of Haul

Date:

Time of Haul:

Time Truck Returned:

Cargo Hauled:

Certification:

Driver

Foreman

Figure 3

Example of Weekly Summary

Type of Equipment	ID Number	Hours of Operation per Day							Emission Factor	Emissions (Pounds per Day)							Total Weekly Emissions
		Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday		Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
		01/01/00	01/02/00	01/03/00	01/04/00	01/05/00	01/06/00		01/00/00	01/01/00	01/02/00	01/03/00	01/04/00	01/05/00	01/06/00		
Scraper								3.34517	0	0	0	0	0	0	0	0	
Scraper								3.34517	0	0	0	0	0	0	0	0	
Scraper								3.34517	0	0	0	0	0	0	0	0	
Scraper								3.34517	0	0	0	0	0	0	0	0	
Scraper								3.34517	0	0	0	0	0	0	0	0	
Scraper								3.34517	0	0	0	0	0	0	0	0	
Dozer								1.283935	0	0	0	0	0	0	0	0	
Dozer								1.283935	0	0	0	0	0	0	0	0	
Dozer								1.283935	0	0	0	0	0	0	0	0	
Dozer								1.283935	0	0	0	0	0	0	0	0	
Motorgrader								1.890945	0	0	0	0	0	0	0	0	
Motorgrader								1.890945	0	0	0	0	0	0	0	0	
Excavator								2.111664	0	0	0	0	0	0	0	0	
Excavator								2.111664	0	0	0	0	0	0	0	0	
Loader								0.80817	0	0	0	0	0	0	0	0	
Loader								0.80817	0	0	0	0	0	0	0	0	
Rexpactor								1.5876	0	0	0	0	0	0	0	0	
Rexpactor								1.5876	0	0	0	0	0	0	0	0	
Backhoe								0.80817	0	0	0	0	0	0	0	0	
Backhoe								0.80817	0	0	0	0	0	0	0	0	
Roller								1.1385	0	0	0	0	0	0	0	0	
Roller								1.1385	0	0	0	0	0	0	0	0	
Roller								1.1385	0	0	0	0	0	0	0	0	
Paving Machine								1.25928	0	0	0	0	0	0	0	0	
Paving Machine								1.25928	0	0	0	0	0	0	0	0	
Curb Machine								4.08	0	0	0	0	0	0	0	0	
Curb Machine								4.08	0	0	0	0	0	0	0	0	
Total									0	0	0	0	0	0	0	0	

Number of:

Crew Trucks								0.38	0	0	0	0	0	0	0	0
Water Trucks								4.17	0	0	0	0	0	0	0	0
Delivery Trucks								4.08	0	0	0	0	0	0	0	0
Total									0	0	0	0	0	0	0	0

Total Daily Emissions:

Significance Threshold

RTC Usage

	0	0	0	0	0	0	0
	100	100	100	100	100	100	100
			0	0	0	0	0

